



Resiliency is a relatively new addition to local comprehensive planning requirements in South Carolina. Resiliency planning is intended to reduce the social, economic, and environmental risk to communities by requiring jurisdictions to consider the potential impacts of flooding and other natural hazards in context of all the other plan elements.

The South Carolina Office of Resiliency (SCOR) defines resilience as “the ability of communities, economies, and ecosystems within South Carolina to anticipate, absorb, recover, and thrive when presented with environmental change and natural hazards.” Added to the mandated list of comprehensive plan elements in 2020, cities and counties must include a resiliency element that considers the impacts of flooding, high water, and other natural hazards on residents, communities, institutions, businesses, economic development, public infrastructure and facilities, and public health, safety, and welfare. In addition to an inventory of existing resiliency conditions and risks, the element promotes resilient planning, design, and development through coordination with adjacent and relevant jurisdictions and agencies.

The Resiliency Element provides the context for understanding the existing risks and vulnerabilities of both natural and public systems to multiple disasters and disruptive events. This understanding informs the planning for coordinated efforts by Newberry County and its municipalities to proactively prevent and mitigate loss, damage, and disruption.



9.1. Relationship to Other Plan Elements

Resiliency planning is closely linked to all other plan elements (Table 9-1). Integration of resiliency into the plan can create conditions that not only lessen the impact of disasters, but ease and speed recovery after an event. Integration of resiliency into the comprehensive planning process also gives greater policy weight to mitigation and recovery in guiding local decisions on capital improvements and land use.

Table 9-1. Resiliency Connection to Other Plan Elements

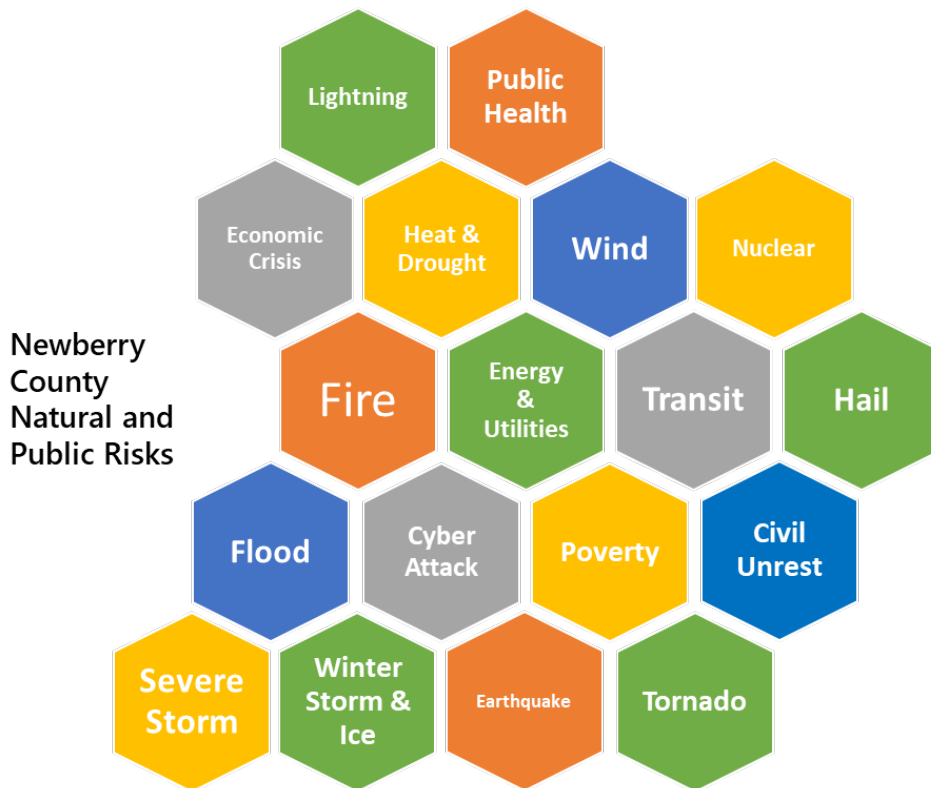
PLAN ELEMENT	IMPACT ON RESILIENCY
Population	<ul style="list-style-type: none"> • Identify number and location of vulnerable populations to anticipate preparation and recovery needs and target responses • Inform effective outreach to educate residents and businesses on risks, resilience, and recovery • Build neighbor connections and strong social networks to aid recovery
Housing	<ul style="list-style-type: none"> • Promote the provision of safe and sanitary housing • Monitor growth of housing development into the wildland-urban interface (WUI)
Cultural	<ul style="list-style-type: none"> • Inventory and protection of irreplaceable historic properties • Preserve role of historic and cultural resources in a diverse and stable local economy
Economic	<ul style="list-style-type: none"> • Direct new and expanded businesses to sites less vulnerable to hazards • Support economic diversification to help community weather economic downturns • Leverage workforce development assets to train residents for higher wage, high growth occupations and employment flexibility
Natural Resources	<ul style="list-style-type: none"> • Identify, preserve, and enhance protective features of wetlands and flood plains • Identify forest management resources to mitigate the chance of wildfires • Identify and adopt flood plain management tools • Designate preservation and expansion of greenspace and greenways for energy conservation • Identify new green and blue infrastructure development opportunities
Community Facilities	<ul style="list-style-type: none"> • Locate critical facilities such as water and wastewater treatment facilities, stormwater management, and solid waste sites outside high-risk zones and harden existing facilities • Integrate stormwater management and public greenspace expansion • Address post-disaster debris disposal • Ensure strategic and protected location of police/fire/EMS stations, healthcare facilities, and emergency operations centers to support emergency response and disaster relief efforts • Minimize service disruptions to utilities, energy, healthcare, and communication networks • Prioritize hazard mitigation projects and critical infrastructure repairs in capital project planning
Priority Investment	<ul style="list-style-type: none"> • Identify and strengthen partnerships with surrounding jurisdictions to improve readiness • Steer development away from hazardous areas through capital facilities policies and investment



PLAN ELEMENT	IMPACT ON RESILIENCY
Priority Investment (Cont'd)	<ul style="list-style-type: none"> • Include hazard mitigation and resiliency projects in prioritized capital improvements • Identify and mitigate flood hazards to adjacent properties due to publicly funded actions
Transportation	<ul style="list-style-type: none"> • Ensuring transportation system infrastructure can withstand known hazards and function in the event of an emergency or disaster • Strengthen access to key services and facilities • Analyze existing and projected level of service for key roadways • Ensure roadway network will support evacuations and recovery response
Land Use	<ul style="list-style-type: none"> • Establish general pattern for the location, distribution, density, and type of future development • Evaluate land development regulations to encourage and increase protection strategies for new development and redevelopment areas • Assess existing regulation processes for barriers to prompt recovery times • Guide growth and critical infrastructure away from high-risk, high-hazard locations • Consider development intensity and density in light of historic and future hazard risks • Preserve wildland-urban interface • Integrate disaster risk into land use and zoning decisions

9.2. Conditions and Vulnerability Assessment

The Federal Emergency Management Agency (FEMA) defines community resilience as “the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and





withstand and recover rapidly from disruptions.” Hazards that can cause disruptions to local social, economic, and environmental health can be natural and man-made. Risks to the natural system of the community include weather events such as tornadoes, flooding, storms, and fire. However, public system shocks to a community can also have catastrophic impact. These hazards include disease outbreaks, cyber-attacks, toxic spills, terrorism, and energy outages.

9.2.1. Natural Systems Risks and Hazards

Newberry County is more than 647 square miles in size, with nearly 631 square miles of land area. Forest land and water comprise a significant portion of the County. While these are valuable features of the natural resource base of the County, they also create additional vulnerabilities. Nearly 91 square miles of the County are within the Sumter National Forest. There are multiple large water bodies in the County, with water comprising more than 16 square miles of the total County area. The southern border of Newberry County is formed by three major water bodies, beginning with Lake Greenwood to the west and continuing eastward along the Saluda River until it flows into Lake Murray. Along the County’s eastern border, the Broad River flows into the Parr Reservoir.

Natural hazards endanger the health and safety of community residents, jeopardize economic vitality, and imperil environmental quality. Although rare, Newberry County experiences a range of natural emergencies including tornadoes, thunderstorms, flash flooding, drought, earthquakes, and wildfires. Overall County vulnerability to climate and natural disasters has been calculated across fourteen hazard types (*Central Midlands Hazard Mitigation Plan, 2021*). Direct losses attributed to natural hazards in the County totaled \$80,114,941 from 1960 to 2020.

Table 9-2. Summary of Natural Hazards Impact on Newberry County since 1960

HAZARD TYPE	DIRECT LOSSES ¹	DIRECT INJURIES & FATALITIES	# OF LOSS CAUSING EVENTS	FREQUENCY	RECURRENCE INTERVAL	FORECASTED CHANGE
Flooding	\$2,657,440	3	31	0.27%	3.7 years	Increase
Hurricanes	\$1,177,667	0	6	0.77%	1.3 years	Increase
Tornadoes	\$12,165,168	41	20	2.30%	0.43 years	Increase
Thunderstorm	\$1,878,311	1	159	24.0%	0.04 years	Increase
Lightning	\$622,637	2	48	0.89%	1.1 days	Increase
Wind	\$1,175,198	1	198	8.90%	0.11 years	Increase
Hail	\$9,415,634	23	59	2.60%	0.39 years	Increase
Fog	n/a ³	n/a ³	n/a ³	0.04%	25 days	No Change
Winter Storm	\$21,804,963	8	81	0.77%	1.3 years	Decrease
Extreme Cold	\$14,822,637 ²	1	38	59.0%	0.02 years	Decrease
Extreme Heat	\$12,746,647	0	7	21.0%	0.05 years	Increase
Drought	\$16,069,921	0	16	0.46%	2.2 years	Increase
Wildfire	\$401,355	0	3	0.04%	24 days	Increase
Earthquake	0	0	0	0.03%	40 years	No Change

¹Property and Crops; ²Included in Winter Storm total; ³No reported amounts for fog attributed accidents

Source: *Central Midlands Hazard Mitigation Plan, 2021*



While Newberry County is vulnerable to a number of natural hazards, it ranks 12th lowest statewide in the number of past natural hazards (*South Carolina Hazard Mitigation Plan, 2018*). However, the County ranks among the middle (23rd highest) among the State's 46 counties in terms of future probability of the occurrence of all natural hazards.

9.2.1.1. Flooding

Floods are potentially life threatening events that can inundate homes and businesses, damage roadways, and interrupt essential water, power, and sewer services. Flooding can also erode riverbeds, increase sediments and pollution in waterways, and clog water management systems. Floods are broadly classified into two categories. *General floods* are long-term events that may last for several days such as when the increase in water volume within a river channel causes an overflow onto the surrounding flood plain. *Flash floods* are caused by locally heavy rains in areas where water runs off quickly and moves at high speeds raising water levels by ten to 20 feet. Flash floods can cause severe damage, with the more forceful events capable of moving large debris, uprooting trees, rolling boulders, destroying buildings, and damaging bridges and roads. Flash floods can also be lethal, often rapidly flooding vehicles when bridges and roads are washed out. Recovery from floods can be a very costly and lengthy process.

The Central Midlands region experiences an annual average of 12 days with rainfall amounts of one inch or more and another 30 days with rainfall between a half inch and one inch. The region averages 70 days per year with rainfall amounts of less than a half inch. Although safe from the coastal flooding commonly associated with tropical storms and hurricanes, the State's location on the Atlantic increases the probability of heavy rains from hurricanes and tropical storms reaching inland communities such as Newberry. Thunderstorms also bring frequent heavy rains. These rains can contribute to multiple types of flooding – riverine and flash flooding, dam failures, and drainage problems – that can endanger life and property in Newberry County.

According to the *Central Midlands Hazard Mitigation Plan*, flooding in Newberry County is not restricted to the 100-year and 500-year floodplains. Special flood hazard areas as identified by FEMA are found along the shores of Lakes Murray and Greenwood; along the Broad, Bush, Enoree, Little, and Saluda Enoree Rivers; and along other creeks and tributaries (*Map 5-11 – Natural Resources Element*). While these water bodies and their tributaries are the primary drainage outlets for water flowing into and through the County, they can overflow when inundated by heavy rains, causing flooding in low lying areas. The County's wetlands and floodplains are protective natural features that can mitigate flooding loss to property owners when development is directed out of these areas. Riverine flooding occurs when an increase in water volume within a river channel causes an overflow onto the surrounding flood plain. Flooding along smaller creeks and tributaries to the Broad and Saluda Rivers as well as flash flooding in low-lying areas due to ponding and inadequate drainage are the most common causes of local damage.

Small pond dam failures have also been identified as a flash flooding risk in exceptionally heavy rains. There are more than 10,000 dams throughout the State, including 2,500 federally and State regulated dams. Numerous small dams are located throughout Newberry County, most of which are privately-owned earthen dams. These dams can be compromised by flash floods, earthquakes, and neglect, which can threaten safety and cause substantial water damage to property, as well as lead to additional failures to dams located downstream. A portion of Newberry County would



also be impacted in the event of a failure at the Lake Greenwood Dam, known locally as “Buzzard’s Roost.”

Most of Newberry County has a low risk of flash flooding. Flash flooding occurs when short, heavy rainfall accumulates faster than it can be absorbed by the ground or channeled by drainage systems. Increased development and surface runoff, use of impervious surfaces, and inadequate drainage systems can amplify flash flooding. The *Flash Flood Potential Index* identifies the northern half and southeastern quarter of Newberry County as having a higher potential for flash flooding (*Central Midlands Hazard Mitigation Plan, 2021*). When multiple criteria are factored into composite vulnerability modeling – such as potential for damage, density, and socioeconomics – the center of the County in and around the City of Newberry rises to a higher risk level.

As detailed in Table 9-2, there have been 31 loss-causing flooding events recorded in the County between 1960 and 2020, with a cumulative direct economic loss from crop and property damage exceeding \$2.65 million. These floods caused bridge collapses, home evacuations, dam failures, and closed roads. One injury and two fatalities were also associated with a 1986 flooding event. The estimated recurrence interval for flooding is 3.7 years, with a frequency of occurrence of 0.27%.

