ANNEX D
LAFAYETTE COUNTY

This annex includes jurisdiction-specific information for Lafayette County and its participating municipalities. It consists of the following five subsections:

- D.1 Lafayette County Community Profile
- D.2 Lafayette County Risk Assessment
- D.3 Lafayette County Vulnerability Assessment
- D.4 Lafayette County Capability Assessment
- D.5 Lafayette County Mitigation Strategy

D.1 LAFAYETTE COUNTY COMMUNITY PROFILE

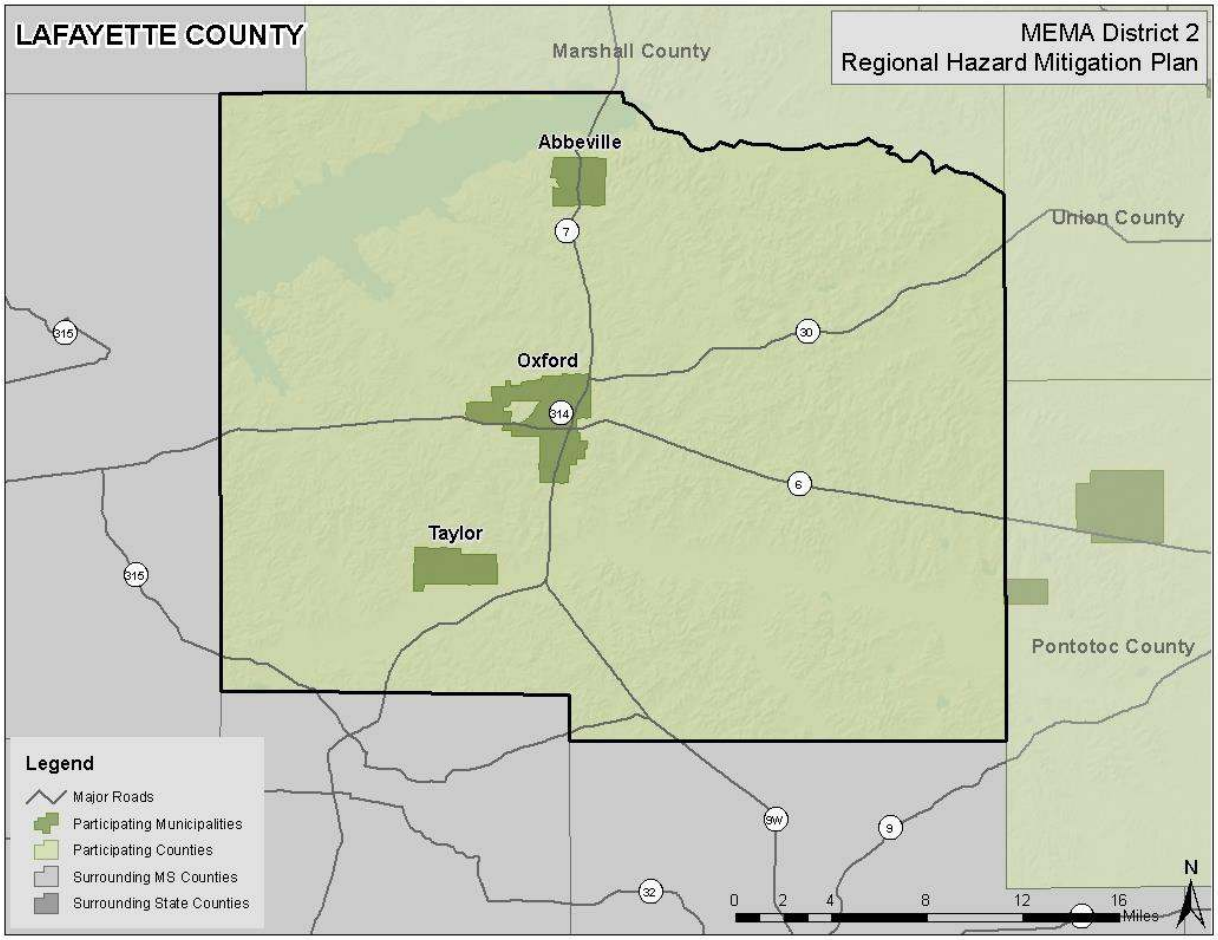
D.1.1 Geography and the Environment

Lafayette County is located in north eastern Mississippi. It comprises one town, one village and one city, Town of Abbeville, City of Oxford, Town of Taylor, as well as many small unincorporated communities. An orientation map is provided as **Figure D.1**.

The county contains the University of Mississippi, a public educational facility which is the largest in the state of Mississippi. The total area of the county is 679 square miles, 47 square miles of which is water area.

Summer temperatures in the county range from highs of about 90 degrees Fahrenheit (˚F) to lows in the upper 60s. Winter temperatures range from highs in the low to mid 50s to lows around 30˚F. Average annual rainfall is approximately 56 inches, with the wettest months being November, December, and May.

Figure D.1: LAFAYETTE COUNTY ORIENTATION MAP



D.1.2 Population and Demographics

According to the 2019 American Community Survey, Lafayette County has a population of 53,590 people. The county has seen an increase in population between 2010 and 2019, and the population density is approximately 85 people per square mile. Population counts from the US Census Bureau for 2000, 2010, and 2019 for the county and participating jurisdictions are presented in **Table D.1**.

Table D.1: POPULATION COUNTS FOR LAFAYETTE COUNTY

Jurisdiction	2000 Census Population	2010 Census Population	2019 Census Population	% Change 2000-2019
Lafayette County	**38,744**	**47,351**	**53,590**	**12%**
Abbeville	423	419	407	-3%
Oxford*	11,756	18,916	26,962	30%
Taylor	289	322	282	-14%

Source: United States Census Bureau

*Local estimates of population have put the population in the City of Oxford at over 22,000. This estimate does not include the large student population, which is estimated at more than an additional 23,000. Many of these students live in the city or surrounding unincorporated areas of Lafayette County.

Based on the 2019 American Community Survey, the median age of residents of Lafayette County is 38.1 years. The racial characteristics of the county are presented in **Table D.2**. Whites make up the majority of the population in the county, accounting for 71 percent of the population.

Table D.2: DEMOGRAPHICS OF LAFAYETTE COUNTY

Jurisdiction	White, Percent (2019)	Black or African American, Percent (2019)	American Indian or Alaska Native, Percent (2019)	Asian, Percent (2019)	Native Hawaiian or Other Pacific Islander, Percent (2019)	Other Race, Percent (2019)	Two or More Races, percent (2019)	Persons of Hispanic Origin, Percent (2019)*
Lafayette County	**71.4%**	**23.6%**	**0.2%**	**2.1%**	**0.0%**	**1.5%**	**1.1%**	**2.6%**
Abbeville	63.8%	23.6%	0.0%	0.0%	0.0%	4.9%	2.7%	5.5%
Oxford	69%	24.1%	0.2%	3.4%	0.0%	0.5%	0.9%	1.9%
Taylor	64.9%	30.1%	0.0%	0.0%	0.0%	1.1%	3.9%	0.0%

*Hispanics may be of any race, so also are included in applicable race categories
Source: United States Census Bureau

D.1.3 Housing

According to the 2019 US Census, there are 25,653 housing units in Lafayette County, the majority of which are single family homes or mobile homes. Housing information for the county and three municipalities is presented in **Table D.3**.

Table D.3: HOUSING CHARACTERISTICS OF LAFAYETTE COUNTY

Jurisdiction	Housing Units (2010)	Housing Units (2019)	Median Home Value (2019)
Lafayette County	**22,729**	**25,263**	**$199,700**
Abbeville	187	134	$121,900
Oxford	11,085	9,250	$258,600
Taylor	158	113	$192,500

Source: United States Census Bureau – American Community Survey

D.1.4 Infrastructure

TRANSPORTATION

In Lafayette County, Mississippi Highway6/U.S. Route 278 provides access east west highway servicing the City of Oxford and additional communities throughout Lafayette County. State Highway 7 runs north south through the county and the City of Oxford. State Highway 30 connects with State Highway 7 north of the City of Oxford.

The University-Oxford Airport is a non-commercial airport that serves local businesses, private pilots, and charters near the University of Mississippi. The closest international airport is in Memphis, approximately 75 miles away from the county.

One freight rail line operates within Lafayette County. Mississippi Central Railroad Company has a line providing access to the City of Oxford and surrounding areas north of the City. This line connects to Norfolk Southern Railway in Grand Junction, Tennessee.

UTILITIES

Electrical power in Lafayette County is provided by a number power associations including the North East Mississippi Electrical Power Association, Northcentral Mississippi Electrical Power Association, Pontotoc Electrical Power Association, and Tallahatchie Valley Electric Power Association. The City of Holly Springs and Oxford Electric Departments are also contributors to electrical needs within the area.

Water and sewer service is provided to residents by multiple local water utility companies including 25 rural water associations. Among these water associations are Anchor Water Association, Delta Rain, Mud Creek Waster Association, Tri-Lake Rural Waster Association, and many other additional local providers depending on location within the county. It should also be noted that the City of Oxford, the Town of Abbeville, and the University of Mississippi all provide water to residents as well.

It should also be noted that CenterPoint Energy provides natural gas services to Oxford, Taylor, and many areas to the south of these urbanized areas. There are multiple pipelines for gas distribution throughout these areas.

COMMUNITY FACILITIES

There are a number of buildings and community facilities located throughout Lafayette County. According to the data collected for the vulnerability assessment (Section 6.4.1), there are 18 fire stations, 4 police stations, and 18 school facilities located within the county. There is also 1 hospital operating within Lafayette County.

The county is home to a number of medical services via its hospitals and other medical facilities. For example, the Baptist Centers for Cancer Care recently received accreditation for comprehensive cancer care that only two hospitals in northern Mississippi have achieved. The Baptist Memorial Hospital is also well-known for housing a Rehabilitative Services unit, a Sleep Disorders Center, a Women's Pavilion, and a Surgery Center among other services. The county is also home to a number of urgent care centers and other medical centers that provide both basic and advanced care for citizens in the county and region at-large.

Additionally, the county has become a hub for a number of federal and state law enforcement related agencies due in part to the location of a federal courthouse in the City of Oxford. Among the agencies that have facilities in the county are the Federal Bureau of Investigation, U.S. Marshal Service, Bureau of Alcohol, Tobacco, Firearms and Explosives, U.S. Secret Service, Internal Revenue Service Enforcement Agency, Drug Enforcement Agency, and Mississippi Bureau of Narcotics.

The Oxford Park Commission manages seven parks, one skate park, and one pool that are open to residents within Lafayette County at various times throughout the year. FNC Park is an athletic facility featuring over 75 acres of multiple sport complexes able to handle different sport tournaments. In addition, there are a number of other publicly and privately owned parks and facilities that are available to residents throughout the county.[1] For instance, in 2014 a private sports complex was recently opened in Oxford that is home to a number of baseball/softball fields as well as half a dozen combination soccer/football/lacrosse fields.

THE UNIVERSITY OF MISSISSIPPI

In addition to the many facilities and infrastructure listed above, it should also be noted that the University of Mississippi plays a major role in providing services to students and other residents within the university environment. In many cases, the university provides services that are independent of any municipal or county agencies.

For instance, the university has its own Emergency Operations Center, water supply system, health centers, food distribution centers, and power generating plant. Moreover, the university provides a number of unique facilities that are utilized by residents such as the medical center and a number of athletic and educational facilities that could be used for sheltering or recovery-related activities. In and of itself, these facilities and services make the university a valuable resource that provides additional available capacity for emergency managers and planners in the field of mitigation.

Additionally, university staff and officials have worked hard to reach out to students, faculty, and other staff regarding hazard risk and planning generally. Outside of the hazard mitigation planning process, a number of surveys and information have been provided to try to gain a better understanding of citizen perception of risk and to try to bring the concept of mitigation and its benefits to the forefront of discussion on campus. These efforts have generally succeeded and officials responsible for hazard planning have been the beneficiaries of new ideas and a better understanding of the campus.

The university has a disaster resistant university hazard mitigation plan that identifies many of these facilities and outlines the potential risks and mitigation actions that will be taken by the university specifically to reduce these risks. This plan is an important resource for residents of the MEMA District 2 Region who reside on the university campus or whose daily lives are linked to the university. For more information on University-specific mitigation planning, please refer to the Natural Hazard Mitigation Plan of the University of Mississippi.

D.1.5 Land Use

Unincorporated areas within Lafayette County still mostly remain undeveloped or sparsely developed; however, the City of Oxford contains the University of Mississippi and other commercial establishments related to the college creating diverse land use and large populations of people. There are several small incorporated municipalities located throughout the region, with a few larger hubs interspersed. These areas are where the region's population is generally concentrated. The incorporated areas are also where many of the businesses, commercial uses, and institutional uses are located. Land uses in the balance of the study area generally consist of rural residential development, agricultural uses, and recreational areas, although there are some notable exceptions in the larger municipalities. Local land use and associated regulations are further discussed in *Section 7: Capability Assessment.*

[1] http://www.oxfordparkcommission.com/default.aspx

The City of Oxford maintains a planning department that supports and coordinates with Lafayette County. There is a Planning Commission and Preservation Commission to provide information to assist the growth and development process within Oxford.

D.1.6 Employment and Industry

According to the U.S. Census Bureau's American Community Survey (ACS), in 2019, Lafayette County had an average annual employment rate of 55.9 percent and an average unemployment rate of 5.4 percent (compared to 6.4 percent for the state). An estimated 55.9 percent of the people employed were private wage and salary workers; 17.7 percent were federal, state, or local government workers; and 6 percent were self-employed in their own (not incorporated) business with 36% employed in educational services, and health care and social assistance. In 2019, the largest industries in Lafayette County were Educational services, health care & Social Assistance industry (36%), and Accommodation & Food Services (12.9%). The average annual wage in 2019 for Lafayette County was $50,272 compared to $45,081 in the state of Mississippi.

D.2 LAFAYETTE COUNTY RISK ASSESSMENT

This subsection includes hazard profiles for each of the significant hazards identified in Section 4: *Hazard Identification* as they pertain to Lafayette County. Each hazard profile includes a description of the hazard's location and extent, notable historical occurrences, and the probability of future occurrences. Additional information can be found in Section 5: *Hazard Profiles*.

D.2.1 Flood

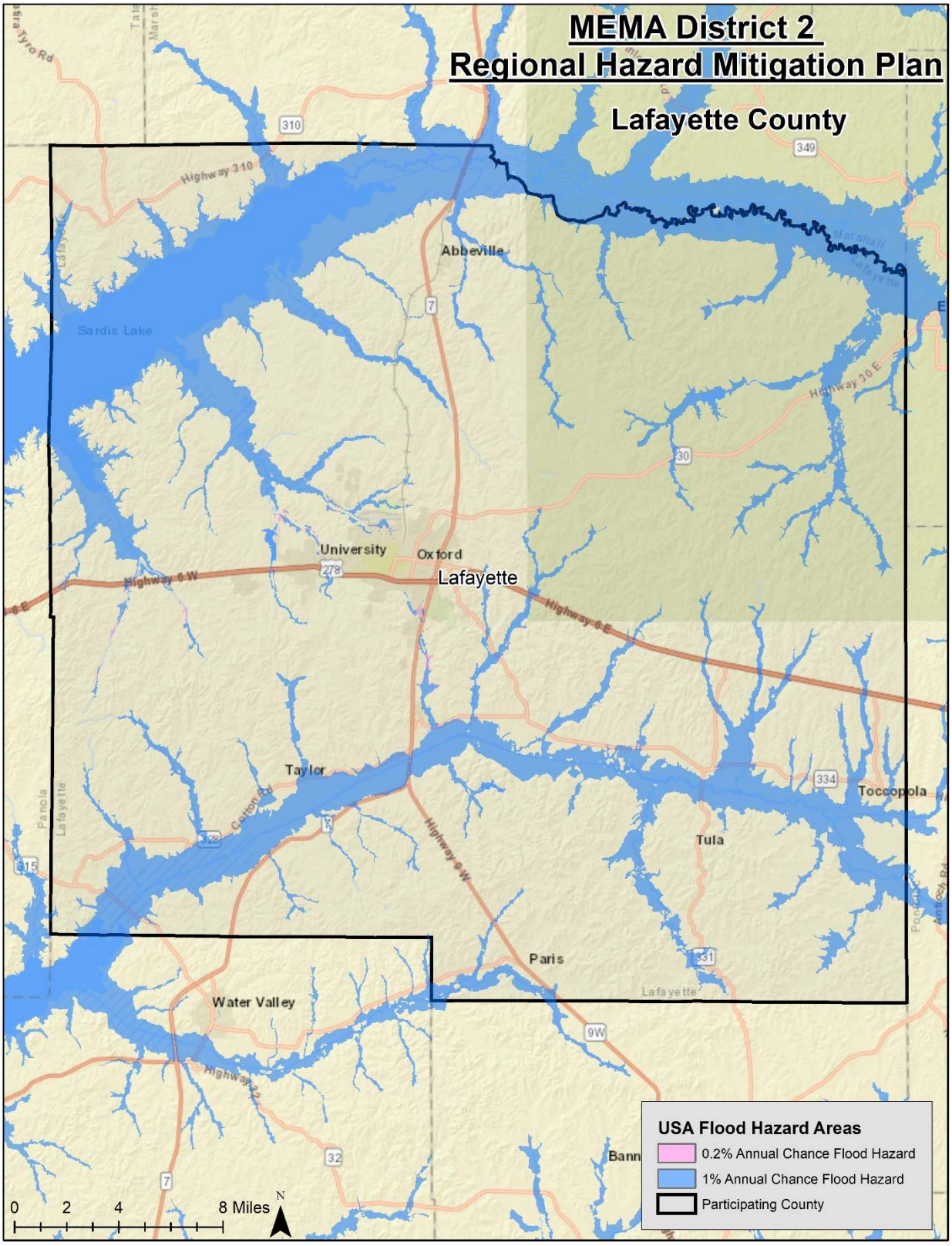
LOCATION AND SPATIAL EXTENT

There are areas in Lafayette County that are susceptible to flood events. Special flood hazard areas in the county were mapped using Geographic Information System (GIS) and FEMA Digital Flood Insurance Rate Maps (DFIRM).[2] This includes Zone A (1-percent annual chance floodplain), Zone AE (1-percent annual chance floodplain with elevation), and Zone X500 (0.2-percent annual chance floodplain). According to GIS analysis, of the 678 square miles that make up Lafayette County, there are 162.4 square miles of land in zones A and AE (1-percent annual chance floodplain/100-year floodplain) and 0.4 square mile of land in zone X500 (0.2-percent annual chance floodplain/500-year floodplain).

These flood zone values account for 24.0 percent of the total land area in Lafayette County. It is important to note that while FEMA digital flood data is recognized as best available data for planning purposes, it does not always reflect the most accurate and up-to-date flood risk. Flooding and flood-related losses often do occur outside of delineated special flood hazard areas. **Figure D.2** illustrates the location and extent of currently mapped special flood hazard areas for Lafayette County based on best available FEMA Digital Flood Insurance Rate Map (DFIRM) data.

[2] The county-level DFIRM data used for Lafayette County were updated in 2011.

Figure D.2: SPECIAL FLOOD HAZARD AREAS IN LAFAYETTE COUNTY



Source: Federal Emergency Management Agency

HISTORICAL OCCURRENCES

Floods were at least partially responsible for six disaster declarations in Lafayette County in 1973, 2001, 2010, 2011, 2019, and 2020.[2] Information from the National Centers for Environmental Information was used to ascertain additional historical flood events. The National Centers for Environmental Information reported a total of 23 events in Lafayette County since 1997.[3] A summary of these events is presented in **Table D.4**. These events accounted for over $1.2 million in property damage in the county.

Table D.4: SUMMARY OF FLOOD OCCURRENCES IN LAFAYETTE COUNTY

Location	Number of Occurrences	Deaths / Injuries	Property Damage
Abbeville	1	0/0	$0
Oxford	15	0/0	$1,089,000
Taylor	2	0/0	$20,000
Unincorporated Area	5	0/0	$101,000
LAFAYETTE COUNTY TOTAL	**23**	**0/0**	**$1,210,000**

Source: National Centers for Environmental Information

HISTORICAL FLOOD EVENTS IN LAFAYETTE COUNTY

According to the National Centers for Environmental Information, there have been a total of 23 reported flood events in Lafayette County with over $1.2 million in property damage. These are the most significant flood events reported:

May 1970

According to *Oxford Eagle* (May 14, 1970 issue) reports, a storm on May 10, 1970 resulted in heavy rain, high wind, and spawned a tornado in the City of Oxford. The rain event consisted of seven inches of precipitation associated with a spring thunderstorm. The rain resulted in flooding of Burney Branch which caused damage along Park and Bramlett Boulevards and South 18th Street. Flooding also caused damage in the area of Country Club and Club View Road, in the Midtown Shopping Center, and near Ewing's Trailer Park. Apartments were flooded when Toby Tubby Creek exceeded its bank capacity. The damage consisted of bridge damage on Burney Branch (in front of Oxford High School) and at Ewing's Trailer Park. Other damage consisted of homes and apartments being flooded, roads washed out by flood waters, and in other places the flood waters deposited sand and mud across roads requiring removal. At Ewing's Trailer Park, a car was caught in the flood waters and was washed downstream, and cars were flooded at Country Club Terraces apartments. The City of Oxford estimated damages at $750,000 and speculated that damages would ultimately reach $1 million. There was similar damage in Lafayette County and damage was estimated to be $177,000. This event was reported by the US Department of Agriculture's Soil and Sedimentation Laboratory to be equivalent to the 100-year flood.

November 28th, 2001

Rainfall of between 5 and 9 inches fell between November 26 and November 29. This produced widespread flooding across North Mississippi. Numerous roads were closed. Many homes and businesses were flooded forcing some evacuations. Some schools were also forced to close. One woman was killed when her car went into a flooded ditch. Reported damage was around $50,000.

[2] complete listing of historical disaster declarations can be found in Section 4: *Hazard Identification*.

[3] These flood events are only inclusive of those reported by the National Centers for Environmental Information (NCEI) from 1996 through April 2020.

May 16th, 2010

Very heavy rain produced flash flooding in Oxford. Many roads were covered with 3 to 4 feet of water throughout Oxford. Flooding damaged 21 homes, 7 apartments, 10 businesses and 25 cars resulting in $500, 000 in damage.

September 2nd, 2012

Showers and thunderstorms trained over Oxford for a couple of hours producing very heavy rain. Major flash flooding occurred as a result. Numerous streets had at least six inches of water covering them with others flooded up to three feet. Three homes were flooded on Chandler Avenue and one home was flooded on South 18th Street. The homes had anywhere from a few inches up to a foot of water inside them. Cars and apartments were flooded along Highway 314 near the Oxford Airport.

Additional information on historical flood events in Lafayette County that occurred prior to the start of the NCEI flood record was obtained from the University of Mississippi Hazard Mitigation Plan. A description of one notable event is found below.

HISTORICAL SUMMARY OF INSURED FLOOD LOSSES

Updated NFIP and Repetitive Loss Properties data was not available for this plan update. The following is current as of 2015. According to FEMA flood insurance policy records as of June 2015, there have been 18 flood losses reported in Lafayette County through the National Flood Insurance Program (NFIP) since 1978, totaling almost $214,000 in claims payments. A summary of these figures for the county is provided in **Table D.5**. It should be emphasized that these numbers include only those losses to structures that were insured through the NFIP policies, and for losses in which claims were sought and received. It is likely that many additional instances of flood loss in Lafayette County were either uninsured, denied claims payment, or not reported.

Table D.5: SUMMARY OF INSURED FLOOD LOSSES IN LAFAYETTE COUNTY (2016)

Location	Flood Losses	Claims Payments
Abbeville	0	$0
Oxford	16	$200,687
Taylor	0	$0
Unincorporated Area	2	$13,160
LAFAYETTE COUNTY TOTAL	**18**	**$213,847**

Source: Federal Emergency Management Agency, National Flood Insurance Program

REPETITIVE LOSS PROPERTIES

According to the Mississippi Emergency Management Agency, there are three non-mitigated repetitive loss properties located in Lafayette County, which accounted for six losses and almost $48,000 in claims payments under the NFIP. The average claim amount for these properties is $7,988. All three if these properties are single family. Without mitigation, these properties will likely continue to experience flood losses. **Table D.6** presents detailed information on repetitive loss properties and NFIP claims and policies for Lafayette County.

Table D.6: REPETITIVE LOSS PROPERTIES IN LAFAYETTE COUNTY

Location	Number of Properties	Types of Properties	Number of Losses	Building Payments	Content Payments	Total Payments	Average Payment
Abbeville	0	--	--	--	--	--	--
Oxford	3	3 single family	6	$45,009	$2,916	$47,926	$7,988
Taylor	0	--	--	--	--	--	--
Unincorporated Area	0	--	--	--	--	--	--
LAFAYETTE COUNTY TOTAL	**3**		**6**	**$45,009**	**$2,916**	**$47,926**	**$7,988**

Source: National Flood Insurance Program

PROBABILITY OF FUTURE OCCURRENCES

Flood events will remain a threat in Lafayette County, and the probability of future occurrences will remain likely (between 50 and 100 percent annual probability). The participating jurisdictions and unincorporated areas have risk to flooding, though not all areas will experience flood. The probability of future flood events based on magnitude and according to best available data is illustrated in the figure above**,** which indicates those areas susceptible to the 1-percent annual chance flood (100-year floodplain) and the 0.2-percent annual chance flood (500-year floodplain).

It can be inferred from the floodplain location maps, previous occurrences, and repetitive loss properties that risk varies throughout the county. For example, the northern part of the county has more floodplain and thus a higher risk of flood than the central portion. Flood is not the greatest hazard of concern but will continue to occur and cause damage. Therefore, mitigation actions may be warranted, particularly for repetitive loss properties.

D.2.2 Erosion

LOCATION AND SPATIAL EXTENT

Erosion in Lafayette County is typically caused by flash flooding events. Unlike coastal areas, areas of concern for erosion in Lafayette County are primarily rivers and streams. Generally, vegetation helps to prevent erosion in the area, and it is not an extreme threat to the county. No areas of concern were reported by the hazard mitigation council.

HISTORICAL OCCURRENCES

Several sources were vetted to identify areas of erosion in Lafayette County. This includes searching local newspapers, interviewing local officials, and reviewing previous hazard mitigation plans. No historical erosion occurrences were found in these sources.

PROBABILITY OF FUTURE OCCURRENCES

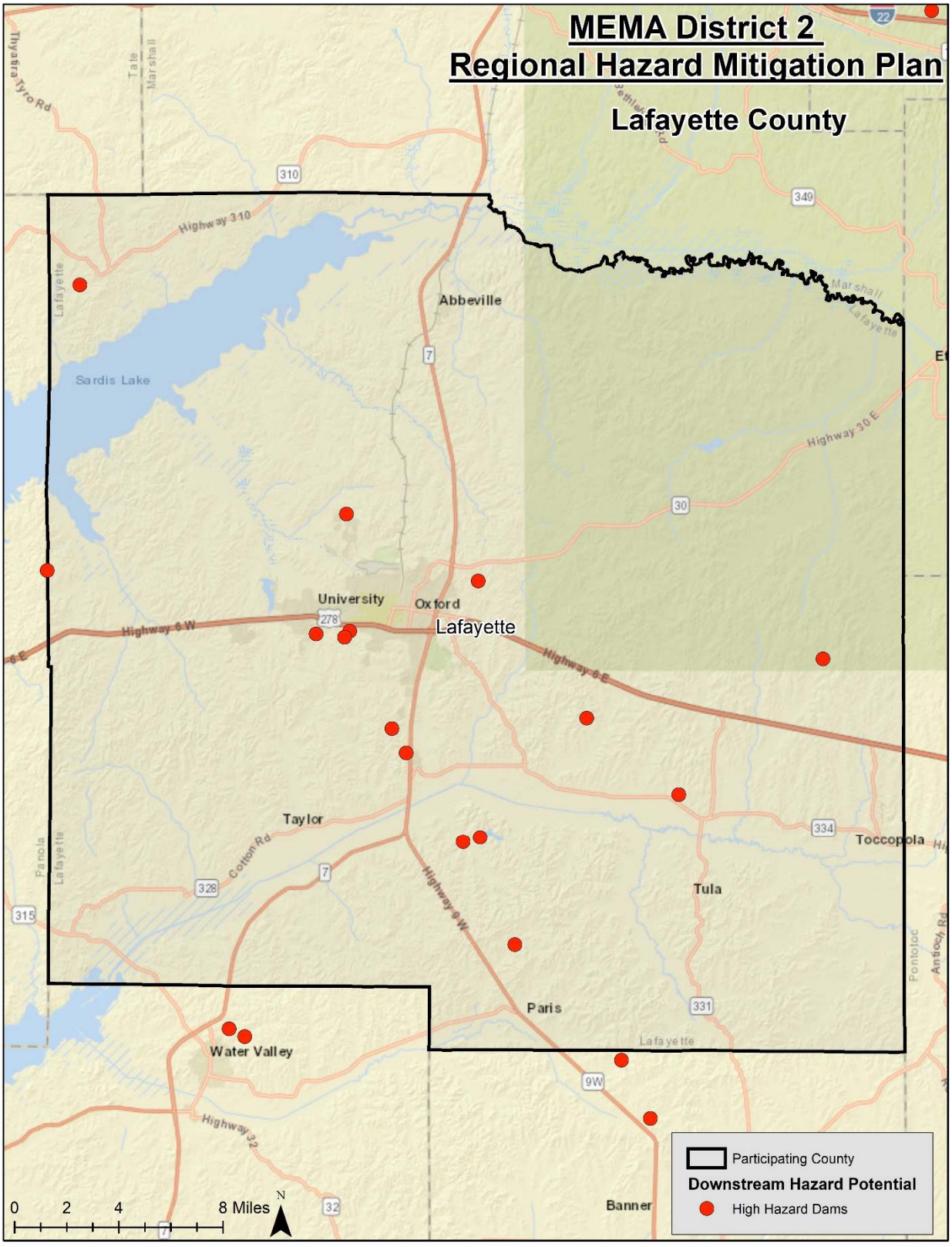
Erosion remains a natural, dynamic, and continuous process for Lafayette County, and it will continue to occur. The annual probability level assigned for erosion is likely (between 50 and 100 percent annually).

D.2.3 Dam and Levee Failure

LOCATION AND SPATIAL EXTENT

According to the Mississippi Department of Environmental Quality, there are fourteen high hazard dams in Lafayette County. **Figure D.3** shows the location of each of these high hazard dams and it is also listed by name in **Table D.7**.