Two County flood events were covered by Presidential Disaster Declarations in 2015 and 2020. Record-breaking floods occurred in the fall of 2015, when the County experienced a record five-day rainfall caused by the convergence of Hurricane Joaquin and a low pressure system over the State. Parts of the County such as Little Mountain recorded nearly 13 inches of rainfall during this event. Multiple roads and bridges were damaged in Newberry County, including the collapse of the U.S. Highway 176 bridge over Cannon’s Creek in Pomaria. Newberry County received both individual and public assistance funding from FEMA to assist in recovery from the 2015 flood event. The most recent flooding occurred in the winter of 2020, when a slow moving system dumped five inches of rain over the midlands region of the State. The event caused flooding on several County roads. Flooding events are projected to increase in coming years due to climate trends.

Although flooding can occur anywhere, flooding typically occurs in flood plains, also known as special flood hazard areas. A more detailed discussion of flood plains is found in the *Natural Resources Element*. Local governments plan for, determine, and supervise the use of land within their jurisdictions, making cities and counties the foundation of comprehensive flood plain management. The impetus for obtaining financial and technical assistance from the State and Federal government levels also originates with the local community. Planning is a crucial tool for minimizing future flood damage. Managing development can reduce losses by avoiding encroachment in flood-prone areas, protecting flood plain resources, and requiring building in ways that are resistant to flooding. Newberry County is a participant in the *National Flood Insurance Program* and adopted a *Flood Damage Prevention* ordinance in 2003, with an amendment in 2011. The Ordinance applies to all areas of special flood hazard as identified by the FEMA maps for Newberry County.



9.2.1.2. Storms and Wind Events

The second most frequent natural hazard experienced in Newberry County are thunderstorms that can bring high winds, hail, and lightning. These events are often the result of hurricanes and tropical cyclones that moved inland from the coast. Tornadoes have also historically posed a high risk to Newberry County residents. Thunderstorms have the potential to cause injury or fatalities, damage residences and businesses, and interrupt utilities including power and communications. Key access routes can be blocked by downed trees and power lines, creating additional dangers.

Hurricane and tropical cyclones affect Newberry County an average of every 1.3 years (Table 9-2). This excludes wind, lightning, and tornadoes that are reported separately. The County has a *medium-low* vulnerability to these storms, with the highest risk to the southeastern corner of the County. Among the most recent named hurricanes to track through Newberry County are David (1979), Danny (1997), Michael (2018), and Claudette (2021). Wind speeds within Newberry County for these events ranged from 20 miles per hour with Danny to 45 miles per hour with Michael. Nearly \$1.18 million in local damages have been directly attributed to hurricanes since 1960.

Tropical storms and depressions have also impacted the County. Tropical Storms Dora and Cleo hit the County in 1964, causing both property and crop losses. Four years later, Tropical Storm Abby hit the Midlands region, followed by Tropical Depression Agnes in 1972. Passing over the County in 1995, Tropical Storm Jerry left behind the highest property damage from a tropical storm to date. In 2004, Tropical Storm Frances triggered widespread tornado outbreaks.

Thunderstorms, coupled with lightning and high winds are common throughout South Carolina, particularly during the summer months. While frequent, they are typically low impact. The majority of the State experiences thunderstorm events at an estimated rate of 60 days per year. The northernmost region of the State experiences approximately 50 annual thunderstorm event days. A thunderstorm is classified as severe when at least one of the following conditions occur: wind speeds exceed 58 miles per hour, tornadoes spawn, or hail exceeds 0.75 inches in diameter.

All of Newberry County is at risk from severe thunderstorms. Severe thunderstorms are a common occurrence, with between five and 11 severe thunderstorm warnings issued annually. Within the County, the area east of the City of Newberry that encompasses Pomaria, Prosperity, and Little Mountain has been identified as having a higher level of severe storm threat at 8 to 11 days a year.

Direct damage countywide from thunderstorms approached \$1.9 million from 1960 to 2022, with 159 recorded loss-causing events and one direct fatality/injury. Data from the NOAA National Centers for Environmental Information records 346 thunderstorms in Newberry County since 1960. However, some events in the NOAA database are logged from reports on the same event from different communities as a storm front swept through the County. There are NOAA entries for 15 thunderstorms in 2020, 13 in 2021, and 16 in 2022.

Severe thunderstorms are complex weather events closely associated with other hazards such as lightning, wind, rain, and hail. The direct combined impact of these related hazards amplifies the full impact of severe thunderstorms on Newberry County. In the six decades between 1960 and 2020 there were 48 loss-causing lightning events, 198 wind events causing damage and injury, and 59 damaging hail events (*Central Midlands Hazard Mitigation Plan, 2021*).



Lightning occurs very frequently in Newberry County, with an annual average of a strike per day. This high frequency is attributed to the large number of strikes that can occur within a single thunderstorm event. As a product of thunderstorms, lightning can cause house fires, damage electrical systems, spark wildfires, and result in personal injury and death. Risk due to lightning is evenly distributed across the County. There have been three injuries directly attributed to lightning strikes since 1960. Forty-eight loss-causing lightning strikes have been recorded since 1960, resulting in property and crop losses of \$622,637. The local recurrence interval for lightning is 1.1 days. Historic data indicates a uniform threat of lightning strike across the entire County.

Hail can accompany thunderstorms, tornados, and tropical systems and may occur year-round. The County's overall hail risk is considered *medium-low*. Hail occurs approximately every four months in Newberry County, primarily during spring thunderstorms from March through May. Hail events are the third costliest events encountered by Newberry County. While most hail is generally the size of a pea, it can also be larger and capable of damaging property and killing livestock and people. The largest reported hailstone was 2.75 inches in size.

The agricultural sector of the County's economy is particularly susceptible to damage from hail. Although most hail damage occurs to crops, the agricultural impact has been largely underreported. There have been 102 recorded hail events in Newberry County since 1960 (*National Centers for Environmental Information, 2022*). Fifty-nine of these hail events resulted in property and crop losses exceeding \$9.4 million. The total of reported direct losses attributed to hail damage is over \$9.4 million since 1960. Hail events have been responsible for 46 injuries and two fatalities countywide since 1960.

Counted separately from tornadoes, wind is the leading loss-causing event in Newberry County (Table 9-2). High winds can cause widespread property damage and power outages due to falling trees and limbs. The County frequently experiences high wind events with gusts of 58 miles per hour or more, with recorded wind gusts of 92 miles per hour (*Central Midlands Hazard Mitigation Plan, 2021*). The close association of high winds with severe thunderstorms results in a spatial and frequency distribution of wind events that is similar to thunderstorms. Five *strong wind* events and 346 *thunderstorm wind* events have been reported in Newberry County in the NOAA database since 1960. There have been 198 loss-causing wind events recorded in the County since 1960, resulting in more than \$1.175 million in property and crop damages. The risk of higher winds is slightly higher in the central and southern part of the County, particularly in the area between Little Mountain, Pomaria, and the City of Newberry.

9.2.1.3. Tornadoes

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud extending to the ground. Tornadoes may form at any time of the year, but predominantly occur in the spring and early summer months. Tornado wind speeds range from 40 miles per hour to more than 300 miles per hour (*National Weather Service*). While tornado damage is generally the result of high winds and wind-blown debris, tornadoes are often accompanied by potentially damaging lightning or large hail. The destruction caused by tornadoes depends on the intensity, size, and duration of the storm. In addition to fatalities and injuries, tornadoes have the potential to damage homes and businesses, interrupt utility services and communication systems, and devastate a local



economy. The most significant damage is typically to structures of light construction such as manufactured homes.

From 1990 to 2017 an annual average of 26 tornadoes were reported in South Carolina (*S.C. State Climatology Office, August 2022*). The highest number of tornadoes typically occur in March through May, with a secondary peak in September due to tropical activity (*South Carolina State Climate Office*). In 2004, Tropical Storm Frances triggered a record 47 tornadoes as it tracked through the Low Country, Midlands, and Pee Dee, causing over \$1.7 million in damage.

Newberry County is at relatively high risk from tornadoes spawned by severe thunderstorms, as well as outbreaks associated with tropical systems. While the entire County is at varying degrees of risk from tornadoes, the central area of Newberry County from Prosperity and Little Mountain north to just below Whitmire and an area along the western border of the County are most at risk (*Central Midlands Hazard Mitigation Plan, 2021*). Although more intense F3 events have hit the County, lower magnitude tornadoes are more frequent and occur in the spring.

Tornadoes have been responsible for 37 events and 45 injuries and two fatalities in the County since 1960. More than \$12.15 million in tornado damages have been reported countywide. The most damaging tornadoes were recorded in 1984 as part of the historic Carolinas Outbreak of 1984. This was one of the most destructive tornado outbreaks on record in North and South Carolina, with 11 tornadoes touching down in each state. Newberry County was struck with one F2 tornado responsible for 38 injuries and one fatality and a second F3 tornado injuring ten. The F2 tornado was on the ground for 23 miles and measured a width of 1,000 yards. The F3 tornado struck within an hour of the first, leaving a formidable path that was 19 miles long and 870 yards wide. The City of Newberry suffered considerable damage from these two tornados.

Table 9-3. Enhanced Fujita Scale for Tornadoes

F-SCALE NUMBER	WIND SPEED	TYPE OF DAMAGE DONE
EF0	65 – 85 mph	Minor damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees push over.
EF1	86 – 110 mph	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111 - 135 mph	Considerable damage. Roofs torn off well-constructed houses; foundations of frame houses shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136 – 165 mph	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166 – 200 mph	Devastating damage. Well-constructed houses and whole frame houses completely leveled, cars thrown, and small missiles generated.
EF5	>200 mph	Extreme damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m; steel reinforced concrete structure badly damaged; high-rise buildings have significant structural deformation.

Source: *S.C. Hazard Mitigation Plan, 2018*



9.2.1.4. Fire

Although the term wildfire often has a negative connotation, it is a natural process that enables the environment to clear dead vegetation. A wildfire is defined by the South Carolina Forestry Commission (SCFC) as “any forest fire, brush fire, grass fire, or any other outdoor fire that is not controlled and supervised.” South Carolina averages 3,000 fires each year, one of the highest rates in the nation. These fires burn an estimated 18,000 acres annually. However, these numbers only reflect incidents handled by the Forestry Commission, which has the primary responsibility for combatting wildfires in unincorporated areas of the State. Firefighting assistance is routinely provided by municipal and rural fire departments, the forest industry, and other agencies.

The height of South Carolina's wildfire season usually occurs from late winter through early spring, when vegetation is dead or dormant. Drought conditions increase the probability of wildfires by creating dry conditions, resulting in additional fuel loads. Other natural disasters such as tornadoes and hurricanes also produce additional fuel loads, in addition to blocking access and producing lightning and sparks from damaged electric and other utilities. The majority of wildfires in the State are the result of open burning of debris (35-45%), followed by arson (25-20%). Debris burning includes any planned fire for burning trash, yard debris, construction waste, land clearing piles, or crop stubble, and from prescribed burning for forestry or wildlife management purposes. Other sources of wildfires include faulty equipment use (5%); careless smoking (3% to 4%); children playing with matches, lighters, and fireworks (3% to 5%); campfires (1% to 3%); carbon build-up on railroad tracks (1% to 2%); lightning (2%); and miscellaneous fires caused by negligence in using fireworks, structural fires ignited near wooded areas, or unattended warming fires (4% to 6%).

Wildfires occur an average of every 24 days in Newberry County, but typically cause limited damage. The County's largest fire to date burned approximately 300 acres. The *Central Midlands Hazard Mitigation Plan* notes all of Newberry County is susceptible to wildfire, with the risk spread relatively evenly throughout the County where materials and conditions make ignition and uncontrolled burn possible. More than 416 square miles (64%) of the Newberry County land area is comprised of mixed, deciduous, and evergreen forest. The Enoree Division of the Sumter National Forest covers nearly 91 square miles in Newberry County. Another large tract of preserved land is the State-owned 6,505-acre Belfast Wildlife Management Area (WMA) on S.C. Highway 56 near Kinards. Although the Belfast WMA straddles the county line between Newberry and Laurens, much of the land area is within Newberry County.

Wildfires not only destroy natural areas and wildlife habitat, but can destroy commercial timber, create structural fires that burn homes and businesses, interrupt utility service, and impact both water and air quality. As residential development pushes into previously undeveloped and forested areas, wildfires become a bigger threat to homes and lives. This area of *wildland-urban interface* is defined as any area where homes and other development meet what was previously “wild land.” Suburban growth encroaches into more of these wildland interface areas each year statewide. Wildfires in these areas can quickly create structural fires that destroy homes and threaten lives. A structure fire is defined as any fire affecting any structure, commercial or residential, including residencies, businesses, outbuildings, or any other man-made structure.



Wildfires burn up to 30 homes in the State every year, with hundreds more directly threatened each fire season. The threat wildfires pose to homes and lives in South Carolina is increasing in tandem with population growth and residential development. To reduce the risk of wildfires, state law also requires that citizens notify the South Carolina Forestry Commission before burning outdoors in unincorporated areas. This requirement applies to residential yard debris burns, burns for construction and land-clearing, and forestry, wildlife, and agricultural burns (also known as prescribed, or controlled, burns).

In an additional effort to address the growing risk of wildfires in these interface zones, the national Firewise USA® program was introduced by the USDA Forest Service and the National Association of State Foresters to assist communities in reducing wildfire risks at the local level. Neighborhoods near areas with higher wildfire risk can voluntarily complete a community wildfire risk assessment and improve the ignition resistance of homes following an action plan. Plans must be updated every five years to retain the designation. Of the 32 Firewise® Communities in South Carolina, 16 are located in the coastal Waccamaw region and 10 in the Appalachian region. Currently, there are no Firewise® Communities in Newberry County or the Central Midlands Region.

9.2.1.5. Extreme Heat and Drought

Periods of high heat coupled with high humidity occur in South Carolina during the months of June through September. As noted in the *Central Midlands Hazard Mitigation Plan*, hot weather is common in Newberry County during the late spring, summer, and early fall months. On average, there are 18 to 24 days of above 95 degrees in any given year. The entire County is susceptible to hot temperatures, with the southwestern portion of the County experiencing more days of above 95 degrees. Newberry County can also experience periods of above 100-degree temperatures in the months of May through October. The hottest recorded temperature in Newberry County was 108°F in July of 1952. Seven loss-causing heat events have been recorded since 1960, resulting in more than \$12.7 million in property and crop losses.

Extreme heat events pose a high public health risk for heat exhaustion and heat stroke. Vulnerable populations include seniors, individuals with chronic health conditions, lower income and homeless residents without adequate cooling, and those who are routinely exposed to outdoor working conditions. The number of high temperature days and the duration of heat waves are forecasted to increase statewide in the coming years (Table 9-2).