Figure D.3: LAFAYETTE COUNTY HIGH HAZARD DAM LOCATIONS



Source: U.S. Army Corps of Engineers – National Inventory of Dams (NID)

Table D.7: LAFAYETTE COUNTY HIGH HAZARD DAMS

Dam Name	Hazard Potential
Lafayette County	
UPPER YOCONA WS STR Y-14-01 DAM	High
GREASY CREEK WS STR LT-1A-11 DAM	High
MURRAY CREEK WS STR Y-13A-5 DAM	High
MURRAY CREEK WS STR Y-13A-1 DAM	High
ROYAL OAKS DAM	High
SPRING LAKE DAM	High
LAKE TARA DAM	High
OTOUCALOFA CREEK STRUCTURE Y-15B-8 DAM	High
AVANT LAKE DAM	High
EAST AND WEST GOOSE STR R-9-1 DAM	High
EAST AND WEST GOOSE STR R-9-2 DAM	High
BROWN LAKE DAM	High
BIG JONES LAKE DAM	High
REAGAN LAKE DAM	High

Source: U.S. Army Corps of Engineers – National Inventory of Dams (NID)

HISTORICAL OCCURRENCES

According to the Mississippi State Hazard Mitigation Plan, there have been two dam failures reported in Lafayette County. The first incident occurred in July 2002 when massive slides and erosion on the downstream slope led to a dam breach at the Horseshoe Lake structure. The second incident occurred in December 2002 when the piping failed at the Royal Oaks structure. Although no damage was reported with either of these events, several breach scenarios in the county could be catastrophic.

PROBABILITY OF FUTURE OCCURRENCES

Given the current dam inventory and historic data, a dam breach is unlikely (less than 1 percent annual probability) in the future. However, as has been demonstrated in the past, regular monitoring is necessary to prevent these events.

D.2.4 Winter Storm and Freeze

LOCATION AND SPATIAL EXTENT

Nearly the entire continental United States is susceptible to winter storm and freeze events. Some ice and winter storms may be large enough to affect several states, while others might affect limited, localized areas. The degree of exposure typically depends on the normal expected severity of local winter weather. Lafayette County is not accustomed to severe winter weather conditions and rarely receives severe winter weather, even during the winter months. Events tend to be mild in nature; however, even relatively small accumulations of snow, ice, or other wintery precipitation can lead to losses and damage due to the fact that these events are not commonplace. Given the atmospheric nature of the hazard, the entire county has uniform exposure to a winter storm.

HISTORICAL OCCURRENCES

Winter weather has resulted in one disaster declaration in Lafayette County in 1994.[6] According to the National Centers for Environmental Information, there have been a total of 28 recorded winter storm events in Lafayette County since 1994 (**Table D.8**).[4] These events resulted in almost $18.5 million in damages. Detailed information on the recorded winter storm events can be found in **Table D.9**.

Table D.8: SUMMARY OF WINTER STORM EVENTS IN LAFAYETTE COUNTY

Location	Number of Occurrences	Deaths / Injuries	Property Damage
Lafayette County	28	1/0	$18,539,440

Source: National Centers for Environmental Information

Table D.9: HISTORICAL WINTER STORM IMPACTS IN LAFAYETTE COUNTY

Location	Date	Type	Deaths / Injuries	Property Damage*
Abbeville				
None Reported	--	--	--	--
Oxford				
None Reported	--	--	--	--
Taylor				
None Reported	--	--	--	--
Unincorporated Area				
LAFAYETTE COUNTY	2/9/1994	Ice Storm	0/0	$18,517,440
LAFAYETTE (ZONE)	2/1/1996	Winter Storm	0/0	$20,000
LAFAYETTE (ZONE)	1/15/1998	Winter Storm	0/0	$0
LAFAYETTE (ZONE)	12/22/1998	Ice Storm	0/0	$1,000
LAFAYETTE (ZONE)	12/31/2000	Extreme Cold/Wind Chill	1/0	$0
LAFAYETTE (ZONE)	1/27/2000	Heavy Snow	0/0	$0
LAFAYETTE (ZONE)	2/18/2006	Winter Storm	0/0	$1,000
LAFAYETTE (ZONE)	2/1/2007	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	4/7/2007	Frost/freeze	0/0	$0
LAFAYETTE (ZONE)	1/25/2008	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	3/7/2008	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	3/1/2009	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	1/29/2010	Ice Storm	0/0	$0
LAFAYETTE (ZONE)	2/14/2010	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	12/15/2010	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	12/25/2010	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	1/9/2011	Winter Storm	0/0	$0
LAFAYETTE (ZONE)	2/9/2011	Winter Storm	0/0	$0
LAFAYETTE (ZONE)	1/14/2013	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	1/17/2013	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	2/11/2014	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	2/20/2015	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	2/25/2015	Winter Storm	0/0	$0
LAFAYETTE (ZONE)	3/4/2015	Winter Storm	0/0	$0

[4] These ice and winter storm events are only inclusive of those reported by the National Centers for Environmental Information (NCEI) from 1996 through April 2020. It is likely that additional winter storm conditions have affected Lafayette County. For example, although it is not accounted for in the NCEI records, the February 1994 ice storm was added to these results since it was a major event that impacted Lafayette County. The National Weather Service reported that the storm resulted in $481,453,441 in damages across 26 counties in Mississippi; therefore, there was approximately $18,517,440 of damage in each impacted county.

LAFAYETTE (ZONE)	1/22/2016	Winter Storm	0/0	$0
LAFAYETTE (ZONE)	1/12/2018	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	1/16/2018	Winter Storm	0/0	$0
LAFAYETTE (ZONE)	1/11/2021	Winter Weather	0/0	$0
LAFAYETTE (ZONE)	2/14/2021	Winter Storm	0/0	$0

*All damage may not have been reported.
Source: National Centers for Environmental Information

There have been several severe winter weather events in Lafayette County. The text below describes three of the major events and associated impacts on the county. Similar impacts can be expected with severe winter weather.

February 1994
A damaging ice storm with freezing rain accumulations of 3 to 6 inches occurred across north Mississippi from February 9-11. Most estimates calculate this storm as the worst on record since 1951 with damages occurring across parts of Arkansas, Tennessee, Alabama, Louisiana, and Texas, as well as 26 counties in Mississippi, which sustained damages of roughly $300 million. According to power companies, more than 200,000 homes were left without power at the height of the storm, and water provides estimate nearly 175,000 homes were without water during this time period. Agriculture also took an especially hard hit as nearly 5 percent of the state's pecan trees were destroyed.[5]

December 1998
Much of north Mississippi was hit with an ice storm. Most counties reported between 0.25 to 0.5 inches of ice on their roads with some locations in the southern part of the region reporting as much as 3 inches of ice. The ice caused numerous power outages and brought down many trees and power lines. Thousands of people in north Mississippi were without power, some for as long as one week. Christmas travel was severely hampered for several days with motorists stranded at airports, bus stations, and truck stops. Travel did not return to normal until after Christmas in some locations.

January 2000
A winter storm brought a swath of heavy snow across north central Mississippi. The snow began falling over western portions of the area during the early morning of the 27th and spread eastward during the day. The snow was heavy at times and did not end until the morning of the 28th. Snowfall amounts generally ranged from 4 to 10 inches. The heaviest amounts fell along the Highway 82 corridor from Greenville to Starkville where isolated snow depths of 12 inches were reported. Damage from the heavy snow was relatively minimal with reports limited to a few collapsed roofs and downed trees. Power outages were sporadic, but travelling was more than just an inconvenience as numerous reports of vehicles running off the road were received.

Winter storms throughout the planning area have several negative externalities including hypothermia, cost of snow and debris cleanup, business and government service interruption, traffic accidents, and power outages. Furthermore, citizens may resort to using inappropriate heating devices that could to fire or an accumulation of toxic fumes.

Additional information on historical winter storm events in Lafayette County that occurred prior to the start of the NCEI winter storm record was obtained from the University of Mississippi Hazard Mitigation Plan. Descriptions of two notable events are found below.

[5] Pfost, Russell L. Disastrous Mississippi Ice Storm of 1994. National Weather Service Forecast Office. Jackson, Mississippi.

January 1948

According to *Oxford Eagle*, there was a significant ice storm in 1948 that appears to be set of continuous weather events rather than a single ice event. The *Oxford Eagle* first reports four inches of snow and temperatures as low as -1°F in the January 22 issue. The last mention of these events was published in the February 19 issue. Damage and conditions were discussed in the January 29 issue with reports of sleet, freezing rain, and a covering of ice as well as damage to property and trees, closing of schools, commercial business in Oxford "at a standstill," icy roads and dangerous travel, damaged telephone lines, and a shortage of fuel oil for heating at the University of Mississippi. The February 5 issue notes damage to the telephone system is significant, noting 424 phones are out of service, 22 lines down north to Holly Springs, and a broken pole on the line to Tula.

February 1951

The 1951 ice storm was similar to the 1948 event described above. The event was first reported in the February 1 issue of the *Oxford Eagle*. This issue reports that the storm started on Monday night with cold temperatures, rain, sleet, and slush with some ice covering wires. By Wednesday, it was a mix of sleet and rain with local street flooding reported due to lack of carrying capacity of the storm sewers. By Thursday, it was freezing rain that turned to snow.

The February 8 issue focused on the ice damage and the temperatures. The temperature had reached a minimum low of -8°F. The damage consisted of downed power and telephone lines, damage to trees and property, icy roads and dangerous travel, commerce at a minimum, injuries due to icy conditions, and death of livestock due to falling through ice into water bodies. The damage was estimated to be $50 million across the state of Mississippi.

PROBABILITY OF FUTURE OCCURRENCES

Winter storm events will continue to occur in Lafayette County. Based on historical information, the probability is likely (between 50 and 100 percent annual probability).

FIRE-RELATED HAZARDS

D.2.5 Drought / Heat Wave

LOCATION AND SPATIAL EXTENT

Drought

Drought typically covers a large area and cannot be confined to any geographic or political boundaries. Furthermore, it is assumed that Lafayette County would be uniformly exposed to drought, making the spatial extent potentially widespread. It is also notable that drought conditions typically do not cause significant damage to the built environment but may exacerbate wildfire conditions.

Heat Wave

Heat waves typically impact a large area and cannot be confined to any geographic or political boundaries.

HISTORICAL OCCURRENCES

Drought

According to the U.S. Drought Monitor, Lafayette County had drought levels (including abnormally dry) in 14 of the last 15 years (2005-2020). **Table D.10** shows the most severe drought classification for each year,

according to U.S. Drought Monitor classifications. It should be noted that the U.S. Drought Monitor also estimates what percentage of the county is in each classification of drought severity. For example, the most severe classification reported may be exceptional but a majority of the county may actually be in a less severe condition.

Table D.10: HISTORICAL DROUGHT OCCURRENCES IN LAFAYETTE COUNTY

Abnormally Dry **Moderate Drought** **Severe Drought** **Extreme Drought** **Exceptional Drought**

	Lafayette County
2005	MODERATE
2006	SEVERE
2007	**EXTREME**
2008	MODERATE
2009	NORMAL
2010	SEVERE
2011	MODERATE
2012	SEVERE
2013	MODERATE
2014	MODERATE
2015	ABNORMAL
2016	SEVERE
2017	MODERATE
2018	NORMAL
2019	MODERATE
2020	MODERATE

Source: United States Drought Monitor

Some additional anecdotal information was provided from the National Centers for Environmental Information on droughts in Lafayette County.

Summer 2007 – Drought conditions began in early April across portions of Northeast Mississippi and expanded to North Central Mississippi by the end of April. Drought conditions continued throughout the summer months through October and at times reached exceptional conditions. The drought impacted agricultural and hydrological interests of the area. Burn bans in some locations were issued due to the lack of rainfall.

Summer 2012 – Below normal rainfall fell during the month of July across North Mississippi. Many crops that were planted during the spring struggled to grow due to lack of water. Many pastures were in poor condition forcing farmers to feed cattle baled hay. Lake and river levels dropped to low levels. Burn bans were issued for many counties as a result of the dry conditions. Drought conditions improved during the month of October.

Heat Wave

The National Centers for Environmental Information was used to determine historical heat wave occurrences in the county.

August 2007 – A severe heat wave brought high temperatures near or above the 100 degree mark during most of the month of August. The unusually warm temperatures combined with high dew points produced heat index values of 105 degrees or greater during the heat wave.

June/July/August 2010 – The combination of high humidity and above normal temperatures produced brutal heat indices of 105-120 degrees.

July/August 2011 – The combination of the hot and humid conditions allowed heat indices to reach between 105 and 118 degrees during the afternoon hours.

July 2012 – The combination of heat and humidity produced heat indices above 110 degrees.

PROBABILITY OF FUTURE OCCURRENCES

Drought
Based on historical occurrence information, it is assumed that Lafayette County has a probability level of likely (between 50 and 100 percent annual probability) for future drought events. However, the extent (or magnitude) of drought and the amount of geographic area covered by drought, varies with each year. Historic information indicates that there is a much lower probability for extreme, long-lasting drought conditions.

Heat Wave
Based on historical occurrence information, it is assumed that all of Lafayette County has a probability level of likely (between 50 and 100 percent annual probability) for future heat wave events.

D.2.6 Wildfire

LOCATION AND SPATIAL EXTENT

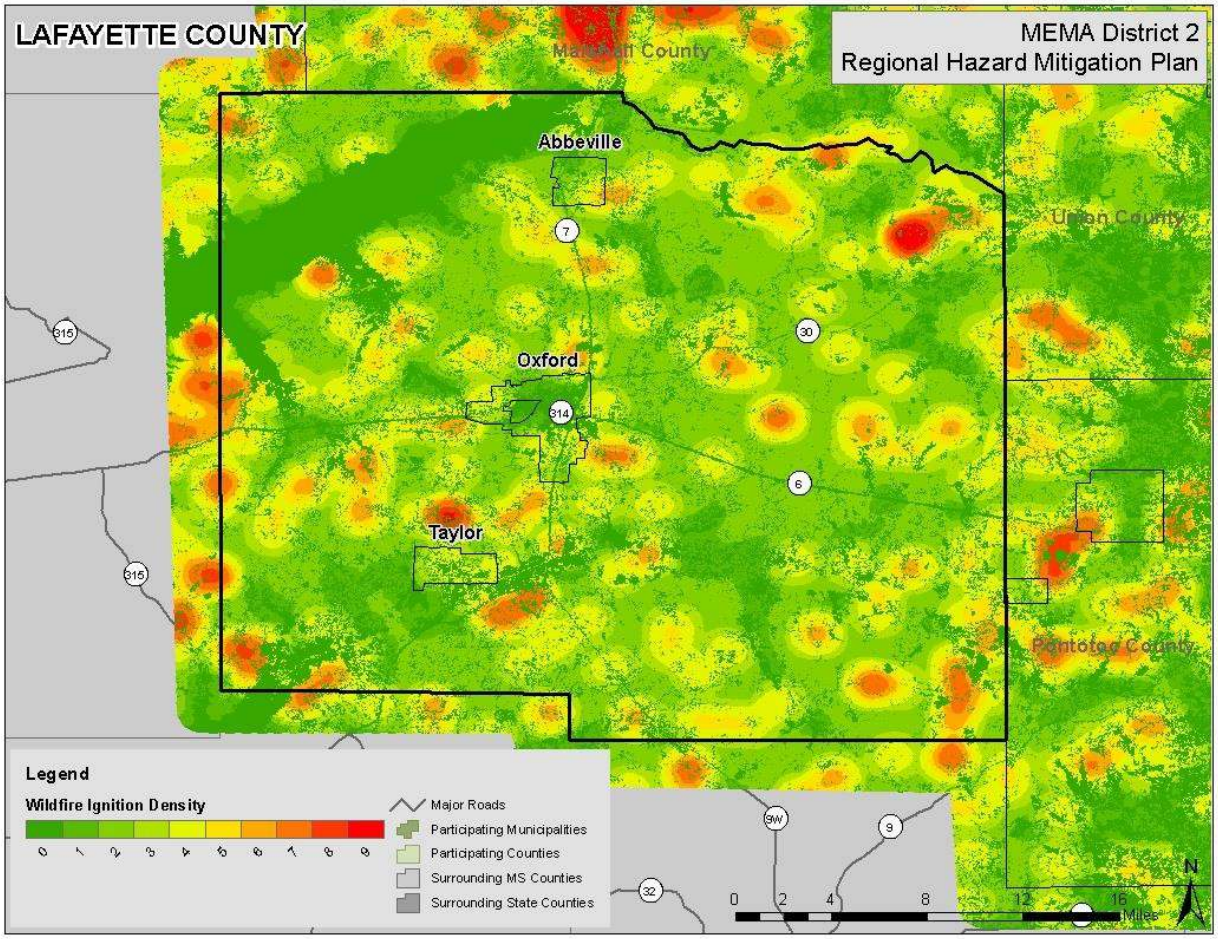
The entire county is at risk to a wildfire occurrence. However, several factors such as drought conditions or high levels of fuel on the forest floor, may make a wildfire more likely. Furthermore, areas in the urban-wildland interface are particularly susceptible to fire hazard as populations abut formerly undeveloped areas. The Wildfire Ignition Density data shown in the figure below give an indication of historic location.