Extreme heat is often linked to periods of drought. A drought is the lack of precipitation over an extended period of time that results in negative impacts upon hydrology, agriculture, biota, energy, and the economy. Drought conditions are determined and monitored by measuring precipitation, stream flow, soil moisture, and well levels. Unlike natural hazards such as storms and tornadoes, droughts are slow-onset disasters that can have lingering impacts for months or years. Drought can threaten supplies of food and water, as well as fuel wildfires, deplete fisheries, and impede energy production.

Drought is the second most costly weather and climate hazard affecting the United States, preceded only by tropical cyclones (*S.C. State Climate Office, 2022*). South Carolina experiences drought on an annual basis with conditions that range from *abnormally dry* to the more serious level of *exceptional drought* as measured by the U.S. Drought Monitor. Drought can begin in any



season, with a number of factors such as extreme heat, wind, and evapotranspiration rates as influencing factors. The State receives adequate precipitation during normal years, but experiences high seasonal variability, with fall historically being the driest season. Periodic droughts are documented throughout South Carolina's climate history, with every decade since 1900 including three or more years of below normal rainfall.

Prolonged drought can be a serious economic threat. This is a particular concern in Newberry County where the agricultural industry is a targeted economic sector and farmers are the most directly impacted by drought. As noted in the *Economic Development Element*, the Newberry economy is balanced by a significant agriculture, forestry, and outdoor recreation component. Related agricultural industries such as food processing and wood products can also be adversely impacted by drought conditions. Water use restrictions can limit industrial and power production and limit irrigation of crops and livestock. Drought can amplify the spread of highly destructive diseases and pests such as the southern pine beetle. These conditions can also impact water and air quality and contribute to public health and safety risks.

Newberry County experiences moderate to extreme drought conditions an average of at least 18 weeks per year, with many areas experiencing longer periods up to 23 weeks. There have been 16 loss-causing droughts in the County since 1960 (*Central Midlands Hazard Mitigation Plan, 2021*). The most damaging droughts occurred in 1954, 1986, and 1998-2002. The three-year drought that began in 1998 had severe impacts on the State and County economic sectors in agriculture, forestry and tourism, as well as on power generation, public water supplies, and freshwater fisheries. During this prolonged drought every county in the State reached extreme drought status, with economic losses surpassing \$1.3 billion. Less severe and shorter droughts impacting Newberry County were reported in 1988, 1990, 1993, and 1995.

The South Carolina Drought Response Committee has oversight responsibility for drought events. The State is divided into four water management areas for managing severe drought conditions. State and local responses are based on water levels or flow in river basins within the four management regions. Newberry is one of 18 counties in the *Central Water Management Area*. Drought poses a *high* hazard threat to Newberry County, with nearly the entire county having at least a *medium-high* level. Although the entire County is susceptible to drought, central Newberry County tends to experience more weeks in drought conditions. The number of drought days and the duration and frequency of drought events are expected to increase in the future.

9.2.1.6. Earthquakes

Earthquakes have the potential to damage homes and businesses and critical community facilities, transportation networks, utilities, and dams. Measured in terms of their magnitude and intensity, an earthquake is the motion or trembling of the ground caused by a sudden displacement of rock in the Earth's crust. Earthquakes can impact large geographic areas, causing devastating property damages, deaths, and injuries, and the disruption of the social and economic function of a community. Most property damage and earthquake related deaths are caused by the failure and collapse of structures due to the shaking of the ground. The level of damage depends on the amplitude and duration of the shaking, as well as any aftershocks that continue after the primary event.



The State of South Carolina is extremely vulnerable to earthquake activity (*Comprehensive Seismic Risk and Vulnerability Study, 2001*). The S.C. Emergency Management Division (SCEMD) notes the entire State is considered to have a moderate to high risk for earthquakes. Earthquakes in South Carolina occur between ten to twenty times per year on average, with only two to five events actually felt (*SCEMD, 2022*). U.S. Geological Survey data reveals that 229 low-level events occurred in the State between 1974 and 2021. These earthquakes are generally less than a magnitude of 3.0 and cause little to no damage. Most of the State's earthquake activity (60%) is concentrated in the coastal plain region as part of the Middleton Place-Summerville Seismic Zone. The two most significant recorded earthquakes in South Carolina history were the 1886 Charleston earthquake, the most destructive earthquake of the century, and the 1913 earthquake in Union County, just north of Newberry.

More recent earthquake activity since 2006 has been centered east of Newberry County in neighboring Fairfield County with 20 events, Richland County with 8 events, and Kershaw County with 56 events (*S.C. Geological Survey, 2023*). The Fairfield earthquakes are largely concentrated around Lake Monticello, near the Newberry County border. The majority of Kershaw County earthquakes occurred in 2022 and were concentrated along the Interstate 20 corridor between the Towns of Elgin and Lugoff, less than 60 miles east of Newberry County. Four of these 2022 events were over 3.0 magnitude, with the largest of these registering at 3.6 magnitude. In a 2022 *Report on Elgin-area Earthquakes*, State geologists classified this cluster of seismic activity as an "earthquake swarm." A swarm is a group of earthquakes located close to each other in time and space where the largest earthquake of the group is not significantly larger than the next largest. Previous swarms occurred in the 1970s following the filling of Lake Monticello in Fairfield County and also in 2021 near Lake Monticello. A 2.3 magnitude earthquake also occurred in neighboring Union County in 2018.

Although near a cluster of earthquake activity with neighboring Union, Richland, and Fairfield Counties, the Midlands region and Newberry County have a lower earthquake risk than the lower coastal region of the State. The current frequency interval of earthquakes in Newberry County is the lowest of natural disasters in 40 years. The strongest recorded earthquake to hit the County to date had a magnitude of 2.9. The more developed central and eastern portion of Newberry County that includes the City of Newberry has a *medium* composite vulnerability as well as *medium* threat from earthquake shaking, which equates to an overall *medium-low* earthquake hazard risk.

Seismic modeling projects the worst case scenario for each county using the Modified Mercalli Intensity (MMI) Scale that ranges from I (Not Felt) to a high of X (Extreme) (Figure 9-1). Under the most adverse geologic conditions, Newberry County has an MMI Scale of VII (Very Strong). At this intensity level, "people have difficulty standing. Considerable damage to poorly built or badly designed buildings, old walls, spires, and other structures. Damage is slight to moderate in well-built buildings. Numerous windows are broken. Weak chimneys break at roof lines. Cornices from towers and high buildings fall. Loose bricks fall from buildings. Heavy furniture is overturned and damaged. Some sand and gravel stream banks cave in" (*S.C. Geological Survey*).



Figure 9-1. Modified Mercalli Intensity Scale

Intensity	Shaking	Description/Damage
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Source: USGS, <https://www.usgs.gov/programs/earthquake-hazards/modified-mercalli-intensity-scale>

9.2.1.7. Winter Weather

Winter weather can bring snow, ice, freezing rain, and extreme cold temperatures to any part of the State. These conditions can cause traffic accidents and power outages, close roads and bridges, ground flights, damage crops, freeze water lines, and close schools and businesses. Ice accumulations can create significant hazards on power lines, trees, sidewalks, and roads. These conditions can disrupt transportation, communications, and power for days. Most deaths associated with winter storms are indirect, such as fatalities from traffic accidents due to icy conditions or hypothermia from prolonged exposure to cold. Seniors, low income families, individuals with chronic health problems, and people experiencing homelessness are particularly vulnerable to cold temperatures. This exposure risk can be worsened as increased heating demand strains the power grid and results in temporary power losses through rolling blackouts. Agricultural production can be seriously impacted when temperatures remain below the freezing point for an extended period of time.

South Carolina averages at least one significant winter storm per year. Newberry County ranks 19th highest statewide in future probability of winter storms. Winter weather is the most frequent hazard in Newberry County, with 14 snow and ice events and five winter weather events recorded locally since 2002 (NOAA). There have been 81 winter weather events that resulted in property and crop losses of more than \$21.8 million recorded in Newberry County since 1960 (CMHMP, 2021). The most expensive *Presidential Disaster Declarations* for South Carolina have been the result of winter storms in 2004, 2006, and 2014 (SCEMD, 2022).

Ice storms and winter weather occur nearly every year, with ice accumulations being the most frequent occurrence. Although snow accumulations are typically less than two inches, the County's highest snowfall amount was 11 inches in 1914. However, ice storms occur more frequently and



bring more damage than snow. The most severe ice storms occurred in January 2000 and in January 2004, both resulting in Disaster Declarations and federal assistance. The 2000 storm impacted 38 counties including Newberry with widespread power outages. The 2004 ice storm brought heavy ice accumulations in the Midlands region and multi-day power outages that closed schools and businesses.

The County experiences between 49 and 73 days per year when temperatures fall below freezing (*Central Midlands Hazard Mitigation Plan, 2021*). The record minimum temperature for Newberry County was set on February 14, 1899, with a low of -8 degrees Fahrenheit. Property damage from extreme cold is generally from broken water pipes and motor vehicle accidents, however periods of frost and freeze can cause significant damage to agricultural production. Thirty-eight loss-causing cold events have been recorded in Newberry County since 1960, resulting in more than \$14.8 million in property and crop losses. While all areas of the County are susceptible to extreme cold, areas in the northwestern portion of the County including the Town of Whitmire experience more freezing days per year.

9.2.2. Public Systems Risks and Hazards

Disasters related to public systems and infrastructure can be accidental, such as chemical spills, or intentional, such as biological or cyber-attacks. As noted in the regional plan, Newberry County could potentially experience diverse disruptions that range from mass vehicle accidents on Interstate 26 and train derailments to nuclear emergencies associated with the V.C. Summer Nuclear Station in neighboring Fairfield County. These events pose many of the same threats to the lifelines and essential functions of everyday life in Newberry County as the previously described natural hazards. Damage to public infrastructure, disruption in public services, and public health risks can also be caused by natural disasters. For these reasons it is important to include an assessment of these risks to public systems in resiliency planning.

9.2.2.1. Transportation

Transportation is an essential community function. Highways and roads, bridges, railways, and aviation provide critical links for commerce, support services, education, medical care, and emergency assistance. A structurally sound and operable transportation network is also essential to rapid disaster recovery after an event. Transportation corridors can also be the scene of disasters including mass vehicle crashes, plane crashes, train derailments, and hazardous waste spills. As noted in the State's *Hazardous Materials Plan*, growth in industry and the highly traveled network of interstate highways and railways in South Carolina have created new vulnerabilities to hazardous material releases from both stationary sites and transportation sources. A network of major highways (S.C. 121, U.S. 176, and U.S. 76 and Interstate 26) and primary rail lines make Newberry County susceptible to hazardous materials incidents.

There are more than 1,400 miles of roads within Newberry County. This network includes a high volume section of Interstate 26 that is accessed through six interchanges. Segments of Interstate 26 are the most traveled routes in the County, with traffic counts ranging from 42,600 to 44,600 vehicles per day. Multi-vehicle accidents and accidents involving the transport of hazardous materials are concerns along this heavily traveled route. Interstate 26 is one of five primary interstate freight corridors through South Carolina. Newberry County's strategic location along



Interstate 26 provides an attractive intermodal freight network access for existing and prospective industries. The Newberry County segment of Interstate 26 is used to transport an estimated 25 million tons of freight annually (*South Carolina Statewide Freight Plan, 2020*). The major U.S. and State highways that traverse the County also accommodate significant freight flows.

Two Class I railroads operated by the CSX Corporation and Norfolk Southern (NS) bisect the County. These lines pass through population centers of the City of Newberry and the Towns of Little Mountain, Prosperity, and Silverstreet. The route has one of the highest rail freight densities in the State (*S.C. Statewide Rail Plan, 2014-2040*). Following high profile derailments such as Graniteville, S.C. in 2005 and East Palestine, Ohio in 2023, there has been increased scrutiny of rail safety and hazardous materials shipments.

Chemicals comprise 23% of the shipped volume on CSX lines in South Carolina (*CSX, 2021*). The percentage of hazardous materials carloads moved through South Carolina in 2022 include Flammable Liquids (31%), Miscellaneous Hazardous Materials (26%), Corrosives (24%), and Explosives and Gases at 5% each (*CSX, 2023*). Oxidizing Substances and Organic Peroxides comprised 6% and Poisonous Toxic & Infectious Substances made up 4% of hazardous carloads. Radioactive Materials and Other Flammable Substances accounted for less than 1%. Of the annual Norfolk Southern outbound tonnage from South Carolina, 4% is chemicals. Chemicals make up 14% of the inbound shipments (*Norfolk Southern, 2018*).

9.2.2.2. Energy and Utilities

Electricity, water, wastewater, communication, and fuel are lifeline systems that are vital to the continued functioning and recovery of a community. Damage to these systems in a disaster or attack has a direct effect on the health and safety of residents. A growing reliance on electricity for energy increases this vulnerability and strain on the electrical grid. Extended power outages can cut off access to fuel supplies, limit medical care, hamper communications, damage equipment, close employers and schools, and endanger residents. The pace of community recovery following a major disaster is typically a function of the ability to restore these basic utility lifelines.

Electricity is the primary source of energy for Newberry County residents, followed by natural gas. Nearly two-thirds of homes in the County depend on electricity for heating and more than one-in-four are heated with natural gas. The County is served by eight different electric providers that include four electric cooperatives, two municipal systems, and Dominion and Duke Energy.

In addition to natural disasters that can interrupt electrical power, the potential for other interruptions of the power grid on an even larger scale grows as corporate, government, and community services and systems become more interdependent. Known as *black sky hazards*, these outages can be caused by intentional electromagnetic interference (IEMI), an electromagnetic impulse (EMP), a geomagnetic disturbance (GMD) caused by the sun, and cyberterrorism. During a long-term power outage the South Carolina Office of Regulatory Staff serves as the lead state agency for energy, with individual utilities retaining a primary operational role in restoration efforts.

The U.S. Energy Information Administration (EIA) maintains a national database of major disturbances and unusual occurrences in electric systems by region. Through March of 2023, there



were 17 such events reported nationwide, including one in Sumter County that was classified as “suspicious activity” that posed a “physical threat to its facility excluding weather or natural disaster related threats, which has the potential to degrade the normal operation of the facility.”

A 2022 study of the resiliency of the State’s electrical and natural gas infrastructure noted the interdependencies between electric power and other key infrastructure including water, wastewater, telecommunications, and transportation. The study recommendations included the need to harden transmission and distribution systems with physical and structural improvements to lines, poles, towers, substations, and supporting facilities to make them less vulnerable to the damaging effects of storm and weather events. Long-term power outages can also be reduced with targeted undergrounding of distribution lines in appropriate circumstances areas based on the exposure.

As detailed in the *Community Facilities* element, most of the unincorporated area of the County is served by individual wells and septic systems. However, water service is provided to a large number of Newberry County residents by five community water systems that include the City of Newberry and the Towns of Prosperity and Whitmire. These five systems serve more than 23,000 residents. Sewer service is provided by four public systems that serve nearly 6,500 customers. These highly automated systems are vulnerable to cyberattacks and power failures, as well as biological and chemical contamination.

9.2.2.3. Cybersecurity and Communications

Cyberattacks are identified as one of the primary threats to the nation’s critical infrastructure (*U.S. Department of Homeland Security, 2022*). Automated control systems and the increased interconnectivity of computer and communication networks that support the efficient delivery of electrical power, natural gas, fuel, water, solid waste, financial services, medical care, education, public safety, telecommunications, and transportation systems also heighten the exposure and vulnerability of these systems. As a result, a significant cyber incident could substantially disrupt core services and cause economic loss statewide.

Cyberattacks have intensified in recent years, targeting essential infrastructure and services that range from municipal water treatment facilities to power grids and fuel pipelines. Attacks can be carried out by criminals holding system control and critical information hostage in a ransomware attack, domestic and international terrorist organizations seeking to cause disruptions, and by foreign governments. Whether intentional or accidental, FEMA classifies these events as “adversarial or human-caused.” FEMA recommends elevating cyber risks as a category in local emergency preparedness planning. The SCEMD plan for cyber incident management outlines the entities involved and roles during a significant cyber event. The plan identifies thirteen priority areas for emergency support that can have physical impacts on lifeline sectors in a community. These include: transportation, communications, public works and engineering, firefighting, mass care, health and medical services, search and rescue, environmental and hazardous materials operations, energy, law enforcement, recovery and mitigation, agriculture and animals, and business and industry (*S.C. Emergency Operations Plan, 2022*).

Coordination with the private sector is also an important step. While utilities are a high visibility target, data shows the manufacturing sector receives double the number of cyberattacks as the



construction, technology and retail sectors combined. The urgency and financial impact of shutdowns in this sector have led to a willingness to pay cybercriminals to quickly restore operations and reduce productivity losses. There is a need to build both public and private sector resilience against such attacks. This is especially important in Newberry County where manufacturing is the largest employment sector by a wide margin, with an average annual wage that is fourth highest among the County's sectors.

Maintaining communications prior and during an event is a key lifeline for preventing and mitigating loss and in coordinating rescue and recovery efforts. Communications includes timely dissemination of alerts and warnings, collection and sharing of information and reports, uninterrupted surveillance of threatening conditions, fully functioning dispatch capability, and sustained 24-hour two-way radio, telephone/cellular, satellite and internet services (*S.C. Emergency Operations Plan, 2022*).

9.2.2.4. Hazardous Materials and Nuclear Radiation

Hazardous materials (HAZMAT) can be released through spills, explosions, leaks, and other incidents involving fixed facilities, roadway, rail, or nuclear facilities. They can also be used intentionally by terrorists or foreign adversaries. These events involving hazardous materials or radiation can prompt evacuations of homes and community facilities, force the closure of roadways and other infrastructure, and the contamination of water and food supplies. Releases can also harm ecosystems and contaminate air and water. Depending on the scope of the release and the toxicity of the materials, the cleanup can take days or years.

Facilities housing and using hazardous materials must report their inventories under the federal *Emergency Planning Community Right-to-Know Act* (EPCRA). This information is made available to states and local governments to help prepare and respond to potential releases. Nearly 4,500 facilities met this reporting requirement statewide, with more than a quarter of these (1,318 facilities) storing materials considered extremely hazardous substances. A majority (3,837) of these sites reported chemical inventories of more than 10,000 pounds. Although the majority of these facilities are clustered along the Interstate 85 corridor, reporting sites are also located in both rural and urbanized areas throughout South Carolina (*S.C. Emergency Operations Plan, 2022*). The primary risk is an accidental release during the transport of these hazardous materials, particularly along the State's interstates, highways, and rail lines.

In addition to potential transportation related incidents involving hazardous materials on Interstate 26, major highways, and railroads, Newberry County has numerous sites where hazardous materials are stored, including facilities for both industrial and agricultural purposes. The national *Toxics Release Inventory* (TRI) tracks the management of toxic chemicals that can pose a threat to human health and the environment. Regulated industries must report how much of each toxic chemical is recycled, combusted for energy recovery, treated for destruction, and disposed of or otherwise released.

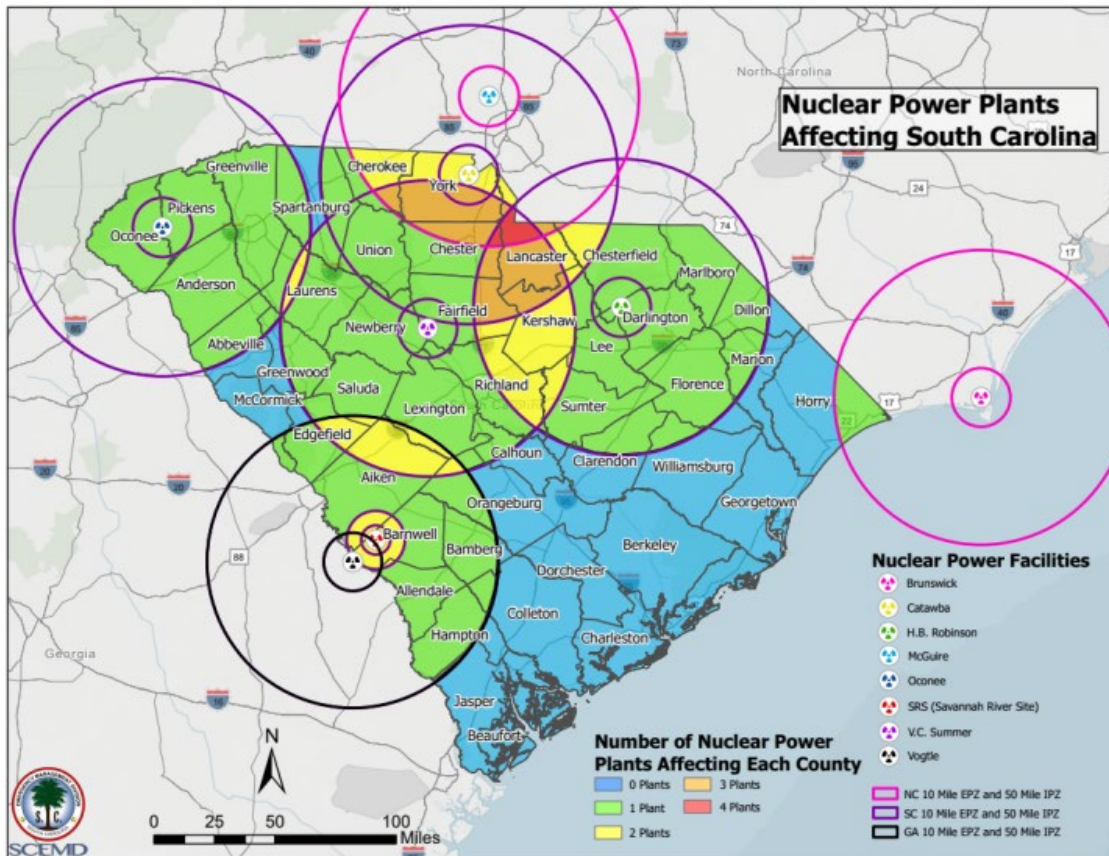
South Carolina ranks 10th highest out of 56 states and territories based on total toxic releases per square mile. The TRI database shows eleven regulated facilities in Newberry County. Nearly two-thirds (65%) of chemical releases in Newberry County between 2012 and 2021 have been into the air, with 35% released through off-site disposal. The top five chemicals released into the air in



Newberry County for the 2021 reporting year included Styrene (75%), Methanol (21%), Formaldehyde (2%), Ammonia (1%), and Xylene (less than 1%). Both Styrene and Formaldehyde are also carcinogens. The top two chemicals released into water in the County were Ammonia (99%) and Zinc Compounds (1%). The top five facilities (and manufacturing sector) in total releases were Valmont Composite Structures (plastics and rubber), SeaPro Boats (boat building), Georgia-Pacific (wood products), Maclean Fiberglass (electrical equipment), and Kiswire (steel wire).

Radiological release from nuclear power plants and the transport of radiological waste poses an additional risk to the Midlands. South Carolina is the nation’s third largest producer of nuclear power. Nuclear power provides well over half (54%) of the State’s electrical energy production. There are four nuclear plants in South Carolina and three nearby plants in bordering states. According to the *State Emergency Management Plan*, 41 of the State’s 46 counties fall within the ten-mile or 50-mile Emergency Planning Zones of at least one nuclear power plant. These zones are used to prioritize the health and safety of communities and residents from direct exposure in a radiological plume or exposure in the ingestion pathway that can contaminate air, water, and food supplies. Newberry County falls within the ten-mile and fifty-mile Emergency Planning Zones of the V.C. Summer Nuclear Station in neighboring Fairfield County and the fifty-mile Emergency Planning Zone of the Catawba Nuclear Station in York County (Figure 9-2).

Figure 9-2. Nuclear Power Plant Emergency Planning Zones



Source: S.C. Emergency Management Division

Emergencies at nuclear power plants are classified at one of four levels based on the risk and nature of the incident. Classifications range from the lowest risk of an “Unusual Event” to the



highest public risk of a “General Emergency” as described in Table 9-4. Evacuations and shelter-in-place orders are generally warranted only in a General Emergency situation.

Table 9-4. Nuclear Facility Emergency Classifications

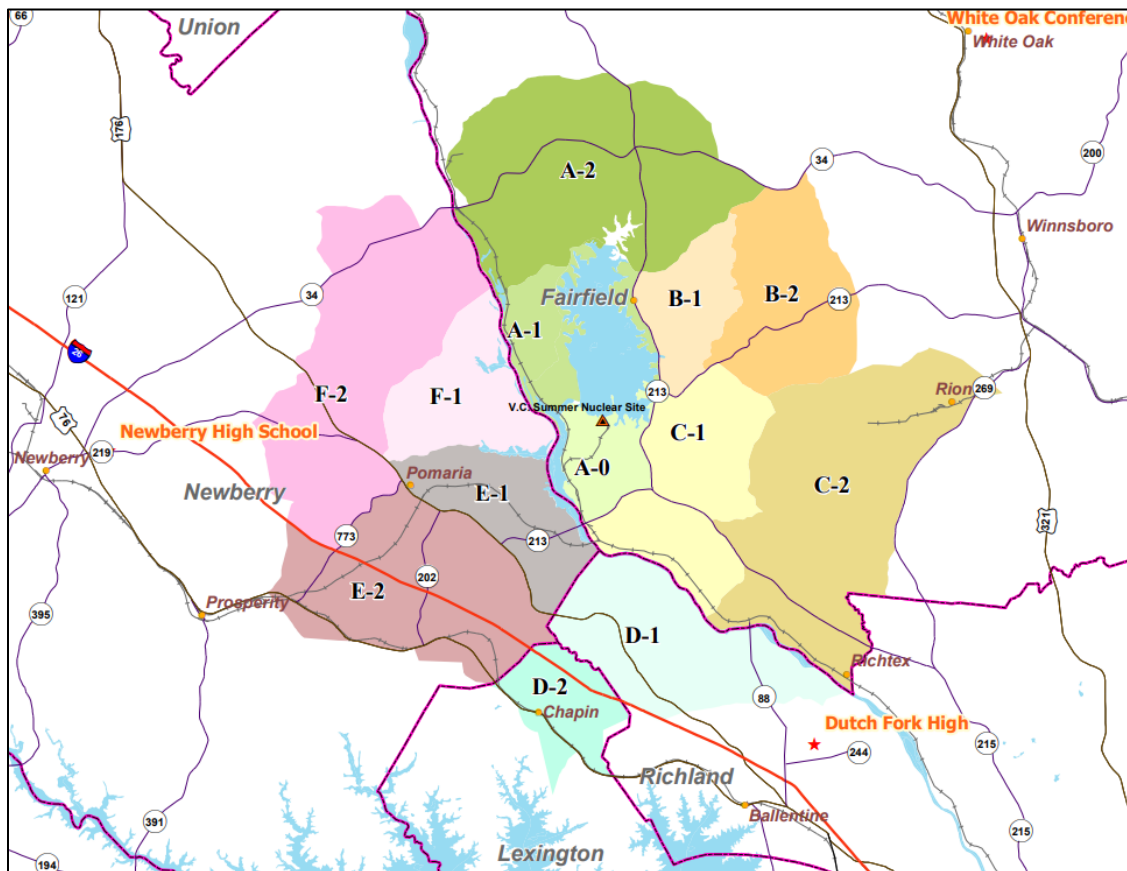
CLASS	EVENT DESCRIPTION
Unusual Event	A situation is in progress or has occurred that could potentially degrade the plant's level of safety or indicate a security threat to the facility, but is considered a minor event not serious enough to cause a release of radioactivity outside the plant. The first response steps are being carried out with operations staff at the ready. State and local officials are notified.
Alert	Conditions that are affecting or could affect plant safety or a security event that could threaten site personnel or damage to site equipment is in progress. Release of radioactivity is anticipated to be small and well below levels that could pose a danger to the public. Emergency personnel and support groups are placed on “standby” and offsite authorities are notified of plant status.
Site Area Emergency	Events are in progress or have occurred that cause actual or likely major failures of plant functions that protect the public. There may be a radioactive release at or around the plant area, but below EPA protective action guides (PAG) exposure levels. Monitoring teams are dispatched and emergency response centers/evacuation sites are readied. Area residents will be notified through IPAWS-WEA text messages to tune in to Emergency Alert System (EAS) stations. Public safety officials may direct citizens to take protective actions.
General Emergency	An uncontrolled release of radioactivity is occurring or is likely to occur with substantial reactor core damage or loss of facility control. Offsite releases can be reasonably expected to exceed EPA PAG exposure levels. Citizens will be alerted by EAS stations with actions to be taken.

Sources: Dominion Energy, 2022; Nuclear Regulatory Commission, 2021

A portion of eastern Newberry County that includes the Towns of Pomaria, Peak, and Little Mountain is within the ten-mile Emergency Planning Zone (EPZ) of the V.C. Summer plant (Figure 9-3). Newberry High School is a pre-designated reception center in case of an emergency that requires evacuation from the ten-mile zone. The EPZ also includes a segment of Interstate 26 and the Mid-Carolina Commerce Parks I and II.