HISTORICAL OCCURRENCES

Figure D.4 shows the Wildfire Ignition Density in Lafayette County based on data from the Southern Wildfire Risk Assessment. This data is based on historical fire ignitions and the likelihood of a wildfire igniting in an area. Occurrence is derived by modeling historic wildfire ignition locations to create an average ignition rate map. This is measured in the number of fires per year per 1,000 acres.[9]

[9] Southern Wildfire Risk Assessment, 2014.

Figure D.4: WILDFIRE IGNITION DENSITY IN LAFAYETTE COUNTY



Source: Southern Wildfire Risk Assessment

Based on data from the Mississippi Forestry Commission from 2012 to 2020, Lafayette County experiences an average of 8 wildfires annually which burn an average of 141 acres per year. The data indicates that most of these fires are small, averaging about 16 acres per fire. **Table D.11** provides a summary of wildfire occurrences in Lafayette County and **Table D.12** lists the number of reported wildfire occurrences in the county between the years 2012 and 2020.

Table D.11: SUMMARY TABLE OF ANNUAL WILDFIRE OCCURRENCES (2012-2020)*

	Lafayette County
Average Number of Fires per year	8.6
Average Number of Acres Burned per year	141.1
Average Number of Acres Burned per fire	16.4

*These values reflect averages over a 10-year period.
Source: Mississippi Forestry Commission

Table D.12: HISTORICAL WILDFIRE OCCURRENCES IN LAFAYETTE COUNTY

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Lafayette County										
Number of Fires	5	14	5	19	6	16	13	2	5	1
Number of Acres Burned	75	249	74	397	174	437	319	41	40	2

Source: Mississippi Forestry Commission

Additional information on historical wildfire events in Lafayette County was obtained from the University of Mississippi Hazard Mitigation Plan. A description of one notable event is found below.

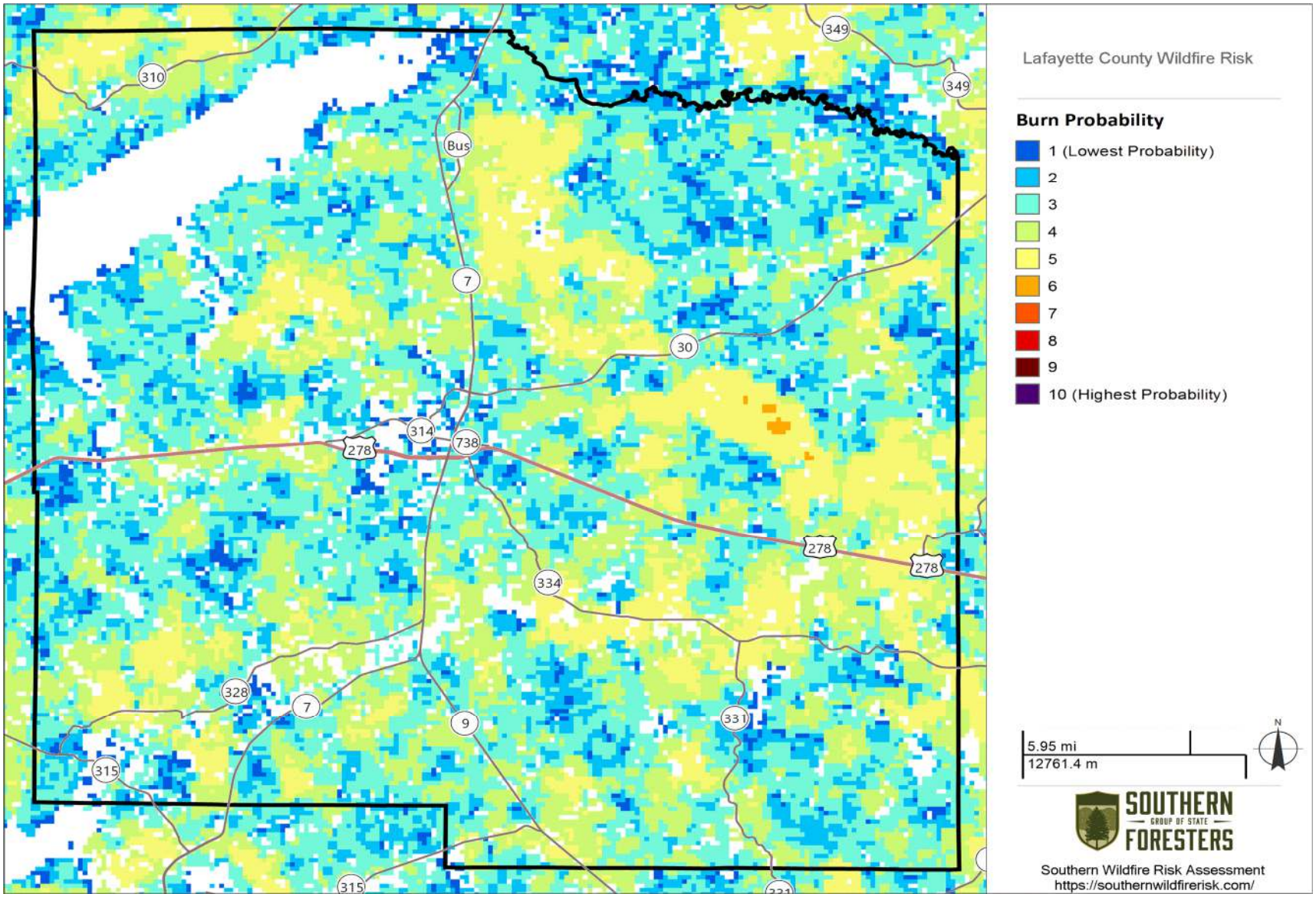
May 1987

Perhaps a worst-case scenario of a local wildfire is in the 1987 "Thacker Mountain Fire." According to the Mississippi Forestry Commission, the fire began on May 11, 1987, with fire units being dispatched at 9:00 AM. This initial fire burned a total of 200 acres and required 110 firefighters to control. Later, at 1:45 PM, another fire, thought to be spawned by the 9:00 o'clock fire was reported. This fire rapidly spread into one of the largest in the area in recent history. Mississippi Forestry Commission records indicate that this second fire burned a total of 1,493 acres of state or private forest and 45 acres of state or private non-forest land. This fire required 24 state firefighters and 200 other firefighters from the Federal government, city and county firefighters, as well as firefighting personnel from private industry. These two fires burned a total of 1,783 acres. Fortunately, this area of the county was not heavily populated and damage to the built environment was small. This fire does indicate that wildfires of significant size can develop under the right conditions and considerable resources are required to control them.

PROBABILITY OF FUTURE OCCURRENCES

Wildfire events will be an ongoing occurrence in Lafayette County. **Figure D.5** shows that there is some probability a wildfire will occur throughout the county. However, the likelihood of wildfires increases during drought cycles and abnormally dry conditions. Fires are likely to stay small in size but could increase due to local climate and ground conditions. Dry, windy conditions with an accumulation of forest floor fuel (potentially due to ice storms or lack of fire) could create conditions for a large fire that spreads quickly. It should also be noted that some areas do vary somewhat in risk. For example, highly developed areas are less susceptible unless they are located near the urban-wildland boundary. The risk will also vary due to assets. Areas in the urban-wildland interface will have much more property at risk, resulting in increased vulnerability and need to mitigate compared to rural, mainly forested areas. The probability assigned to Lafayette County for future wildfire events is highly likely (100 percent annual probability).

Figure D.5: BURN PROBABILITY IN LAFAYETTE COUNTY



Source: Southern Wildfire Risk Assessment

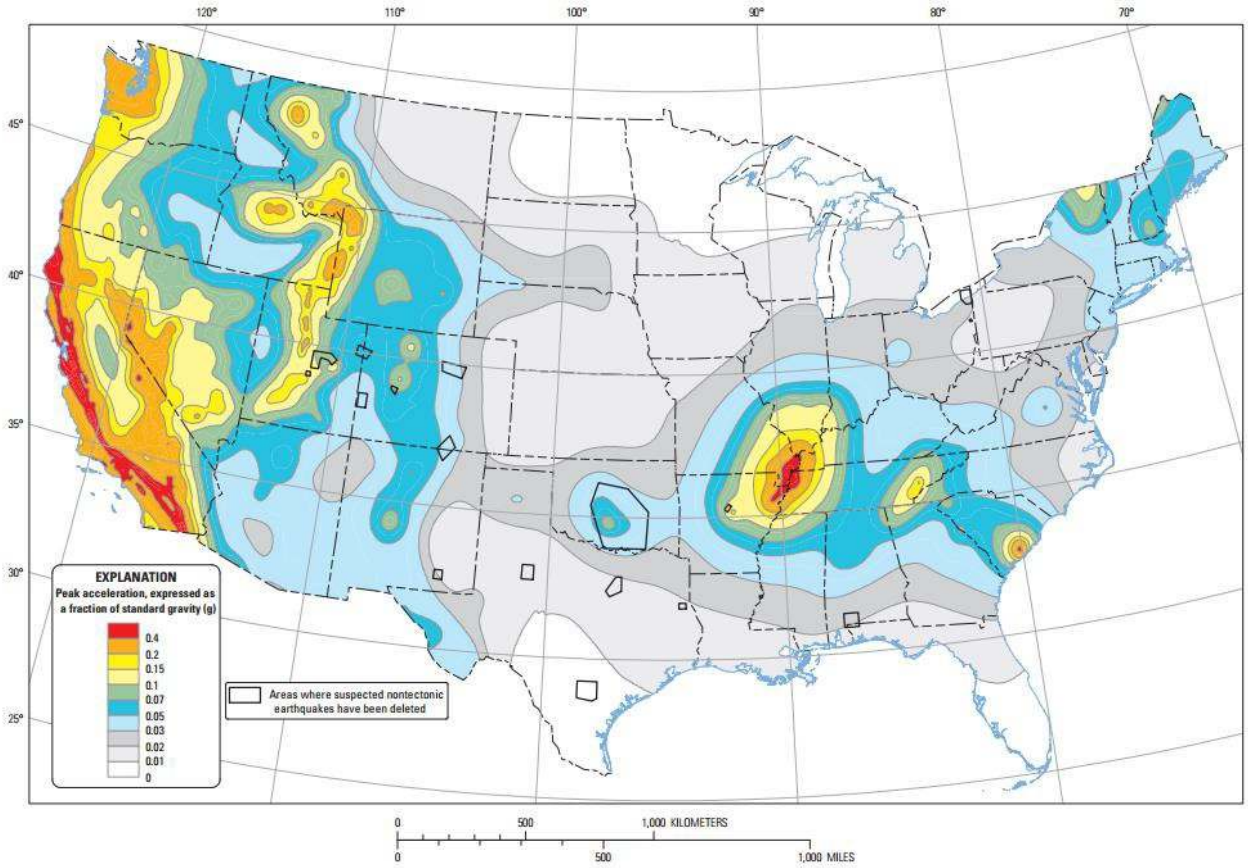
GEOLOGIC HAZARDS

D.2.7 Earthquake

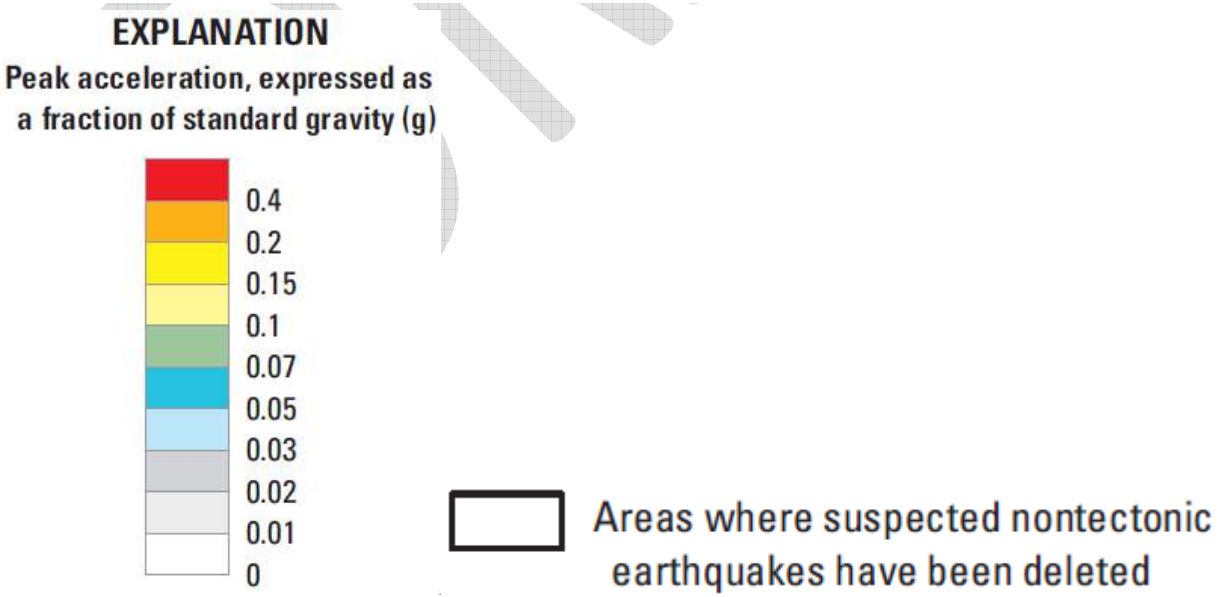
LOCATION AND SPATIAL EXTENT

Figure D.6 shows the intensity level associated with Lafayette County, based on the national USGS map of peak acceleration with 10 percent probability of exceedance in 50 years. It is the probability that ground motion will reach a certain level during an earthquake. The data show peak horizontal ground acceleration (the fastest measured change in speed, for a particle at ground level that is moving horizontally due to an earthquake) with a 10 percent probability of exceedance in 50 years. The map was compiled by the U.S. Geological Survey (USGS) Geologic Hazards Team, which conducts global investigations of earthquake, geomagnetic, and landslide hazards. According to this map, Lafayette County lies within an approximate zone of level "7" to "15" ground acceleration. This indicates that the county exists within an area of moderate seismic risk.

Figure D.6: PEAK ACCELERATION WITH 10 PERCENT PROBABILITY OF EXCEEDANCE IN 50 YEARS



Ten-percent probability of exceedance in 50 years map of peak ground acceleration



Source: United States Geological Survey, 2014

HISTORICAL OCCURRENCES

At least 14 earthquakes are known to have affected Lafayette County since 1886. The strongest of these measured a VI on the Modified Mercalli Intensity (MMI) scale. **Table D.13** provides a summary of earthquake events reported by the National Geophysical Data Center between 1638 and 1985. **Table D.14** presents a detailed occurrence of each event including the date, distance for the epicenter, magnitude and Modified Mercalli Intensity (if known).[6]

Table D.13: SUMMARY OF SEISMIC ACTIVITY IN LAFAYETTE COUNTY

Location	Number of Occurrences	Greatest MMI Reported	Richter Scale Equivalent
Abbeville	3	VI	< 5.4
Oxford	5	V	< 4.8
Taylor	2	V	< 4.8
Unincorporated Area	4	V	< 4.8
LAFAYETTE COUNTY TOTAL	**14**	**VI (strong)**	**< 5.4**

Source: National Geophysical Data Center

Table D.14: SIGNIFICANT SEISMIC EVENTS IN LAFAYETTE COUNTY (1638 -1985)

Location	Date	Epicentral Distance	Magnitude	MMI*
Abbeville				
Abbeville	12/17/1931	52.0 km	*Unknown*	IV
Abbeville	11/17/1970	159.0 km	3.6	V
Abbeville	3/25/1976	150.0 km	4.9	VI
Oxford				
Oxford	9/1/1886	895.0 km	*Unknown*	IV
Oxford	12/17/1931	38.0 km	*Unknown*	IV
Oxford	6/29/1967	152.0 km	3.4	III
Oxford	11/9/1968	414.0 km	5.3	IV
Oxford	3/25/1976	162.0 km	4.9	V
Taylor				
Taylor	12/17/1931	26.0 km	*Unknown*	V
Taylor	3/25/1976	167.0 km	4.9	V
Unincorporated Area				
University	6/4/1967	149.0 km	3.8	III
University	11/9/1968	416.0 km	5.3	IV
Paris	3/25/1976	182.0 km	4.9	IV
Tula	3/25/1976	182.0 km	4.9	V

Source: National Geophysical Data Center
**MMI based on intensity felt at location of epicenter*

PROBABILITY OF FUTURE OCCURRENCES

The probability of significant, damaging earthquake events affecting Lafayette County is unlikely. However, it is possible that future earthquakes resulting in light to moderate perceived shaking and damages ranging from none to very light will affect the county. The annual probability level for the county is estimated to be between 1 and 50 percent (possible).

[6] Due to reporting mechanisms, not all earthquakes events were recorded during this time. Furthermore, some are missing data, such as the epicenter location, due to a lack of widely used technology. In these instances, a value of "unknown" is reported.

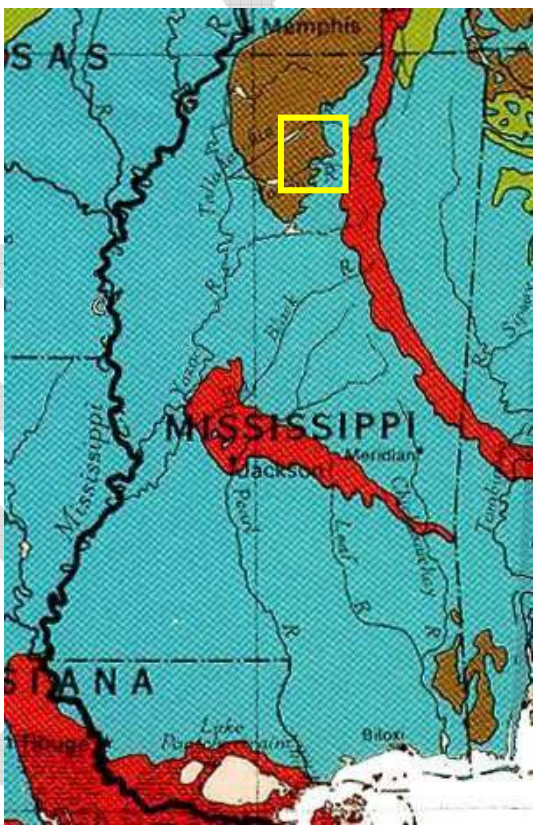
D.2.8 Expansive Soils

LOCATION AND SPATIAL EXTENT

Much of Lafayette County is located in an area where the soil is substantially clay, causing a shrink and swell effect depending on the current conditions. Indeed, much of the area underlain by calcareous clay which, when combined with sand and marl, is highly susceptible to expansion when wet and shrinking when dry.

Due to the amount of clay minerals present in Lafayette County, expansive soils present a threat to the county. Areas underlain by soils with swelling potential are shown in **Figure D.7**. The areas in red contain abundant clay having high swelling potential, the areas in blue are underlain with generally less than 50 percent clay having high swelling potential, the areas in green are underlain with generally less than 50 percent clay having slight to moderate swelling potential, and the areas in brown contain little or no swelling clays.

Figure D.7: SWELLING CLAYS IN MISSISSIPPI



Source: United States Geological Survey

HISTORICAL OCCURRENCES

Although there is a relatively substantial potential for expansive soils to impact the county, diligent records of past events have not been kept. Nevertheless, local officials have pointed to several localized incidents that have occurred in the region in the past and had impacts on infrastructure as well as individual homeowners. Exact locational information could not be provided in most cases, but this knowledge of historic events occurring is evidence that there is some cause for concern for future events.

PROBABILITY OF FUTURE OCCURRENCES

Given the potential for future impacts based on mapping and past historical events, it is likely (between 50 and 100 percent annual probability) that future expansive soil events will occur.

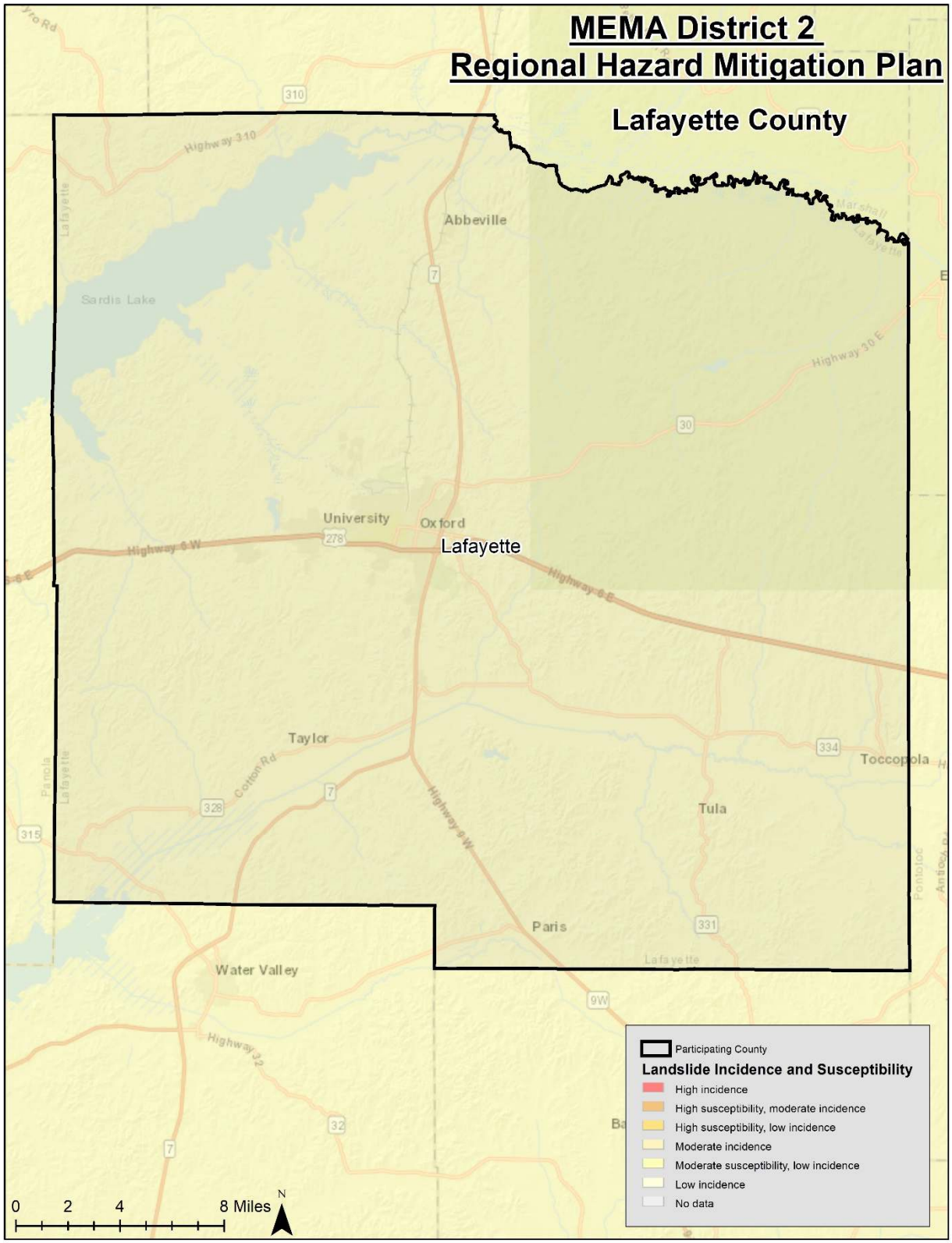
D.2.9 Landslide

LOCATION AND SPATIAL EXTENT

Landslides occur along steep slopes when the pull of gravity can no longer be resisted (often due to heavy rain). Human development can also exacerbate risk by building on previously undevelopable steep slopes. Landslides are possible throughout Lafayette County, though the risk is relatively low.

According to **Figure D.8** below, the entire county falls under a low incidence area. This indicates that less than 1.5 percent of the area is involved in landsliding.

Figure D.8: LANDSLIDE SUSCEPTIBILITY AND INCIDENCE MAP OF LAFAYETTE COUNTY



Source: United States Geological Survey

HISTORICAL OCCURRENCES

There is no extensive history of landslides in Lafayette County. Landslide events typically occur in isolated areas, but no major landslide events were reported.

PROBABILITY OF FUTURE OCCURRENCES

Based on historical information and the USGS susceptibility index, the probability of future landslide events is unlikely (less than 1 percent probability). The USGS data indicates that all areas in Lafayette County have a low incidence rate and low susceptibly to landsliding activity. Local conditions may become more favorable for landslides due to heavy rain, for example. This would increase the likelihood of occurrence. It should also be noted that some areas in Lafayette County have greater risk than others given factors such as steepness on slope and modification of slopes.

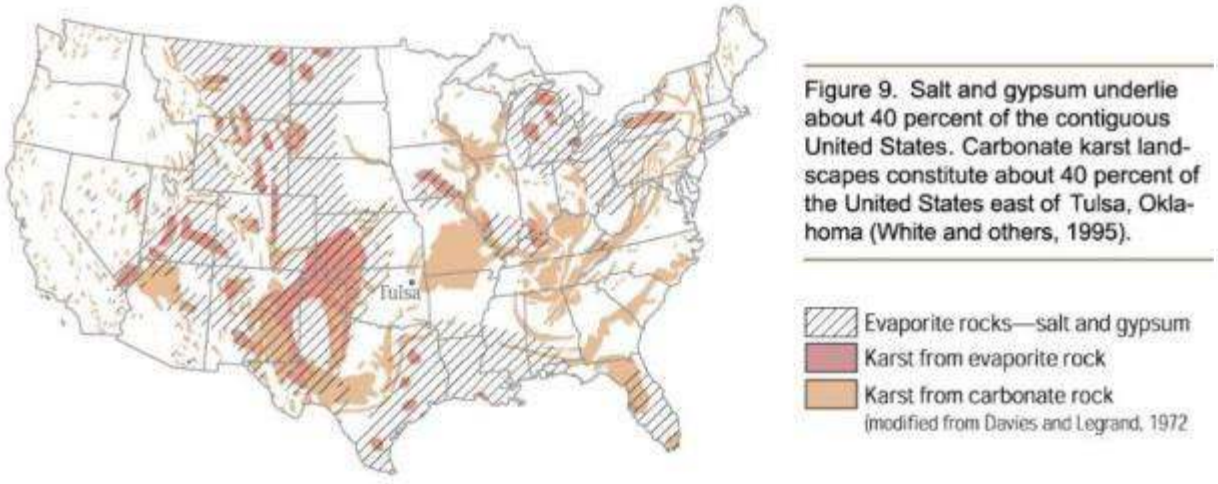
D.2.10 Land Subsidence / Sinkhole

LOCATION AND SPATIAL EXTENT

According to the U.S. Geological Survey (USGS), subsidence affects an estimated 17,000 square miles in 45 states, including Mississippi. Salt and gypsum underlie about 35 to 40 percent of the United States, though in many areas they are buried at great depths.

Figure D.9 shows the location of rock types associated with subsidence in the United States. It indicates that there are areas in the region underlain with karst from carbonate rock.

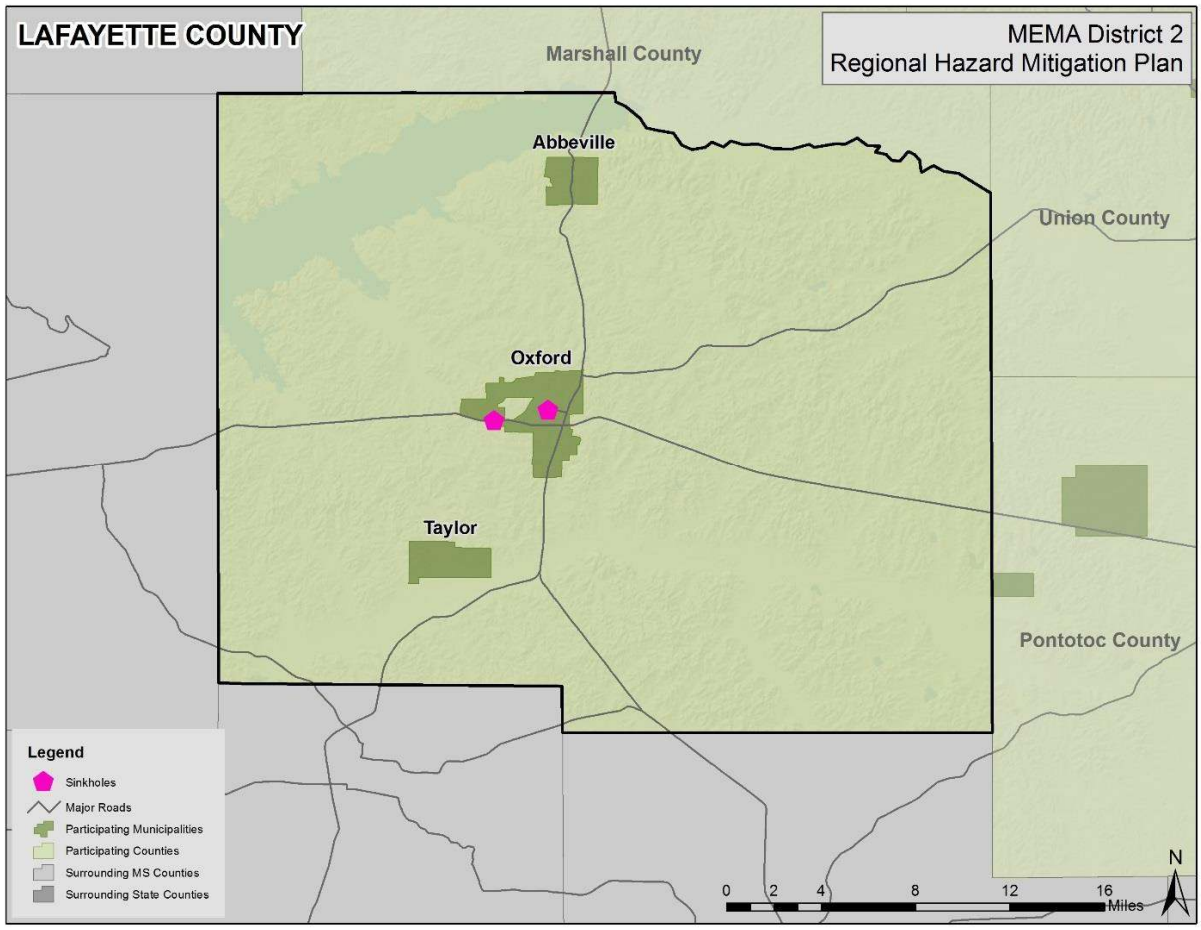
Figure D.9: MAP OF ROCK TYPES ASSOCIATED WITH SUBSIDENCE IN THE UNITED STATES



Source: United States Geological Survey

The location of two historical sinkhole events is found in **Figure D.10**. Although there have been many more incidents of sinkholes in the county. This map demonstrates that sinkholes can occur in populated areas such as Oxford and have an impact on people and infrastructure.