Figure 9-3. Ten-Mile Emergency Planning Zone of V.C. Summer Nuclear Site



Source: SCDHEC, 2008

9.2.2.5. Public Health and Social Vulnerability

Disasters can also have short and long-term health impacts on the population. Loss of power to medical facilities, medical supply chain and personnel shortages, inability to access medical records, contamination of water supplies, exposure to toxins or radiation, longer term mental health issues, and disease outbreaks are just some of the potential public health risks and impacts of a disaster. Disasters and accidents can have an even greater impact on vulnerable populations including the elderly, low income, chronically ill, homeless, and those with disabilities. The Centers for Disease Control defines social vulnerability as "the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks."

A mass casualty incident is of a significant magnitude that can overwhelm hospitals and other health care services and deplete supplies, equipment, and pharmaceuticals. Mass casualty events can be immediate or sudden, such as a crash or explosion, or can develop over a sustained period as with a pandemic. The COVID-19 pandemic elevated the risk of an infectious disease outbreak in emergency response planning. As experienced with COVID, public health emergencies can occur with little or no notice and interrupt essential community functions. Diseases can cause hospitalization and death to humans, disrupt community services and businesses through widespread absenteeism, and strain medical resources. This can adversely impact the economy, shuttering businesses and creating shortages of food and basic products. The global reach of



South Carolina's business, tourism, energy, and other economic sectors contribute to high levels of risk for infectious disease and other public health emergencies (S.C. *Emergency Operations Plan, 2022*).

Natural and man-made hazard events can quickly overwhelm the County's limited health care workforce and facility capacity. Newberry County is a federally designated *Medically Underserved* and a *Health Professional Shortage Area* (HPSA) for primary medical care and dental care among low income populations and for mental health care among all residents (SCDHEC, 2022). Shortage areas are designated geographic areas, special populations, or facilities that have shortages of primary medical care, dental, or mental health providers. Low income, disabled, elderly, homeless, and chronically ill populations can be particularly vulnerable and disproportionately affected in disaster situations.

The FEMA *National Risk Index* defines risk as "the potential for negative impacts, because of natural hazard." The index also notes that "community resilience is the consequence reduction component and uses demographic characteristics to measure a community's ability to prepare for, adapt to, withstand, and recover from the effects of natural hazards." As detailed in Table 9-5, Newberry County has a lower overall Weather and Climate Combined Risk Score of 13.84 than the State at 15.35, but higher than the national score of 13.30. The FEMA *National Risk Index* Social Vulnerability ranking indicates that special populations in Newberry County have a *Very High* susceptibility to the adverse impacts of natural hazards when compared to the rest of the United States. The County population is more vulnerable than 82% of counties nationwide and only 1% of South Carolina counties have a lower social vulnerability. Census tract 9502.01 has the County's highest Social Vulnerability in the FEMA Index at 84.85 and the third highest of all tracts statewide.

The *Social Vulnerability Index* (SoVI®) developed by the University of South Carolina uses 29 socioeconomic variables to assess "social vulnerability that deemed to contribute to a community's reduced ability to prepare for, respond to, and recover from hazards." Using this range of federal environmental and economic criteria, multiple census tracts in the County are classified as overburdened and underserved, increasing their vulnerability in disasters. The County's overall Social Vulnerability Index (SoVI®) Score of nearly 40 is also higher than the national score of 38.35, but just below the South Carolina score of 40.14. Table 9-5 compares the rankings by Census tract, with 2010 Census tracts shown in Map 9-1.



Map 9-1. Newberry County 2010 Census Tracts



Source: U.S. Census Bureau, 2010 Census

Census Tract 9502.02 (western portion of the City of Newberry) had the highest SoVI® score among the County’s census tracts with a score of nearly 35. This tract exceeded County averages in the concentration of residents in the most risk categories that include percentage with lower incomes, living below poverty, limited English proficiency, lower educational attainment, elderly residents and those with disabilities, single parent households, minority populations, and households with no vehicle.

Table 9-5. Risk and Social Vulnerability Index Comparison for Newberry County Census Tracts

AREA/CENSUS TRACT	FEMA NATIONAL RISK INDEX SOCIAL VULNERABILITY ¹	WEATHER & CLIMATE COMBINED RISK (NCEI)	SOCIAL VULNERABILITY INDEX SCORE (SoVI®)	IDENTIFIED POPULATION RISK FACTORS ²
Newberry County	82.27	13.84	39.89	No HS Diploma, Under 18, Mobile Homes, Disabilities, Elderly
9501 (Pomaria Area)	25.52	18.13	32.52	Mobile Homes
9502.01 (North of City of Newberry)	84.85	15.68	33.26	Lower Income, Poverty, No HS Diploma, Limited English, Under 18, Single Parents, Minorities, Mobile Homes



AREA/CENSUS TRACT	FEMA NATIONAL RISK INDEX SOCIAL VULNERABILITY ¹	WEATHER & CLIMATE COMBINED RISK (NCEI)	SOCIAL VULNERABILITY INDEX SCORE (SoVI®)	IDENTIFIED POPULATION RISK FACTORS ²
9502.02 ¹ (Eastern and Southeastern City of Newberry)	81.20 (9502.04)	24.57	34.86	Lower Income, Poverty, No HS Diploma, Limited English, Elderly, Disabilities, Single Parents, Minorities, No Vehicle
	90.05 (9502.03)			
9503 (Whitmire Area)	50.07	18.31	33.71	Lower Income, No HS Diploma, Elderly, Disabilities
9505.02 (Western City of Newberry)	96.77	20.59	33.58	Lower Income, Poverty, Under 18, Single Parents, Minorities, No Vehicle
9506.01 (Prosperity Area)	73.72	20.32	33.10	Elderly, Disabilities, Mobile Homes
9506.02 ¹ (Little Mountain/ Fairview Peak)	31.70 (9506.03)	21.15	31.12	Elderly, Mobile Homes
	21.24 (9506.04)			
9507 (Silverstreet Area)	60.14	20.82	32.88	Lower Income, Under 18, No HS Diploma, Single Parents, Minorities, Mobile Homes
South Carolina	--	15.35	40.14	--
United States	--	13.30	38.35	--

¹Based on 2010 Census tracts. Two tracts were further divided in the 2020 Census.

²Tract exceeds County averages for these risk factors

Sources: FEMA Hazard Risk Index, 2023; NOAA National Centers for Environmental Information, 2023

Tracts 9505.02 and 9502.02 encompass the City of Newberry and are both designated as *Disadvantaged Communities* (DAC) by the U.S. Department of Energy. The Department uses thirty-six (36) indicators that reflect fossil fuel dependence, energy burden, local environmental and climate hazards, and socio-economic vulnerabilities to calculate a cumulative burden score. To be eligible for the designation, a census tract must have at least 30% of households classified as low-income and rank in the 80th percentile of the cumulative sum of the 36 indicators. These scores are increasingly used to prioritize federal investments in energy and other infrastructure resilience projects. In Tract 9505.02, 88% of family households are headed by a single parent, 19% have no vehicle, 33% of households have no internet, 61% of housing units are occupied by renters, and 69% of residents are low income. Although Tract 9502.02 was split into two tracts in the 2020 Census, the DAC criteria characterize the overall vulnerability of these tracts in which 20% of the population has a disability, more than 30% of households lack internet, and a higher proportion of residents lack job access.

Other social risk factors associated with hazards vulnerability are food insecurity, a high housing cost burden, and lack of insurance. Food insecurity is defined by the USDA as “the lack of access, at times, to enough food for an active, healthy life.” An estimated 9.8% of Newberry County residents, or 3,770 residents, are food insecure. This is the second highest rate in the Central Midlands region and higher than the State rate of 9.6%. Well over half (52.1%) of renters in the County are cost-burdened, while 27.2% of homeowners spend more than 30% of their income on



housing. The local housing shortage can make recovery a daunting challenge for cost-burdened residents seeking new housing or requiring housing repairs following a disaster. Housing prices have jumped 28% since the start of the pandemic in 2020. Newberry County has the region's highest rate of uninsured population at 15%. Additional social and housing data is found in the *Population and Housing Elements*.

9.2.2.6. Economic Stability and Resilience

Hazard mitigation planning is incomplete without addressing economic resilience and recovery. The ability of the County to leverage public and private resources to help restore affected employers and business operations quickly is essential to mitigating an economic disruption. In larger scale disasters, the timing and effectiveness of physical recovery efforts can rely on the resilience of critical facilities that support the manufacture of primary metals, machinery, electrical equipment, appliances, components, and transportation equipment. Food and pharmaceutical production are also important to economic stability and in large-scale disaster recovery efforts.

Economic disruptions can occur when there are large employer closures, industry-specific shocks, or more general economic conditions such as a national recession, natural disasters, and public health hazards such as the recent pandemic. The *National Economic Resilience Data Explorer* (NERDE) is a joint project of the Argonne Laboratory and the Economic Development Administration to assess and assist with local economic recovery and resilience. In addition to generating county-level economic distress indicators based on unemployment and wage trends, the analysis tool also assesses indicators of overall economic risk and resilience and COVID-19 pandemic recovery status. NERDE data shows that although the current and 24-month unemployment rates for Newberry County are better than the national average, per capita income measures indicate economic distress. Among the County's top five industries by Gross Domestic Product (GDP), the Food Processing, Wood Products, and Electrical Equipment and Appliances sectors have recovered and surpassed pre-pandemic levels. However, the recovery for the Local Government and Construction sectors has been slower and remains under the pre-pandemic threshold of January 2020. A 2022 survey of County businesses on the lingering effects of COVID-19 revealed that the top two issues were supply chain disruptions and employee absences.

As detailed in the *Economic Element*, the *Newberry County Economic Development Strategic Plan* adopted in 2023 prioritizes economic diversification and the cultivation of businesses that offer quality, higher-wage jobs and strengthen the tax base. Communities depend on a strong economy for jobs, essential goods and services, and tax revenues that enable rebuilding after a disaster. Economic diversification, combined with high-demand and higher wage employment opportunities, can lessen the impact of future economic downturns. Indicators from the NERDE database show Newberry County has a strong manufacturing employment base that is more than triple the national share for this sector. Private manufacturing currently accounts for more than 30% of jobs in the County. Annual average manufacturing wages in Newberry County are generally double the wage of the retail sector and more than triple that of accommodations and food services (*Central Midlands CEDS, 2022*).

A cluster analysis conducted as part of the recent strategic planning process revealed several emerging sectors in the County. Appliances manufacturing is the highest-concentrated cluster and had the most job growth in the last five years. This cluster was boosted by the location of



Samsung Electronics to the County, which now employs more than 2,300. Although livestock processing is identified as a traditionally highly concentrated cluster and a top employer in Newberry County, there is a projected sector decline. The livestock processing workforce was hit especially hard by the pandemic, with the highest number of pandemic job losses countywide. Other high growth clusters are automotive, boat manufacturing, lighting and electrical equipment, wood processing, transportation and logistics, and advanced materials (plastics, paper and packaging, chemical, and metal products). The diversity of clusters in Newberry County has helped stabilize the local economy and speed rebounds after external shocks such as the COVID-19 pandemic.

Agriculture also plays an important role in the local economy. The Newberry County Agriculture, Fishing, Forestry and Hunting industry sector has a location quotient of 3.20, second only to Manufacturing at 3.75. Newberry County ranks 6th highest in the State in the total market value of agricultural sales, with 96% of its sales consisting of livestock, poultry, and related products. The County ranks in the top 11% of counties nationwide in the market value of products sold in the livestock and poultry category and in the top 5% in poultry and eggs (*USDA Census of Agriculture*). There are more than 600 farms in the County and nearly 95,000 acres in farmland. The agricultural sector is vulnerable to natural and biological disasters, particularly drought, winter weather, and livestock diseases.

As part of the recent strategic planning process, the County Economic Development Office also conducted an extensive outreach process that identified weaknesses and barriers to economic growth. Among the countywide weaknesses are water and sewer infrastructure, a limited housing supply, road congestion, lack of internet in some communities, pressure on a limited tax base, workforce shortages and an aging workforce, and the potential for growth to outpace infrastructure and service capacity. These issues largely mirror regional weaknesses identified in the *Central Midlands Comprehensive Economic Development Strategy* (CEDS) adopted in 2022. Opportunities to strengthen the economic resilience of the region and County include small business development and entrepreneurial support, workforce development and training, infrastructure upgrades, broadband expansion, recruitment of higher wage/higher tech jobs, and support for business continuity planning for disasters. These issues are examined in detail in the *Economic Element*.

9.2.3. County Composite Risk Summary

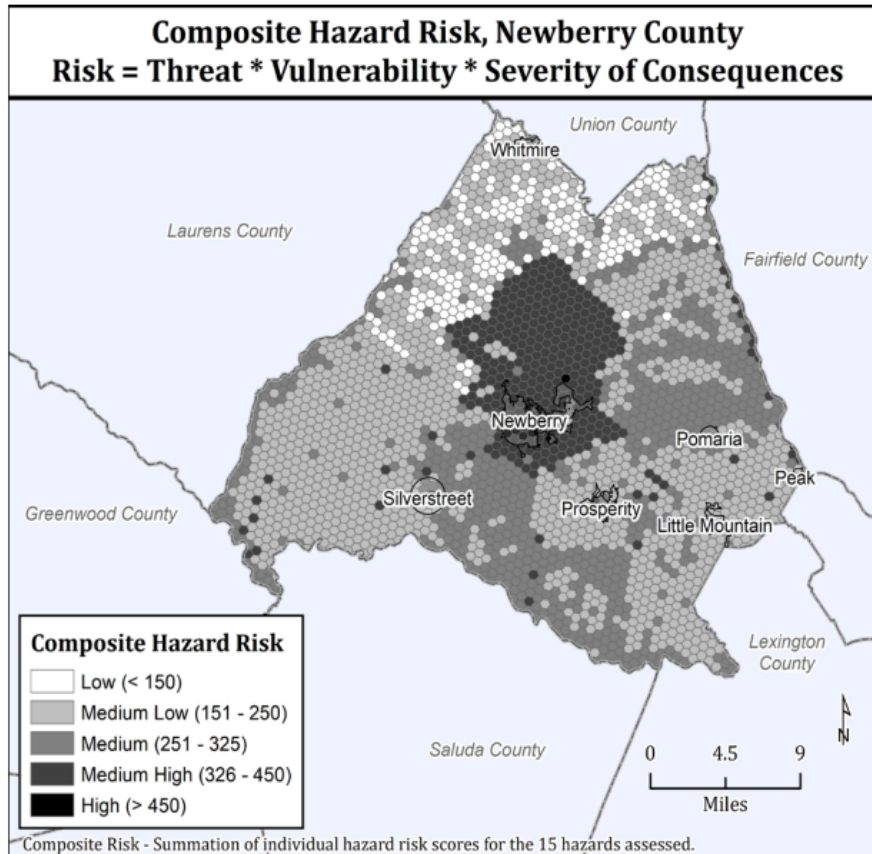
As outlined in the prior sections, multiple natural and man-made hazards have the potential to disrupt day-to-day activities, cause extensive property damage, and create mass casualties in South Carolina. The *2021 Central Midlands Hazard Mitigation Plan* identifies cold weather events as the most frequent hazard faced by Newberry County, followed by thunderstorms including lightning, wind, and hail. However, the overall risk assessment for the County lists extreme heat, drought, tornadoes, winter weather, extreme cold, and flash floods as high risk hazards in terms of vulnerability, severity, probability of future occurrence, and magnitude and severity.

Using the *Severity of Consequence* rating system, the natural hazards posing the highest severity of impact in Newberry County are heat, tornado, drought, hurricane/tropical storm, and flash flood. Hazards rated as having the lowest potential severity of consequence are lightning, earthquake, and extreme cold. When the composite threat, vulnerability, and severity of



consequence levels for Newberry County are overlaid, the County exhibits a composite risk level of at least medium-low except for a few areas in the northern third of the county. The most vulnerable area in terms of hazards and social and economic impact is in central Newberry County including the City of Newberry. This higher risk area includes much of the County's critical infrastructure, building stock, and population. As a result, the area has *medium-high* and *high* risk with a high concentration of composite vulnerability. There are also areas of noticeably higher composite risk near Pomaria and between Silverstreet and Prosperity as shown in Figure 9-4.

Figure 9-4. Newberry County Composite Hazard Risk Map



Source: Central Midlands Hazard Mitigation Plan, 2021

The *National Risk Index* is a mapping tool from FEMA that identifies communities most at risk of 18 natural hazards. This application visualizes natural hazard risk metrics at the County and Census tract levels and includes data about expected annual losses from natural hazards, social vulnerability, and community resilience (Table 9-6). The overall *Risk Index* rating for Newberry County is *Relatively Low* when compared to the rest of the nation. Nearly two-thirds (64%) of U.S. counties have a lower Risk Index and 28% of South Carolina counties have a lower Risk Index than Newberry County. The *Expected Annual Losses* due to disasters in Newberry County is also *Relatively Low* when compared nationally. Sixty percent of U.S. counties and 33% of South Carolina counties have a lower Expected Annual Loss. Newberry County residents have a *Very High* susceptibility to the adverse impacts of natural hazards. More than 80% of counties have a lower *Social Vulnerability* score than Newberry and only 1% of counties statewide are less vulnerable.



The County has an overall *Relatively Moderate* ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. Well over half (56%) of U.S. counties and 99% of counties in South Carolina have a stronger Community Resilience score than Newberry County. Of the County's ten census tracts, six have an overall *Relatively Moderate* risk index and four have a *Relatively Low* risk. All ten Census tracts have a *Relatively Low* community resilience score when compared to the rest of the nation.

Table 9-6. National Risk Index Comparison for Newberry County Census Tracts

LOCATION/ CENSUS TRACT	RISK INDEX	EXPECTED ANNUAL LOSS	SOCIAL VULNERABILITY ³	COMMUNITY RESILIENCE
Newberry County	Relatively Low 64.1	Relatively Low 59.8	Very High 82.3	Relatively Moderate 44.4
9501	Relatively Low 58.7	Relatively Moderate 64.4	Relatively Low 25.5	Relatively Low 33.0
9502.01	Relatively Moderate 62.3	Relatively Low 50.6	Very High 84.8	Relatively Low 33.0
9502.03 ¹	Relatively Moderate 68.6	Relatively Low 56.2	Very High 90.1	Relatively Low 33.0
9502.04 ¹	Relatively Moderate 78.3	Relatively Moderate 71.3	Very High 81.2	Relatively Low 33.0
9503	Relatively Low 62.0	Relatively Moderate 61.0	Relatively Moderate 50.1	Relatively Low 33.0
9505.02	Relatively Moderate 83.5	Relatively Moderate 73.1	Very High 96.8	Relatively Low 33.0
9506.01	Relatively Moderate 77.8	Relatively Moderate 72.7	Very High 73.7	Relatively Low 33.0
9506.03 ²	Relatively Low 50.1	Relatively Low 53.5	Relatively Low 31.7	Relatively Low 33.0
9506.04 ²	Relatively Low 59.4	Relatively Moderate 66.5	Relatively Low 21.2	Relatively Low 33.0
9507	Relatively Moderate 76.8	Relatively Moderate 74.8	Very High 60.1	Relatively Low 33.0

¹Tracts were previously part of Tract 9502.02 in the 2010 Census; ² Tracts were previously part of Tract 9506.02 in the 2010 Census; ³Based on Centers for Disease Control (CDC) ATSDR Social Vulnerability Index

Source: FEMA National Risk Index, 2023, <https://hazards.fema.gov/nri/>

9.3. Existing Plans, Partnerships and Coordination

Advance hazard mitigation planning and preparation is essential in equipping community leaders, response staff, and the general public to make rapid and informed decisions that can save lives and quickly restore infrastructure and services when disaster strikes. Coordination of local resilience planning and mitigation measures with neighboring jurisdictions and with State and regional hazard mitigation planning and response entities is an essential step in this process.



9.3.1. Existing Plans and Resources

Existing hazard mitigation, emergency response, and resiliency plans for the County, region, State, and neighboring jurisdictions were identified and inventoried as part of the resiliency planning process as listed in Table 9-7.

Table 9-7. Inventory of Key Plans Impacting Newberry County Resiliency and Recovery

PLAN (DATE)	ENTITY	COVERAGE	SUMMARY
Central Midlands Hazard Mitigation Plan (Rev. 2022)	CMCOG	Fairfield Lexington Newberry Richland	Details the historical extent and impact of natural and human-made hazards in the Midlands at the county level with strategies to prevent, reduce, or eliminate the impact of these events
Comprehensive Economic Development Strategy (2022)	CMCOG	Fairfield Lexington Newberry Richland	Defines the regional vision for economic growth and resilience and identifies local priorities for future investment
Comprehensive Seismic Risk & Vulnerability Study (2001)	SCEMD	Statewide	Assesses vulnerability of South Carolina's built environment to earthquakes of various magnitudes and provides emergency managers at all levels with detailed estimates of damages and losses
Emergency Planning Guide (2022)	Dominion Energy	V.C. Summer Nuclear Zone	Describes public protective measures, alert systems, and locations for reception centers and evacuation routes for residents in case of radiological incident emergencies within the ten-mile emergency management zone (EMZ) of the plant
Newberry County Emergency Operations Plan (2019)	Newberry County EMD	Newberry County	Outlines delegation of responsibility for County and municipal agencies in the event of a major disaster and coordinates mitigation, preparedness, response, and recovery efforts for all hazards that may affect the County
S.C. Catastrophic Incident Response Plan (2018)	SCEMD	Statewide	Specifies coordination of local, State, and Federal resources in catastrophic events that exceed county and State resources and interrupt government operations and services within and beyond the impacted area
S.C. Drought Response Plan ¹ (2016)	SCEMD	Statewide	Provides statewide planning and response strategies for State and County officials to plan and coordinate resources in response to a severe or extreme drought event to prevent loss of life, minimize damage, lessen the economic impact, and protect the environment
S.C. Earthquake Plan ¹ (2021)	SCEMD	Statewide	Provide a framework of actions necessary for emergency operations in response to a large earthquake



PLAN (DATE)	ENTITY	COVERAGE	SUMMARY
S.C. Operational Radiological Emergency Response Plan (2022)	SCEMD	Nuclear Power Plants	Provides guidance, coordination, and utilization of State and other resources to support counties affected by a radiological incident emergency at the Catawba, Oconee, Robinson, Savannah River Site, V.C. Summer (SC), Vogtle (GA), and Brunswick and McGuire (NC) nuclear plants
S.C. Opioid Emergency Response Plan (2022)	DAODAS SLED	Statewide	Provides guidance and a detailed strategy of State and local efforts to combat the opioid epidemic
S.C. Recovery Plan (2023)	SCEMD	Statewide	Coordinate resources to support short-term, intermediate, and long-term local recovery goals
S.C. Emergency Operations Plan (2022)	SCEMD	Statewide	All-hazard plan for State government departments and agencies to ensure a coordinated and effective response to natural, technological, or man-made disasters in South Carolina covering emergency management: mitigation, preparedness, response, logistics, and recovery
South Carolina Floodwater Commission Report (2019)	S.C. General Assembly	Statewide	Offers short and long-term recommendations to alleviate and mitigate flood impacts and manage stormwater in cities, communities, and enterprises located on or near the coast and rivers
S.C. Hazard Mitigation Plan (2018)	SCEMD	Statewide	Outlines State strategy for all natural hazard mitigation goals, actions, and initiatives based on the systematic evaluation of the nature and extent of vulnerability to natural hazards and actions needed to minimize future hazards vulnerability
S.C. Mass Casualty Plan ¹ (2018)	SCDHEC	Statewide	Assigns responsibilities to State agencies and coordinates response efforts to meet the needs of local governments following a mass casualty-producing incident
Strategic Statewide Resilience and Risk Reduction Plan (2023 Draft)	S.C. Office of Resilience (SCOR)	Statewide	Coordinates statewide resilience efforts including coordination with federal, state, and local governmental agencies, stakeholders, and nongovernmental entities and serves as a framework to guide state investment in flood mitigation projects

¹Plan published separately as a standalone component of the *S.C. Emergency Operations Plan*

Additional State emergency planning documents that are published separately with potential impact relevance for Newberry County include statewide plans for Dam Failure Emergency Response, Civil Disturbance, Terrorism Operations, Emergency Refuel, Repatriation, Active Shooter/Hostile Action Consequence Management, Infectious Disease, State Long-Term Power Outage, State Cyber Consequence Management, Medical Countermeasures, Winter Weather, and Flood Response. The COVID-19 pandemic heightened increased consideration of non-natural hazard data to assist in State and local hazard mitigation and emergency management planning.



Multiple Federal, State, and institutional mapping tools are now available to assist local communities in identifying areas and populations that have heightened vulnerability. These tools integrate population, housing, and economic data with historic and projected natural hazards events and environmental and public health data to provide a more comprehensive view of risk and resiliency at the local level. The FEMA *National Risk Index* (<https://hazards.fema.gov/nri/map>), the FEMA *Resilience Analysis and Planning Tool* (RAPT) (<https://www.fema.gov/emergency-managers/practitioners/resilience-analysis-and-planning-tool>), and the NOAA *Risk and Vulnerability* (<https://www.ncdc.noaa.gov/billions/mapping>) are among multiple platforms that map and rank vulnerability to natural hazards. The interrelated nature of natural hazards, health and environmental factors, and socio-economic conditions and their combined influence on disaster recovery and adaptability are revealed when social vulnerability is integrated in web-based tools. Integrated platforms include the Economic Development Administration's *National Economic Resilience Data Explorer* (NERDE) (<https://www.anl.gov/dis/nerde-county-dashboard>), the Environmental Protection Agency's *Environmental Justice Screening and Mapping Tool* (<https://ejscreen.epa.gov/mapper/>), the U.S. Department of Energy's *Disadvantaged Communities Reporter* (<https://energyjustice.egs.anl.gov/>) and the Center for Disease Control's *Social Vulnerability Index* (SVI) (https://www.atsdr.cdc.gov/placeandhealth/svi/interactive_map.html). These mapping resources are increasingly used in regional and county hazard mitigation planning, as well as in Federal and State grant applications, to help optimize local resiliency and mitigation investments.

9.3.1.1. Central Midlands Hazard Mitigation Plan

Per the *Disaster Mitigation Act of 2000*, the Federal Emergency Management Agency (FEMA) requires all counties to create and maintain a *Hazard Mitigation Plan* (HMP). An HMP assesses historical impacts of natural hazards to determine high risk areas and identify vulnerabilities. When analyzed along with demographic and economic information, the assessment is used to identify and prioritize mitigation actions for reducing risk and protecting residents and visitors from the impacts of natural hazards. A FEMA and SCEMD approved and locally adopted HMP is a requirement to solicit federal grant funds under the Hazard Mitigation Grant Program.

The *Central Midlands Hazard Mitigation Plan* (CMHMP) was most recently updated and subsequently adopted by Newberry County in 2021. The Plan provides detailed vulnerability and mitigation information for the four counties in the Central Midlands Council of Governments region (Fairfield, Lexington, Newberry, and Richland) and participating municipalities. The Plan identifies the historical and projected hazards that threaten each county of the Midlands region along with an estimate of the relative risks posed to each community by these hazards. This is supported by recommended goals, actions, and projects that guide mitigation activities, with a plan for prioritizing, implementing, evaluating, and monitoring such activities.

In developing the plan, CMCOG assembled and worked closely with planning committees for each county that included jurisdictional representatives, county emergency managers, and other organizations that participate in emergency management activities. These committees in turn coordinated and communicated with local stakeholders throughout the planning process. The resulting regional plan meets the federal and state requirements for a local hazard mitigation plan for all four Midlands counties. CMCOG monitors and updates the *Hazard Mitigation Plan* every



five years, with the next update planned for 2026. Participating local governments provide detailed and on-going record keeping on the occurrence and cost of natural hazard events that are used to update and revise the plan.

The 2021 regional plan identified 34 specific hazard mitigation strategies for the unincorporated portion of Newberry County to address multiple risks. These strategies focus on the targeted higher probability hazards of forest fire/wildfires, winter snow and ice storms, flooding, tornadoes, hurricanes, drought, and thunderstorms and accompanying hail, wind, and lightning. The Plan also includes 36 strategies for the City of Newberry and 34 for the Town of Whitmire. While both municipalities address the seven natural hazards of the County's mitigation strategies, the City of Newberry and Town of Whitmire have additional strategies to harden critical public facilities against damage by earthquakes.