Figure D.10: MAP OF PREVIOUS SINKHOLE OCCURRENCES IN LAFAYETTE COUNTY



Source: Local Officials

HISTORICAL OCCURRENCES

Although there is no extensive history of land subsidence in Lafayette County, anecdotal evidence of isolated incidents have been reported. Local county officials have noted the impacts from these swings and changes in soil as roads and other infrastructure have experienced large cracks and breaks, causing stops in daily operations and significant costs to local, state, and federal budgets. Often the cost to repair this infrastructure can be in the range of millions of dollars depending on the degree of damage and necessity for quick repairs.

Lafayette County offers several examples of historical incidents of land subsidence and sinkholes that have occurred. One recent incident occurred on April 29, 2015 on Highway 6 in Oxford where a sinkhole formed beneath the road, creating a large hole in the right lane of the eastbound section of the highway. The erosion itself was extensive, reaching across both lanes. This incident caused traffic delays, but could have caused serious injuries and/or fatalities if a vehicle had hit the hole in the road. A photo of the hole can be seen below.

April 29, 2015: Sinkhole on Highway 6 in Oxford

Another example of an historic incident was at Sneed's Ace Hardware on University Drive. Although local officials couldn't recall the exact date, there was a significant impact to the parking lot.

PROBABILITY OF FUTURE OCCURRENCES

The probability of future land subsidence events in the county is possible (between 1 and 50 percent annual probability). The potential for land subsidence may be impacted by local conditions such as heavy rain or extremely dry periods.

WIND-RELATED HAZARDS

D.2.11 Hurricane and Tropical Storm

LOCATION AND SPATIAL EXTENT

Hurricanes and tropical storms threaten the entire Atlantic and Gulf seaboard of the United States. While coastal areas are most directly exposed to the brunt of landfalling storms, their impact is often felt hundreds of miles inland and they can affect Lafayette County. All areas in Lafayette County are equally susceptible to hurricane and tropical storms.

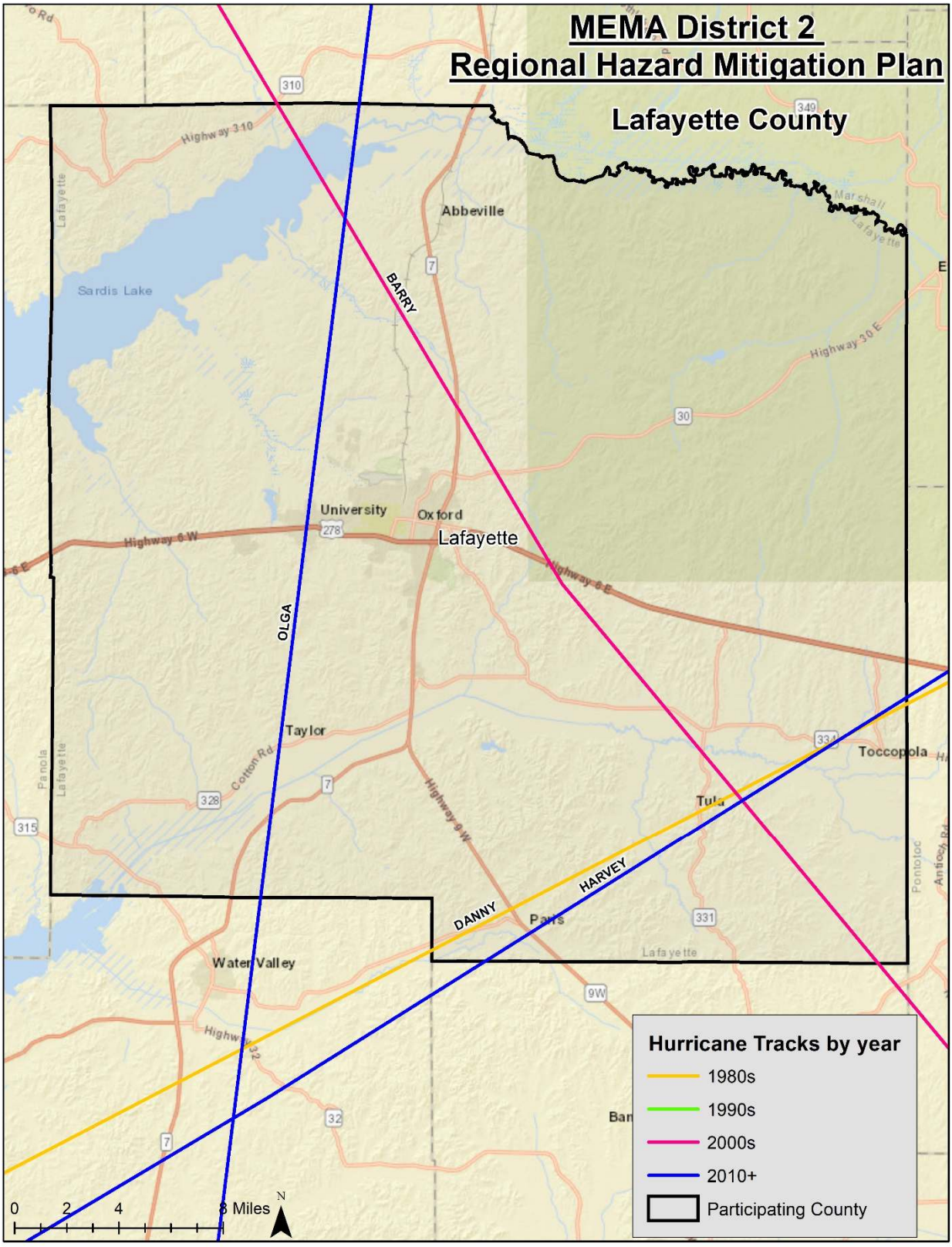
HISTORICAL OCCURRENCES

According to the National Hurricane Center's historical storm track records, 48 hurricane or tropical storm/depression tracks have passed within 75 miles of the MEMA District 2 Region since 1860.[7] This includes: 1 Category 1 hurricane, 2 Category 4 hurricanes, 1 Category 5 hurricane, 27 tropical storms, and 17 tropical depressions.

A total of 24 tracks passed directly through the region as shown in as show in **Figure D.11**. These events were all tropical storm or tropical depression strength at the time they traversed the region. **Table D.16** provides the date of occurrence, name (if applicable), maximum wind speed (as recorded within 75 miles of the MEMA District 2 Region) and category of the storm based on the Saffir-Simpson Scale for each event.

[7] These storm track statistics include tropical depressions, tropical storms, and hurricanes. Lesser events may still cause significant local impact in terms of rainfall and high winds

Figure D.11: HISTORICAL HURRICANE STORM TRACKS



Source: National Oceanic and Atmospheric Administration; National Hurricane Center

Table D.15: HISTORICAL STORM TRACKS WITHIN 75 MILES OF THE MEMA 2 DISTRICT REGION (1850–2020)

Date of Occurrence	Storm Name	Maximum Wind Speed (knots)	Storm Category
10/3/1860	UNNAMED	40	Tropical Storm
7/13/1872	UNNAMED	30	Tropical Depression
7/7/1891	UNNAMED	30	Tropical Depression
7/8/1891	UNNAMED	25	Tropical Depression
8/20/1888	UNNAMED	60	Tropical Storm
8/28/1890	UNNAMED	35	Tropical Storm
8/29/1881	UNNAMED	40	Tropical Storm
9/2/1879	UNNAMED	40	Tropical Storm
9/1/1880	UNNAMED	30	Tropical Depression
9/9/1893	UNNAMED	35	Tropical Storm
8/16/1901	UNNAMED	35	Tropical Storm
10/10/1905	UNNAMED	30	Tropical Depression
9/28/1906	UNNAMED	40	Tropical Storm
9/15/1912	UNNAMED	35	Tropical Storm
9/30/1915	UNNAMED	50	Tropical Storm
7/7/1916	UNNAMED	40	Tropical Storm
10/19/1916	UNNAMED	45	Tropical Storm
10/18/1923	UNNAMED	40	Tropical Storm
9/2/1932	UNNAMED	35	Tropical Storm
9/20/1932	UNNAMED	35	Tropical Storm
6/17/1934	UNNAMED	35	Tropical Storm
6/17/1939	UNNAMED	25	Tropical Depression
9/5/1948	UNNAMED	40	Tropical Storm
9/5/1949	UNNAMED	40	Tropical Storm
8/31/1950	BAKER	35	Tropical Storm
9/8/1950	EASY	25	Tropical Depression
6/28/1957	AUDREY	40	Tropical Storm
9/16/1960	ETHEL	30	Tropical Depression
8/18/1969	CAMILLE	50	Tropical Storm
7/12/1979	BOB	30	Tropical Depression
9/13/1979	FREDERIC	65	Category 1
8/16/1985	DANNY	30	Tropical Depression
8/27/1992	ANDREW	30	Tropical Depression
8/4/1995	ERIN	20	Tropical Depression
8/7/2001	BARRY	15	Tropical Depression
9/27/2002	ISIDORE	20	Tropical Depression
6/12/2005	ARLENE	25	Tropical Depression
7/11/2005	DENNIS	30	Tropical Depression
8/30/2005	KATRINA	50	Tropical Storm
9/12/2007	HUMBERTO	20	Tropical Depression
8/15/2008	FAY	60	Tropical Storm
8/16/2009	CLAUDETTE	50	Tropical Storm
6/20/2017	CINDY	60	Tropical Storm
8/17/2017	HARVEY	125	Category 4
8/30/2017	IRMA	160	Category 5
5/25/2018	ALBERTO	50	Tropical Storm
9/17/2020	BETA	50	Tropical Storm
10/4/2020	DELTA	120	Category 4

Source: National Hurricane Center

Federal records indicate that one disaster declaration was made in 2005 (Hurricane Katrina) in Lafayette County. Hurricane and tropical storm events can cause substantial damage in the area due to high winds and flooding.

Flooding and high winds from hurricanes and tropical storms can cause damage throughout the county. Anecdotes are available from NCEI for the major storms that have impacted the county as found below:

Hurricane Katrina – August 29, 2005
Hurricane Katrina had weakened to tropical storm strength when it reached north Mississippi. An electrical transformer was blown down on a house in Oxford (Lafayette County). Some awnings were ripped off in Ripley (Tippah County). Several buildings were damaged in Calhoun County due to the winds. Numerous trees and power lines along with some telephone poles were blown down. Some trees fell on cars, mobile homes and apartment buildings. Four to eight inches of rain fell in some parts of northeast Mississippi producing some flash flooding. Overall, at least 100,000 customers lost power.

PROBABILITY OF FUTURE OCCURRENCES

Given the inland location of the county, it is more likely to be affected by remnants of hurricane and tropical storm systems (as opposed to a major hurricane) which may result in flooding or high winds. The probability of being impacted is less than coastal areas, but still remains a real threat to Lafayette County due to induced events like flooding. Based on historical evidence, the probability level of future occurrence is likely (between 50 and 100 percent annual probability). Given the regional nature of the hazard, all areas in the county are equally exposed to this hazard. However, when the county is impacted, the damage could be catastrophic, threatening lives and property throughout the planning area.

D.2.12 Thunderstorm (wind, hail, lightning)

LOCATION AND SPATIAL EXTENT

Thunderstorm / High Wind
A thunderstorm event is an atmospheric hazard, and thus has no geographic boundaries. It is typically a widespread event that can occur in all regions of the United States. However, thunderstorms are most common in the central and southern states because atmospheric conditions in those regions are favorable for generating these powerful storms. It is assumed that Lafayette County has uniform exposure to an event and the spatial extent of an impact could be large.

Hailstorm
Hailstorms frequently accompany thunderstorms, so their locations and spatial extents coincide. It is assumed that Lafayette County is uniformly exposed to severe thunderstorms; therefore, all areas of the county are equally exposed to hail which may be produced by such storms.

Lightning
Lightning occurs randomly, therefore it is impossible to predict where and with what frequency it will strike. It is assumed that all of Lafayette County is uniformly exposed to lightning.

HISTORICAL OCCURRENCES

Thunderstorm / High Wind
Severe storms were at least partially responsible for eight disaster declarations in Lafayette County in 1971, twice in 2001, 2002, 2010 2011, 2019, and 2020. According to NCEI, there have been 135 reported

thunderstorm and high wind events since 1964 in Lafayette County. There were also reports of one fatality and two injuries. These events caused almost $935,000 in damages. **Table D.16** summarizes this information.

Table D.16: SUMMARY OF THUNDERSTORM / HIGH WIND OCCURRENCES IN LAFAYETTE COUNTY

Location	Number of Occurrences	Deaths / Injuries	Property Damage
LAFAYETTE COUNTY TOTAL	**135**	**1/2**	**$935,100**

Source: National Centers for Environmental Information

HISTORICAL THUNDERSTORM / HIGH WIND OCCURRENCES IN LAFAYETTE COUNTY

November 10, 2002

Thunderstorm winds across the county resulted in some trees blown down on the University of Mississippi campus. One house was destroyed by a fire started when a fallen tree broke a gas line and a downed power line produced a spark. Some of the trees fell on cars. Trees and power lines were blown across much of the remainder of the county. The resulting property damage amounted to $100,000.

March 9, 2006

The National Weather Service issued a Severe Thunderstorm Watch for a line of severe thunderstorms crossing through Mississippi into Alabama. Maximum wind gusts were determined to be around 60 knots. Straight line wind gusts were estimated to be between 58 and 80 miles an hour. In Lafayette County, several businesses were damaged. About a half dozen homes sustained significant damage. One family was trapped in their mobile home. Numerous trees were blown down. Over $150,000 worth of damage was sustained.