9.3.1.2. Newberry County Emergency Operations Plan

Newberry County has prepared an *Emergency Operations Plan* (EOP) that is coordinated with the South Carolina *Comprehensive Emergency Preparedness Plan* and provides the specific delegation of responsibilities of County and municipal agencies in the event of major disasters. Originally adopted in 1976, the most recent Plan update was adopted in 2019. The purpose of the Plan is "define the actions to be taken by Newberry County government, State and Federal agencies, and other non-governmental organizations in preparation for, response to, and recovery from an emergency situation."

The *Newberry County Emergency Operations Plan* is predicated on the concept that all disasters are local, and that local government is responsible for responding to all disasters occurring within Newberry County, regardless of the nature of the disaster. The Plan provides an overview of the County's approach to emergency operations and describes its response organization and assigned responsibilities. The EOP details activities in all four phases of emergency management – mitigation, preparedness, response, and recovery. Hazard specific operations guides have been adopted to supplement the EOP as separate documents that focus on the special needs and unique details that apply to the subject hazard.

The EOP is exercised, reviewed, and updated annually by the Newberry County Emergency Management Division. The Newberry County Department of Public Safety is the designated Disaster Preparedness Agency with responsibility for emergency and disaster planning for Newberry County. Newberry County also assumes mitigation strategy responsibility for the towns of Little Mountain, Peak, Pomaria, and Prosperity. The County Emergency Operations Center (EOC) is the focal point of activity during an emergency – coordinating public safety, law enforcement, and recovery efforts with other key areas of County, municipal, and State government. The Newberry County EOC is located at 540 Wilson Road. In the event the facility becomes inaccessible, damaged, or otherwise unusable, the City of Newberry Fire Station located at 1507 Nance Street serves as the alternate EOC.

9.3.2. Local Capacity, Partnerships, and Coordination

Community resilience measures a community's ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. Locally adopted policies and programs can be effective in incorporating resiliency solutions and



expediting implementation. As described in the *Central Midlands Hazard Mitigation Plan*, Newberry County leverages a combination of public outreach efforts, flood mitigation planning, emergency management programs, zoning and building codes, building elevation requirements, and infrastructure projects to reduce risks.

Comprehensive and capital improvements planning, zoning and land use regulations, and building codes are also used by the County and several of its municipalities to ensure public safety, promote environmental standards, protect the built environment, preserve protective natural resources, and guide development to areas of lower risk. Newberry County has enacted zoning and land use ordinances and adopted ordinances regulating hazardous substances reporting, stormwater, and floodplain management.

The *Hazardous Substances Ordinance* was adopted by the County in 2002 to protect Newberry County citizens and emergency response personnel from the detrimental effects of the explosion, fire, or release of hazardous materials. The regulations apply to all substances that, if accidentally released, may pose a threat or be harmful to human health, safety, animals, crops, water systems, or other elements of the environment. These substances include explosives, radioactive materials, etiologic agents, flammable and combustible liquids, solids, and gases, poisons, oxidizing substances, and corrosive chemicals. The Ordinance requires the identification of facilities that pose a significant risk to the community to include facilities with underground storage tanks and facilities that store 10,000 pounds or more of a hazardous substance, or threshold planning quantities (TPQ), of an extremely hazardous substance subject to federal SARA Tier II reporting. The regulations also detail a process for cost recovery from the facility owner by the County after responding to incidents at such facilities.

The County also enforces ordinances for flood damage prevention and erosion and sediment control. The County enacted the *Stormwater Management and Sediment Control Ordinance* in 2006 to: prevent the erosion of soils, prevent the sedimentation of streams, control stormwater runoff from developing areas, reduce the damage potential of flood water, protect properties near land disturbing activities, prevent the clogging of ditches, prevent the silting of lakes, provide unobstructed and sanitary channels for storm water runoff, prevent flooding caused by the encroachment of buildings or other structures on natural waterways and drainage channels, prevent pollution of surface water and groundwater, promote groundwater recharge, and preserve the natural scenic beauty of Newberry County. A Stormwater Management and Sediment Control Plan is required prior to any construction, grading or land disturbance or alteration associated with proposed non-exempt activities.

Adopted in 2003, the Newberry County *Flood Damage Prevention Ordinance* controls the alteration of natural flood plains, stream channels, and natural protective barriers that are involved in the accommodation of flood waters, and control filling, grading, dredging, and other development that may increase flood damage or erosion. The goals of the Ordinance are to protect human life and health, to help maintain a stable tax base by providing for the sound use and development of flood-prone areas to minimize flood blight areas, and to ensure that potential home buyers are notified that property is in a flood area. The provisions are designed to minimize damage to public facilities and utilities such as water and gas mains; electric, telephone, and sewer lines; streets and bridges located in the flood plain; and prolonged business interruptions. A long-



term objective of flood plain management is to minimize the burden on public resources for costly flood control projects and rescue and relief efforts associated with flooding.

Newberry County, the City of Newberry, and the Town of Whitmire also participate in the National Flood Insurance program (NFIP) to reduce the impact of flooding on private and public structures. There were 127 active residential and commercial flood insurance policies in the County and 16 in the City of Newberry in 2021 (*CMHMP, 2021*). These jurisdictions do not participate in the Community Rating System (CRS) that can provide residents with discounted flood insurance premiums.

Newberry County is a *StormReady*® community. South Carolina is one of only four states with all counties in the program. This National Weather Service program is designed to support local communities with the basic communication and safety skills that can save lives and property during severe weather events. *StormReady*® communities must take several actions to improve readiness and reduce vulnerability to include establishing a 24-hour warning point and emergency operations center and providing multiple ways to receive and send severe weather warnings, forecasts, and alerts to the public. Counties must also create a system to monitor local weather conditions, promote public readiness and education through community outreach, and develop a formal hazardous weather plan that includes holding emergency exercises and training severe weather spotters.

Fire protection for Newberry County is provided by the Newberry County Fire Services through volunteer fire departments located in rural towns and unincorporated communities. Eleven departments – Friendly, Pomaria, Prosperity, Whitmire, Little Mountain, Silverstreet, Bush River, Fairview, Chappells, St. Phillips, and Consolidated – are responsible for suppression of all structural, industrial, and other fires in Newberry County. Rescue services are also provided through seven volunteer rescue squads based in Pomaria, Newberry, Chappells, Prosperity, Whitmire, Little Mountain, and Lake Murray. Emergency Medical Services are provided by the Newberry County Hospital with annual funding by the County.

As the local focal point of activity during an emergency, the County Emergency Operations Center (EOC) is the hub for coordinating public safety, law enforcement, and recovery efforts with other key areas of County, municipal, and State government. As noted in the EOP, Newberry County is a small, rural jurisdiction with limited financial resources that relies on mutual aid agreements for certain critical events. The County has capabilities to respond to incidents involving hazardous materials or technical rescue, backed by mutual aid assets to assist in response to these types of incidents when needed. Prior to seeking aid from State or Federal partners, Newberry County utilizes preexisting agreements with neighboring jurisdictions and the private sector (Table 9-8).

Newberry County is bordered on the north by Laurens, Union, and Fairfield Counties and the Broad River, on the east by Richland and Lexington Counties, and to the south by Saluda and Greenwood Counties and the Saluda River. Newberry County is located approximately 31 miles from Greenwood and 41 miles from Columbia. The County contains seven incorporated municipalities that include the City of Newberry and the towns of Prosperity, Peak, Pomaria, Silverstreet, Little Mountain and Whitmire. Unincorporated communities include Chappells, Kinards, and Jalapa.



Table 9-8. Neighboring Jurisdiction Participation in Mutual Aid Agreement

JURISDICTION	PARTICIPATING ENTITIES	
Fairfield County	<ul style="list-style-type: none"> • Town of Ridgeway • Town of Winnsboro • Fairfield County Sheriff's Office 	<ul style="list-style-type: none"> • Fairfield Rural Fire Board and Community Volunteer Fire Departments: Greenbrier-Bethel, Mitford, Southeastern, Jenkinsville, Ridgeway, Dutchman Creek, Feasterville, Lebanon, Blackstock-Woodard, and Blair
Greenwood County	<ul style="list-style-type: none"> • Greenwood County • City of Greenwood • Town of Ninety Six • Town of Ware Shoals 	<ul style="list-style-type: none"> • Commissioners of Public Works • Fire Departments and Fire and Rescue: Northwest, Troy, and Highway 32
Laurens County	<ul style="list-style-type: none"> • Laurens County • City of Clinton • City of Laurens • Laurens Commission of Public Works • Laurens County Water and Sewer Commission 	<ul style="list-style-type: none"> • Fire Departments: Joanna, Sandy Springs, Hickory Tavern, Cross Hill, Durbin Creek, Gray Court, Greenpond, Renno, Waterloo, Western Laurens, Youngs, Mountville, Ekom, Laurens City-Station 20, and Laurens County-Station 21
Lexington County	<ul style="list-style-type: none"> • Lexington County • City of Cayce • City of West Columbia • Town of Batesburg-Leesville • Town of Chapin • Town of Irmo 	<ul style="list-style-type: none"> • Town of Lexington • Town of Pelion • Town of South Congaree • Town of Springdale • Town of Swansea • Irmo Fire District • Richland-Lexington Airport District (Fire/Rescue)
Newberry County	<ul style="list-style-type: none"> • Newberry County • Newberry County Sheriff's Office • City of Newberry • Town of Peak • Town of Pomaria • Town of Prosperity • Town of Whitmire 	<ul style="list-style-type: none"> • Fire Departments and Sub Stations: Friendly, Prosperity, Stoney Hill, Whitmire, Pomaria, Peak, Maybinton, Little Mountain, Silverstreet, Bush River, Fairview, O'Neal, Chappells, St. Phillips, City of Newberry, and the Consolidated Rural Fire Department
Richland County	<ul style="list-style-type: none"> • Richland County • City of Columbia • City of Forest Acres 	<ul style="list-style-type: none"> • Town of Arcadia Lakes • Town of Blythewood • Town of Eastover
Saluda County	<ul style="list-style-type: none"> • Saluda County 	<ul style="list-style-type: none"> • Community Fire Departments: Old Town, Hollywood, Mayson, Midlands, Circle, Ridge Spring, and Saluda
Union County	<ul style="list-style-type: none"> • Union County • Union County Sheriff's Office • City of Union • Town of Jonesville • Fire District 	<ul style="list-style-type: none"> • Union County Fire and Rescue • Fire Departments and Districts: Bonham, Carlisle, Cross Keys, Kelly Kelton, Philippi, Buffalo, Santuc, Southside, Lockhart, Monarch, and Jonesville

Source: *Statewide Mutual Aid Signatories, SCEMD, 2023*



In events where local recovery needs exceed the capacity of these local resources, the County will turn to the State of South Carolina and Federal agencies to obtain additional resources. The South Carolina Emergency Management Division (SCEMD) has a statewide mutual aid process and agreement in place for emergency and disaster response and recovery. State, county, and municipal governments are required by the State code to cooperate in developing and maintaining a plan for mutual assistance in emergencies. The State process provides that any municipality, fire district, fire protection agency, or other emergency service entity may provide mutual aid assistance, upon request, from any other municipality, fire district, fire protection agency, or other emergency service delivery system at the time of a significant incident such as fire, earthquake, hurricane, flood, tornado, hazardous material event, or other disaster. SCEMD is the central repository for Mutual Aid Agreements among participating governments and emergency services agencies.

Disaster response at the State and Federal levels is further supported by an *Emergency Support Function* (ESF) system. Each function is focused on a specific aspect of disaster response and recovery based on the type of incident and the affected critical infrastructure. The SCEMD has currently designated two dozen ESF cross-functional response teams that range from ESF-1 (Transportation) and ESF-12 (Energy and Utilities) to ESF-8 (Health and Medical Services) and ESF-24 (Business and Industry). In addition to coordination among State and Federal agencies, the SCEMD maintains official agreements with nonprofit and faith-based relief groups such as the Salvation Army, the American Red Cross, animal rescue groups, food banks, and others to assist with emergency support functions. Table 9-9 lists the primary State and regional agencies that have direct oversight for planning and response for each type of event.

Table 9-9. State Authorities Impacting County Resiliency and Recovery

ENTITY/AGENCY	FOCUS	ROLE
Clemson University Livestock-Poultry and Cooperative Extension	Drought, Animal Diseases, Animal Sheltering	Coordination of resources to minimize losses for livestock animals and agriculture-related issues in a disaster (ESF-17)
Central Midlands Council of Governments (CMCOG)	Hazards Planning	Prepares and updates the Hazard Mitigation Plan for the Central Midlands region
CMCOG	Economic Stress	Prepares and updates the Central Midlands Comprehensive Economic Development Strategy (CEDS)
S.C. Department of Agriculture ¹	Drought, Animal Diseases, Economic Stress	Coordination of resources to minimize losses for livestock animals and agriculture-related issues in disaster
S.C. Department of Commerce ¹	Economic Stress, Recovery	Leads Business & Industry recovery (ESF 24) and assists businesses resuming operations and residents returning to work as quickly as possible post-disaster
S.C. Department of Health and Environmental Control (SCDHEC) ¹	Drought, Public Health, Hazardous Materials, Weapons of Mass Destruction (WMD), Dam Safety	Leads on hazardous substances releases, spills, and accident response; bioterrorism or disease outbreaks; incidents involving radiological materials and fixed nuclear facilities (ESF-10); dam safety and infrastructure; medical countermeasures (ESF-8); and Special Medical Needs Sheltering



ENTITY/AGENCY	FOCUS	ROLE
S.C. Department of Administration ¹	Communications	Coordinates response and recovery communications (ESF-2) and donated goods and volunteers (ESF-18)
S.C. Department of Natural Resources ¹	Drought, Dam Failures, Flooding	Controls waterway and lake access, hydrology resources, drought management and response
S.C. Department of Social Services ¹	Mass Care, Repatriation, Food Services	Identifies shelter sites; coordinates additional providers to meet basic human needs before, during, and after a disaster (ESF-6); coordinates mass feeding and food distribution (ESF-11)
S.C. Department of Transportation ¹	Highways, Hazardous Materials, Emergency Refuel, Winter Weather	Stabilizes critical infrastructure functions, minimizes health and safety threats, and restores and revitalizes transportation networks to support recovery (ESF-1)
S.C. Drought Response Committee	Drought	Oversight responsibility for drought events and conditions in water management areas
S.C. Emergency Management Division (SCEMD) ¹	All Hazards	Responsible for statewide emergency management program and South Carolina Hazard Mitigation Plan; enables effective preparation, response, and recovery from emergencies and disasters to save lives, reduce human suffering, and minimize property loss
S.C. Emergency Response Commission (SERC)	Hazardous and Toxic Waste Spills/Releases	Appoints Local Emergency Planning Committee (LEPC) to implement the Federal <i>Emergency Planning and Community Right-to-Know Act</i> at the county level
S.C. Forestry Commission ¹	Wildfires, Firefighting	Suppression of wildland fires (ESF-4)
S.C. National Guard	Terrorism, Civil Unrest, Wildfires, Evacuation	Leads Public Works & Engineering response (ESF-3), military support (ESF-19) to civil authorities in major or catastrophic disasters or civil unrest
S.C. Office of Regulatory Services ¹	Utility Disruption, Railroads and Transportation, Energy Outages	Coordinates with energy providers to prioritize repair of energy generation and distribution systems and provide temporary, alternate, or interim sources of natural gas and electric power (ESF-12) along with support on railroad and transportation issues
S.C. Office of Resiliency (SCOR) ¹	Statewide Resiliency Planning	Provides HUD CDBG Disaster Recovery funds to homeowners in Federal disaster declaration areas
State Law Enforcement Division (SLED) ¹	Terrorism, Civil Unrest, Active Shooter, Hazardous Materials, WMD, Cyberattack	Responds to threats emanating from chemical, biological, radiological, nuclear, and explosive categories; provides WMD Response Team comprised of SLED SWAT Team, Bomb Squad, SLED Clandestine Laboratory Team, and Hazardous Material Technicians

¹Agency on South Carolina Resilience Plan Advisory Committee

9.3.3. Funding and Technical Resources for Resiliency Planning, Mitigation, and Recovery

Resiliency efforts increase the ability of the community to bounce back from the effects of diverse natural, biological, technological, and climate hazards. Such projects range from plans and studies, land acquisition, natural resources protection, special ordinances, flood management, and energy conservation to infrastructure hardening. Funding for proactive resiliency projects is in addition



to the typical costs for disaster response and recovery that include emergency response teams, emergency shelters, emergency evacuations, relief food and water supplies, debris clean up and removal, and infrastructure repair.

According to a recent report by the National Institute of Building Sciences, every \$1 invested in federal hazard mitigation grants provides an estimated return on investment of \$6 (*Natural Hazard Mitigation Saves, 2019*). However, Newberry County needs additional technical support to apply for federally funded hazard mitigation projects to reduce disaster impacts on residents and businesses. The County received less than \$400,000 in Federal funding between 2000 and 2021, with one grant for hazard mitigation planning and a second for the purchase of generators (*CMHMP, 2022*).

Table 9-10 provides an overview of some of the current external resources that are available to local governments to help fund planning and implementation of resilience solutions and recovery efforts. Many of these are allocated from Federal agencies to the State for distribution to local governments, while counties and municipalities are eligible to apply directly to others.

Table 9-10. Preparedness, Mitigation, Recovery and Resilience Funding for Local Governments

PROGRAM/SOURCE	DESCRIPTION
HAZARD MITIGATION AND RESILIENCE	
Hazard Mitigation Grant Program (HMGP)/ SCEMD	Implement long-term hazard mitigation measures after a Presidential disaster declaration for long-term solutions that conform to the State Hazard Mitigation Plan and local mitigation plans
Building Resilient Infrastructure and Communities (BRIC)/ SCEMD	Build local capabilities and capacity to implement natural hazard mitigation; support innovation; promote partnerships and encourage high-impact investments to reduce natural hazard risk; minimize future losses and impacts on the Disaster Relief Fund; and support community risk reduction with adoption and enforcement of building codes, standards, and policies
Flood Mitigation Assistance Program/FEMA and SCDNR	Reduce flooding of National Flood Insurance Program (NFIP) insured properties through mitigation, with the goal to reduce flood insurance claims through the four program areas - Plans & Studies, Infrastructure, Buyouts, and Funds Match
ARPA State & Local Fiscal Recovery Funds (SLFRF)/ SCOR	American Rescue Plan Act funds used to complete stormwater infrastructure projects and acquisitions of property in the flood plain throughout the State to lessen the impacts of future flood events
Community Development Block Grant-Mitigation (CDBG-MIT)/ HUD and SCDRO	Increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters
Disaster Relief and Resilience Reserve Fund (DRRRF)/SCOR	Used to develop, implement, and maintain the <i>Strategic Statewide Resilience and Risk Reduction Plan</i> , to provide disaster relief assistance, hazard mitigation, and infrastructure improvements
South Carolina Resilience Revolving Fund (RRF)/SCOR	Used for loans and grants to eligible recipients (State, local governments, agencies, commissions, and accredited land trusts) to purchase flooded properties and land to complete flood plain restorations



PROGRAM/SOURCE	DESCRIPTION
Water Infrastructure Finance and Innovation Act (WIFIA) Program/EPA	Funds development and implementation activities for eligible water and wastewater infrastructure projects, including enhanced energy efficiency projects for water facilities.
Emergency Food and Shelter Program (EFSP)/FEMA	Supports local social service organizations dedicated to feeding, sheltering, and providing critical resources and supportive services to individuals and families with economic emergencies.
Assistance to Firefighters Grants Program (AFGP)/FEMA	Funds critically needed resources to equip and train emergency personnel, enhance efficiencies, and support community resilience to include Assistance to Firefighters Grants (AFG), Fire Prevention & Safety (FP&S) grants and Staffing for Adequate Fire and Emergency Response (SAFER) grants
ENERGY RESILIENCE AND CONSERVATION	
Energy Efficiency and Conservation Block Grant (EECBG)/USDOE	Implements high-impact, self-sustaining clean energy projects that benefit low-income and disadvantaged communities by cutting carbon emissions, improving energy efficiency, and reducing energy use through flexible solutions that include energy audits; energy efficiency retrofits to residential, government and community buildings; and fleet electrification
Greenhouse Gas Reduction Fund/EPA	Mobilizes financing and private capital for clean energy/climate projects that reduce greenhouse gas emissions, with an emphasis on projects that benefit low-income and disadvantaged communities
Charging and Fueling Infrastructure (CFI) Grant/FTA and DOT	Strategically deploys electric vehicle (EV) charging infrastructure and other fueling infrastructure projects in urban and rural communities in publicly accessible locations, including downtown areas and local neighborhoods, particularly in underserved and disadvantaged communities
Promoting Resilient Operations for Transformative, Efficient & Cost-Saving Transportation (PROTECT)/FTA and DOT	Improves resilience of surface and public transportation systems for projects that reduce damage and disruption to the transportation system, improves the safety of the traveling public, and improves equity by addressing the needs of disadvantaged, vulnerable populations and employs nature-based solutions to include conservation, restoration, or construction of riparian and streambed treatments, wetlands, native vegetation, stormwater bioswales, and shade trees
RECOVERY	
CDBG-Disaster Recovery (CDBG-DR)/SCOR	Assists with necessary expenses related to disaster relief, long-term recovery, restoration of infrastructure and housing, and economic revitalization in most impacted and distressed areas
Economic Injury Disaster Loan (EIDL)/SBA	Provides loans to assist in disaster recovery to small businesses located in declared disaster areas with working capital until normal operations can resume
Business Physical Disaster Loans/SBA	Provides loans for the repair or replacement of real property, machinery, equipment, fixtures, inventory, and leasehold improvements due to physical damage in a declared disaster area
Palmetto Disaster Recovery (PDR)/SCOR	Disaster case-management that identifies applicants and monitors cases as they progress through the residential recovery (CDBG-DR) program using an Individualized Recovery Plan that assists eligible citizens with disaster-caused needs.



PROGRAM/SOURCE	DESCRIPTION
Disaster Recovery Reserve Corps (DRRC)/SCOR	Increase statewide readiness and greatly reduce the time it takes to provide post-disaster assistance to residents impacted by disasters through a trained Reserve Corps Disaster Case Management team in each county

9.4. Goals, Objectives and Implementation Strategies

The following table summarizes actions to be undertaken in the coming decade to achieve the goals and objectives identified in the *Resiliency Element*. Element goals are broad-based ideals intended to guide the future of the County, while objectives elaborate the goals to outline the framework and provide the basis for the more detailed and measurable plan strategies. Each supporting implementation strategy includes a listing of the agencies that are accountable for implementation, as well as a timeframe for completion. Additional strategies that impact overall resiliency are found in each plan element.

GOALS/OBJECTIVES/STRATEGIES	ACCOUNTABLE AGENCY	TIMEFRAME
GOAL 9.1. Create a disaster resistant Newberry County		
OBJECTIVE 9.1.1. Incorporate resiliency and mitigation priorities into comprehensive and land use planning		
STRATEGY 9.1.1.1. Identify, delineate, and map hazards and vulnerable communities.	Newberry County, CMCOG	Ongoing
STRATEGY 9.1.1.2. Guide growth away from high-risk locations.	Newberry County, Municipalities	Ongoing
STRATEGY 9.1.1.3. Monitor and update mitigation actions specific to Newberry County in the Central Midlands Hazard Mitigation Plan.	Newberry County, Municipalities, CMCOG	2028
STRATEGY 9.1.1.4. Incorporate consideration of critical infrastructure resilience into long-term comprehensive planning and economic development planning as plans are updated or modified.	Newberry County, Municipalities, Water and Sewer Providers, Energy Utilities	Ongoing
STRATEGY 9.1.1.5. Identify funding opportunities for mitigation and readiness projects that address the County's resilience needs.	Newberry County, Municipalities, CMCOG, Water and Sewer Providers, Energy Utilities	2028
STRATEGY 9.1.1.6. Monitor wildland urban interface (WUI) areas and incentivize fire assessments for new developments in such areas.	Newberry County, Municipalities, Residential Developers, SCFC	Ongoing
STRATEGY 9.1.1.7. Monitor changing hazard exposures in the County.	Newberry County, CMCOG, SCEMD	Ongoing
OBJECTIVE 9.1.2. Examine capital improvement projects using a resilience lens		
STRATEGY 9.1.2.1. Incorporate resilience as a factor in short- and long-term maintenance processes and prioritization in capital improvement planning and decision-making.	Newberry County, Municipalities, Water and Sewer Providers, Energy Utilities	2024



GOALS/OBJECTIVES/STRATEGIES	ACCOUNTABLE AGENCY	TIMEFRAME
STRATEGY 9.1.2.2. Conduct a risk assessment of critical infrastructure in the County to include evaluating vulnerabilities to threats and hazards and consequences that may result.	Newberry County, Municipalities, Water and Sewer Providers, Energy Utilities, CMCOG	2025
STRATEGY 9.1.2.3. Reduce hazard exposure and deterioration of critical facilities and evaluate the need for additional hardening to include upgrades at potential failure points.	Newberry County, Municipalities, CMCOG, Water and Sewer Providers, Energy Utilities, Public Safety, Medical Providers	2033
STRATEGY 9.1.2.4. Retrofit buildings and facilities at risk in redeveloping areas.	Newberry County, Water and Sewer Providers, Energy Utilities, Municipalities	Ongoing
STRATEGY 9.1.2.5. Work with utilities to promote the provision of energy audits, weatherization assistance, and energy retrofits for commercial, residential, institutional, and government facilities to reduce energy usage.	Newberry County, Energy Utilities, Municipalities, PK-12 Schools, Higher Education, Businesses and Industries	Ongoing
OBJECTIVE 9.1.3. Preserve protective features of the natural environment to reduce the impacts of hazards on people and property		
STRATEGY 9.1.3.1. Incorporate nature-based solutions in the design of flood control projects whenever possible in order to increase resilience and cost-effectiveness.	Newberry County	Ongoing
STRATEGY 9.1.3.2. Evaluate zoning requirements and measures to allow for less impervious surface and more space for trees or other green infrastructure and assets.	Newberry County	2025
STRATEGY 9.1.3.3. Continue to minimize flooding through the protection of flood plains and floodways.	Newberry County	Ongoing
STRATEGY 9.1.3.4. Assess the feasibility of participation in the Community Rating System (CRS) to provide County residents with discounted flood insurance premiums.	Newberry County	2024
OBJECTIVE 9.1.4. Encourage private sector involvement in resiliency, disaster preparedness, and response planning		
STRATEGY 9.1.4.1. Inform and involve the business community in County emergency response planning and economic recovery strategies.	Newberry County, Chamber, Businesses and Industries	Ongoing
STRATEGY 9.1.4.2. Examine the degree of vulnerability of critical industry sectors and businesses that are most central to the County's economy.	Newberry County	2026
STRATEGY 9.1.4.3. Encourage the preparation of business recovery and continuity of operations plans by area employers.	Newberry County, Chamber, S.C. Small Business Development Center at Newberry College	Ongoing
STRATEGY 9.1.4.4. Promote economic diversification with businesses that offer quality, higher-wage jobs and strengthen the tax base.	Newberry County, Chamber, Central SC Alliance, S.C. Dept. of Commerce	Ongoing
STRATEGY 9.1.4.5. Educate the business community on the business case for private-sector resiliency efforts.	Newberry County, Chamber	Ongoing



GOALS/OBJECTIVES/STRATEGIES	ACCOUNTABLE AGENCY	TIMEFRAME
OBJECTIVE 9.1.5. Proactively plan for rapid restoration of lifeline services and community recovery		
STRATEGY 9.1.5.1. Identify local public and private cyber infrastructure assets, systems, and cybersecurity networks that support and ensure the continued operations of critical lifeline infrastructures.	Newberry County, Municipalities, Water and Sewer Providers, Energy Utilities, Medical Providers	2028
STRATEGY 9.1.5.2. Assess land use regulations and processes for barriers to recovery to include permitting, inspections, variances, and treatment of nonconforming uses.	Newberry County, Municipalities	2024
STRATEGY 9.1.5.3. Maintain a reliable and secure intergovernmental and public communications system essential to a coordinated multi-agency response to disasters.	Newberry County, Municipalities, Service Providers, Emergency Response Partners	Ongoing
STRATEGY 9.1.5.4. Educate, inform, and disclose flood and other hazards to the public through various mechanisms such as real estate disclosures, public mapping resources, and community public information campaigns.	Newberry County, Realtors	Ongoing
STRATEGY 9.1.5.5. Seek partnerships to address chronic stressors that can impede recovery such as lower incomes, shortages of affordable housing, food insecurity, lack of healthcare, and limited access to transportation.	Newberry County, Municipalities, Public and Private Service Providers, Nonprofits	Ongoing
STRATEGY 9.1.5.6. Strengthen neighbor-to-neighbor connections and foster strong social networks that can raise prevention, reduce social vulnerability, and speed recovery.	Newberry County, Neighborhood Associations, Service Providers, Civic Organizations, Faith-based Institutions	Ongoing