August 2nd, 2008

Diurnal Convection fired up across portions Northeast Mississippi during the late afternoon and evening hours of August 2nd, 2008. Some of the thunderstorms produced flash flooding, large hail and damaging winds. The storms eventually died off but re-fired over Northwest Mississippi during the late afternoon and early evening hours of August 3rd, 2008. Some of these storms produced damaging winds as well. Straight-line winds knocked several trees and power lines down across Southern Lafayette County caused $30,000 in damage.

August 31, 2017

The remnants of Harvey tracked across the Mid-South with heavy rain and gusty winds. There were several reports of flash flooding and a few tornadoes. Strong winds knocked down a tree that fell on the electric meter of a church on County Road 435 southwest of Oxford. This resulted in a fire that destroyed the church and caused $100,000 in damage.

Hailstorm

According to the National Centers for Environmental Information, 90 recorded hailstorm events have affected Lafayette County since 1962.15 Table D.19 is a summary of the hail events in Lafayette County. **Table D.17** provides detailed information about each event that occurred in the county. In all, hail occurrences resulted in approximately $39,750 in property damages. Hail ranged in diameter from 0.75 inches to 5.0 inches. It should be noted that hail is notorious for causing substantial damage to cars, roofs, and other areas of the built environment that may not be reported to the National Centers for Environmental Information. Therefore, it is likely that damages are greater than the reported value.

Table D.17: SUMMARY OF HAIL OCCURRENCES IN LAFAYETTE COUNTY

Location	Number of Occurrences	Deaths / Injuries	Property Damage
LAFAYETTE COUNTY TOTAL	**90**	**0/0**	**$38,750**

Source: National Centers for Environmental Information

HISTORICAL HAIL OCCURRENCES IN LAFAYETTE COUNTY

April 10th, 1962

Hail between 2 and 5 inches covered a four-square mile area, inflicting heavy damage to roof tops, automobiles, greenhouses, windows, roads, crops, and livestock. No injuries or fatalities were reported. This 5-inch hail remains the largest sized hail to fall in Mississippi.

April 7th, 2006

A series of supercell thunderstorms swept through Mississippi during April 6 and 7, 2006. The storm resulted in tornado touchdowns, large hail up to the size of softballs, and straight-line wind gusts in excess of 60 mph in multiple states. In Lafayette County, the largest hail to fall was measured at 1.75 inches in diameter and caused $10,000 in damage.

Lightning

According to the National Centers for Environmental Information, there have been ten recorded lightning events in Lafayette County since 1997. These events resulted in more than $630,000 in damages, as listed in summary **Table D.18**. Detailed information on historical lightning events can be found in **Table D.19**.

It is certain that more than nine events have impacted the county. Many of the reported events are those that cause damage, and it should be expected that damages are likely much higher for this hazard than what is reported.

Table D.18: SUMMARY OF LIGHTNING OCCURRENCES IN LAFAYETTE COUNTY

Location	Number of Occurrences	Deaths / Injuries	Property Damage
Abbeville	1	0/0	$50,000
Oxford	7	0/0	$560,000
Taylor	1	0/0	$5,000
Unincorporated Area	1	0/0	$15,000
LAFAYETTE COUNTY TOTAL	**10**	**0/0**	**$630,000**

Source: National Centers for Environmental Information

Table D.19: HISTORICAL LIGHTNING OCCURRENCES IN LAFAYETTE COUNTY

Location	Date	Deaths / Injuries	Property Damage*	Details
Abbeville				
ABBEVILLE	8/22/2017	0/0	$50,000	A fire was caused by lightning at a building on Long
Oxford				
OXFORD	7/9/1997	0/0	$50,000	Lightning struck a house causing a fire which burnt the house to the ground.
OXFORD	7/23/1998	0/0	$50,000	Two fires sparked by lightning within one block of each other occurred in a 40 minute time span. The two fires forced the evacuation of 20 apartments and three businesses in the area.
OXFORD	4/12/2001	0/0	$75,000	A home was destroyed by a fire started by lightning.
OXFORD	10/19/2004	0/0	$5,000	A trailer was destroyed by a fire started by lightning.
OXFORD	1/22/2006	0/0	$10,000	A house was damaged by a fire started by lightning.
OXFORD	6/4/2012	0/0	$100,000	Three structures were struck by lightning. One structure was a total loss.
OXFORD	9/2/2012	0/0	$250,000	Lightning struck a house in Oxford causing a fire. The house was destroyed as a result of the fire.
Taylor				
TAYLOR	11/23/2004	0/0	$5,000	A barn was damaged by a fire started by lightning.
Unincorporated Area				
(UOX)OXFORD ARPT	7/21/2011	0/0	$15,000	Over the course of 40 minute span, three houses were struck by lightning in the Oxford area. Each strike caused a fire although minimal damage occurred as a result.

*All damage may not have been reported.
Source: National Centers for Environmental Information

PROBABILITY OF FUTURE OCCURRENCES

Thunderstorm / High Wind
Given the high number of previous events, it is certain that thunderstorm events, including straight-line wind events, will occur in the future. This results in a probability level of highly likely (100 percent annual probability) for the entire county.

Hailstorm
Based on historical occurrence information, it is assumed that the probability of future hail occurrences is highly likely (100 percent annual probability). Since hail is an atmospheric hazard, it is assumed that Lafayette County has equal exposure to this hazard. It can be expected that future hail events will continue to cause minor damage to property and vehicles throughout the county.

Lightning
Although there was not a high number of historical lightning events reported in Lafayette County via NCEI data, it is a regular occurrence accompanied by thunderstorms. In fact, lightning events will assuredly happen on an annual basis, though not all events will cause damage. According to Vaisala's U.S. National Lightning Detection Network (NLDN), Prentiss County is located in an area of the country that experienced an average of 4 to 6 cloud-to-ground lightning flashes per square kilometer per year between 2015 and 2019.[8] Therefore, the probability of future events is highly likely (100 percent annual probability). It can

[8] Vaisala's Annual Lightning Report – 2020. Retrieved on 9.8.2021 from: https://www.vaisala.com/sites/default/files/documents/WEA-MET-Annual-Lightning-Report-2020-B212260EN-A.pdf

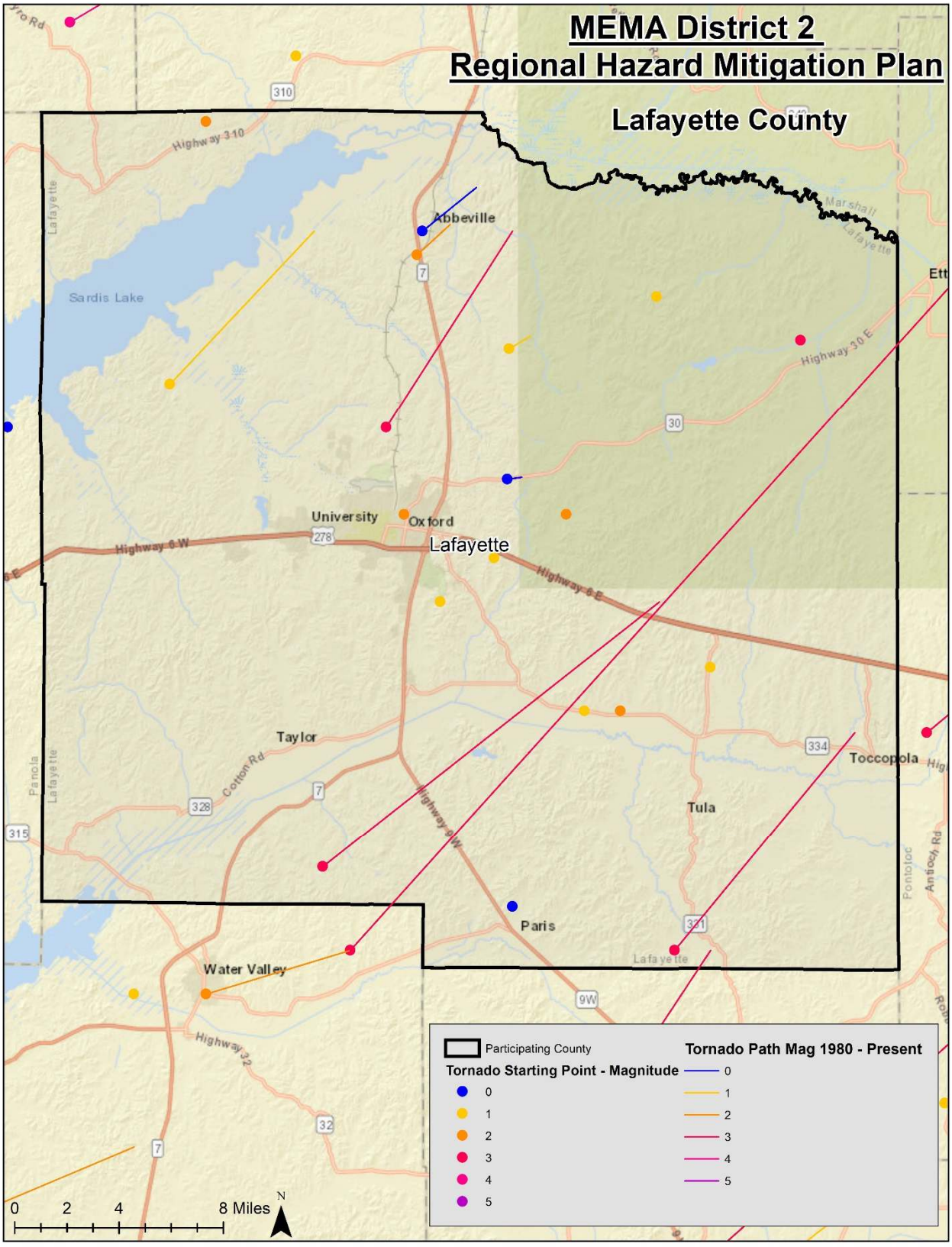
be expected that future lightning events will continue to threaten life and cause minor property damages throughout the county.

D.2.13 Tornado

LOCATION AND SPATIAL EXTENT

Tornadoes occur throughout the state of Mississippi, and thus in Lafayette County. Tornadoes typically impact a relatively small area, but damage may be extensive. Event locations are completely random and it is not possible to predict specific areas that are more susceptible to tornado strikes over time. Therefore, it is assumed that Lafayette County is uniformly exposed to this hazard. With that in mind, **Figure D.12** shows tornado track data for many of the major tornado events that have impacted the county. While no definitive pattern emerges from this data, some areas that have been impacted in the past may be potentially more susceptible in the future.

Figure D.12: HISTORICAL TORNADO TRACKS IN LAFAYETTE COUNTY



Source: National Weather Service Storm Prediction Center

HISTORICAL OCCURRENCES

Tornadoes were at least partially responsible for ten disaster declarations in Lafayette County in 1971, 1973, 1984, twice in 2001, 2002, 2010 2011, 2019 and 2020. According to the National Centers for Environmental Information, there have been a total of 23 recorded tornado events in Lafayette County since 1952 (**Table D.20**), resulting in over $99.0 million in property damages.[9] In addition, 1 fatality and 33 injuries were reported. The magnitude of these tornadoes ranges from F1 to F3 and EF0 to EF3 in intensity, although an EF5 event is possible.

Table D.20: SUMMARY OF TORNADO OCCURRENCES IN LAFAYETTE COUNTY

Location	Number of Occurrences	Deaths / Injuries	Property Damage
LAFAYETE COUNTY TOTAL	**23**	**1/33**	**$62,367,000**

Source: National Centers for Environmental Information

HISTORICAL TORNADO IMPACTS IN LAFAYETTE COUNTY

April 21st, 1984

Strong thunderstorms spawned 7 tornadoes in northern Mississippi and southwest Tennessee. Of the 7 tornadoes, 2 were F3, 1 was F2, and the remaining 4 were F1. One of the F3 tornadoes touched down briefly in a wooded area in northeast Lafayette County. Only timber damage was found. Three people were injured and 25 million dollars in damage was found.

February 5th, 2008

A strong low pressure system tracked from Northern Arkansas into Southern Missouri during the evening hours of February 5th, 2008. Supercells developed out ahead of the system during the late afternoon into the early evening. The storms produced tornadoes, large hail and damaging winds. As the supercells moved east during the evening, a cold front moved into North Mississippi. A squall line developed along the front and produced another round of large hail and damaging winds. The front continued to push east into the overnight hours. A tornado touched down in the Lafayette County Industrial Park on County Road 166 north of Oxford. The tornado destroyed the Ability Works Incorporated plant and tracked northeast hitting a county owned speculation warehouse and the Caterpillar Plant. The Elliot Lumber Company was also heavily damaged. The tornado then tracked northeast crossing County Road 101 near the County Road 104 intersection. In this area the Harvest Ministries Church, a mobile home and a veterinary clinic were all destroyed. Tree damage was noted as the tornado crossed Highway 7. The tornado continued northeast inflicting heavy damage along County Road 291 where 12 homes and mobile homes were destroyed. The tornado then damaged 2,500 acres of the Holly Springs National Forest before lifting about 2 miles east of Abbeville. A total of about 70 structures were damaged or destroyed. Eleven homes were destroyed and about 15 suffered heavy damage. About 10 mobile homes were destroyed or heavily damaged. Nine commercial structures were destroyed with another 6 suffering heavy damage. The rest of the structures had minor to moderate damage. Over $35 million dollars was sustained and 14 people were injured.

May 2nd, 2010

An upper level disturbance slowly approached the Mid-South during the evening of April 30th, 2010 as a cold front became stationary to the west. This pattern remained in place through the evening hours of May 2nd, 2010. South to southwest winds pumped warm moist air from the Gulf of Mexico and created a very unstable atmosphere. Showers and thunderstorms developed in association with the front during the early evening hours and moved east into Eastern Arkansas shortly before midnight. Additional thunderstorms occurred in association with the upper level disturbance. Due to the unstable atmosphere, thunderstorms quickly

[9] These tornado events are only inclusive of those reported by the National Centers for Environmental Information (NCEI) from 1950 through April 2020. It is likely that additional tornadoes have occurred in Lafayette County.

became severe producing large hail, damaging winds, and flash flooding. The severe weather evolved into an outbreak by May 1st and 2nd. Historic rainfall and flash flooding in addition to large hail and damaging winds occurred during the early morning hours of May 1st with several tornadoes occurring during the afternoon hours of May 1st to early morning hours of May 2nd. A tornado touched down just southwest of Abbeville and tracked northeast hitting the south side of Abbeville. The tornado lifted along County Road 215. One fatality occurred when a single-family home was destroyed. A double wide mobile home was also destroyed. Three other homes sustained major damage. Numerous trees were also uprooted along the path. The event caused the death of one 45-year-old woman as well as $250,000 in damage.

PROBABILITY OF FUTURE OCCURRENCES

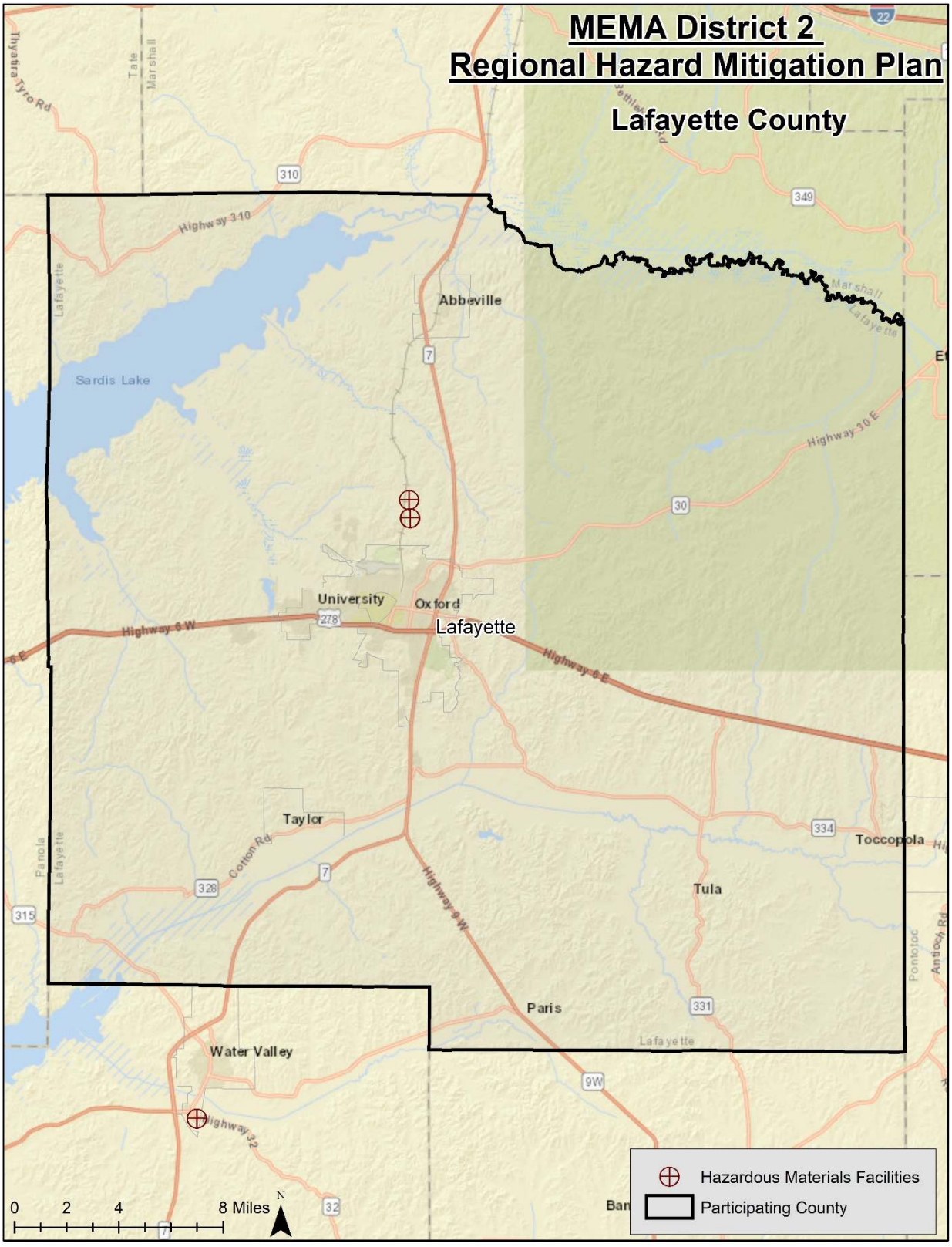
According to historical information, tornado events pose a significant threat to Lafayette County. The probability of future tornado occurrences affecting Lafayette County is likely (between 50 and 100 percent annual probability).

D.2.14 Hazardous Materials Incidents

LOCATION AND SPATIAL EXTENT

Lafayette County has two TRI sites. These sites are shown in **Figure D.13.**

Figure D.13: TOXIC RELEASE INVENTORY (TRI) SITES IN LAFAYETTE COUNTY



Source: Environmental Protection Agency

In additional to "fixed" hazardous materials locations, hazardous materials may also impact the county via roadways and rail. Many roads in the county are subject to hazardous materials transport and all roads that permit hazardous material transport are considered potentially at risk to an incident.

HISTORICAL OCCURRENCES

There have been a total of four recorded HAZMAT incidents in Lafayette County since 1975 (**Table D.21**). These events did not result in any property damage. **Table D.22** presents detailed information on historic HAZMAT incidents in Lafayette County as reported by the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA).

Table D.21: SUMMARY OF HAZMAT INCIDENTS IN LAFAYETTE COUNTY

Location	Number of Occurrences	Deaths / Injuries	Property Damage (2015)
Abbeville	1	0/0	$0
Oxford	3	0/0	$0
Taylor	0	0/0	$0
Unincorporated Area	0	0/0	$0
LAFAYETTE COUNTY TOTAL	**4**	**0/0**	**$0**

Source: United States Department of Transportation Pipeline and Hazardous Materials Safety Administration

Table D.22: HAZMAT INCIDENTS IN LAFAYETTE COUNTY

Report Number	Date	City	Mode	Serious Incident?	Fatalities/ Injuries	Damages ($)*	Quantity Released
Abbeville							
X-2009100281	9/29/2009	ABBEVILLE	Highway	No	0/0	$0	0.125 LGA
Oxford							
I-1975120179	11/17/1975	OXFORD	Highway	No	0/0	$0	0
I-1984080192	8/1/1984	OXFORD	Highway	No	0/0	$0	0.042 LGA
I-1986040386	4/1/1986	UNIVERSITY OF MISSISSIPPI	Highway	No	0/0	$0	0.031 LGA
Taylor							
None Reported	--	--	--	--	--	--	--
Unincorporated Area							
None Reported	--	--	--	--	--	--	--

*Property damage is reported in 2015 dollars; all damage may not have been reported.
Source: United States Department of Transportation Pipeline and Hazardous Materials Safety Administration

PROBABILITY OF FUTURE OCCURRENCES

Given the location of three toxic release inventory sites in Lafayette County and prior roadway incidents, it is likely (between 50 and 100 percent annual probability) that a hazardous material incident may occur in the county. County and town officials are mindful of this possibility and take precautions to prevent such an event from occurring. Furthermore, there are detailed plans in place to respond to an occurrence.

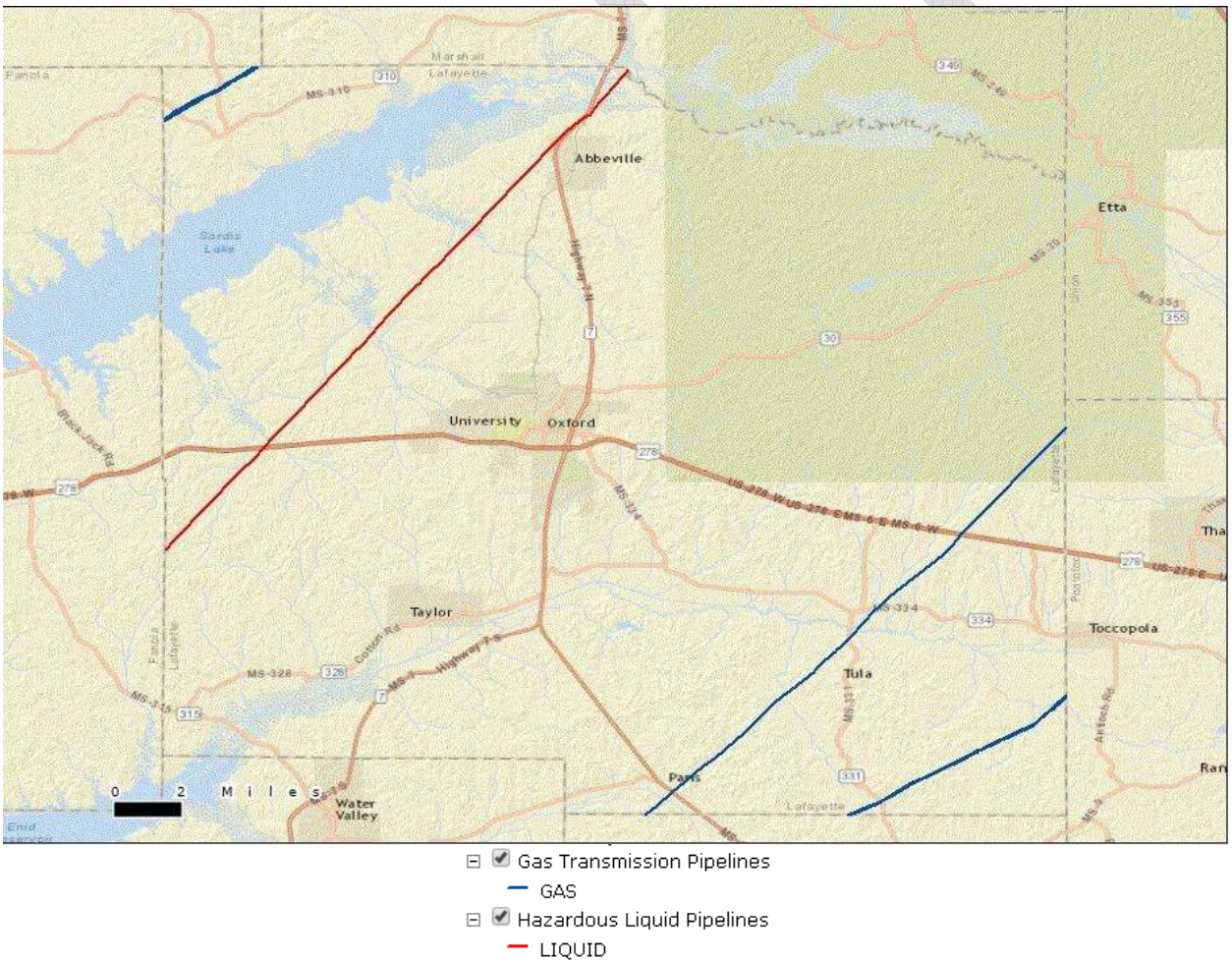
D.2.15 Pipelines

LOCATION AND SPATIAL EXTENT

Pipeline impacts can vary when it comes to people and the environment, ranging from personal injuries such as inhalation of toxins to ecological damage and water contamination. Pipeline incidents can affect local and regional economies resulting in potential shortages and/or increases in energy costs. A vulnerability assessment of pipeline impacts greatly depends on various factors such as location, severity of incident, environmental factors, proximity to waterways, and infrastructure operation. However, as mentioned above, due to the unavailability of precise location data for pipelines across the county, a thorough analysis of pipeline incidents was not carried out in this plan. The City of Oxford noted that there are several gas distribution lines running throughout the city that are owned by CenterPoint.

Figure D.14 illustrates the location of several types of pipeline infrastructure including gas transmission lines, hazardous liquid lines, liquefied natural gas (LNG) plants, and breakout tanks in Lafayette County.

Figure D.14: PIPELINES IN LAFAYETTE COUNTY



Source: United States Department of Transportation Pipeline and Hazardous Materials Safety Administration

HISTORICAL OCCURRENCES

Pipeline accidents can originate in a number of different ways. According to the Pipeline and Hazardous Materials Safety Administration (PHMSA), some of the most prominent causes of pipeline accidents include: corrosion, excavation damage, incorrect operation, material/weld/equipment failure, natural force damage, and other outside force damage.[10] **Table D.23** describes pipeline incidents throughout Mississippi from 2001 to 2020. On average, ten pipeline incidents resulting in $2.1 million in damages occur annually in the State of Mississippi.

Table D.23: PIPELINE INCIDENTS (2001-2020)

Year	Incidents	Fatalities	Injuries	Cost
2001	5	1	2	$496,000
2002	10	0	1	$588,397
2003	11	0	0	$516,624
2004	8	0	1	$294,899
2005	10	0	0	$1,173,585
2006	10	2	0	$1,517,176
2007	17	2	8	$4,093,859
2008	12	0	2	$1,256,450
2009	12	0	0	$1,851,029
2010	6	0	0	$2,702,520
2011	8	0	2	$1,867,519
2012	6	0	0	$1,652,156
2013	14	0	0	$7,965,328
2014	13	0	0	$974,894
2015	13	0	0	$3,342,998
2016	11	0	0	$2,923,621
2017	12	0	0	$1,762,609
2018	4	0	0	$1,344,223
2019	7	0	1	$1,201,788
2020	6	0	0	$5,617,695
	195	5	17	$43,143,370

Source: United States Department of Transportation Pipeline and Hazardous Materials Safety Administration.

[10] United States Department of Transportation Pipeline and Hazardous Materials Safety Administration, 2015. Hazard Mitigation Planning: Practices for Land Use Planning and Development near Pipelines.

PROBABILITY OF FUTURE OCCURRENCES

Given that there have been some occurrences of pipeline incidents in the United States, the probability of future occurrences in Lafayette County is possible (between 1 and 50 percent annual probability).

D.2.16 Water Supply / System Failure

LOCATION AND SPATIAL EXTENT

This type of hazard could occur anywhere that water supply lines run which encompasses many areas of the county. Most of the incorporated jurisdictions have many water supply lines running throughout their jurisdictional boundaries, so the extent of this type of hazard is large.

HISTORICAL OCCURRENCES

Although there have not been any major instances of water supply system failure in the county since the last plan update and prior, there have been some small-scale incidents and it should be noted that there have been many drought incidents (recorded in an earlier section) which would have similar impacts in terms of supply shortage, although these impacts would be much easier to recognize in advance of serious issues than the impacts from a system failure.

PROBABILITY OF FUTURE OCCURRENCES

Based on the limited number of incidents of water supply failure that have occurred historically, the likelihood of this hazard is considered possible (between 1 and 50 percent annual probability).

D.2.17 Active Shooter

LOCATION AND SPATIAL EXTENT

The exact location and spatial extent of an active shooter could be throughout the county, though there is a higher likelihood this type of event will occur in a public place with relatively high volumes of people present.

HISTORICAL OCCURRENCES

Although there have not been any active shooter incidents to make national news within Lafayette County since the last plan update and prior, there have been some incidents around the state of Mississippi that indicate this type of incident could occur within the county. Most recently in August of 2015, a suspect was taken in to custody on the Mississippi State University campus in Starkville.[11] There were no fatalities or injuries, but this incident reveals that there is some threat to local universities and schools of an active shooter and this type of event would be difficult to predict.

[11] Mosendz, Polly. Suspect in Custody After Active Shooter Incident Reported at Mississippi State University. Newsweek. http://www.newsweek.com/report-active-shooter-mississippi-state-university-campus-366246

PROBABILITY OF FUTURE OCCURRENCES

Although there have not been any major active shooter incidents in the county since the last plan update and prior, there have been some incidents in other areas of the United States. Therefore the likelihood of this type of incident is considered possible (between 1 and 50 percent annual probability).

D.2.18 Civil Unrest

LOCATION AND SPATIAL EXTENT

Civil disturbance or unrest can occur in any location in the county but is more likely to take place in or near prominent locations such as government buildings or significant landmarks.

HISTORICAL OCCURRENCES

In Lafayette County, there have not been any major instances of civil unrest in many years, though it should be noted that the constantly changing political and social climate is difficult to predict and often changes occur rapidly and without much warning. This has happened in other areas of the country and local officials have had to respond quickly to these types of incidents.

PROBABILITY OF FUTURE OCCURRENCES

Civil unrest has occurred occasionally within the county, although there have not been any major incidents in the past several years so the likelihood of this type of incident is considered possible (between 1 and 50 percent annual probability).

D.2.19 Cyberterrorism

LOCATION AND SPATIAL EXTENT

Cyber-attacks could occur anywhere within Lafayette County and, indeed, could originate from outside of the county while still having an impact on it.

HISTORICAL OCCURRENCES

At least four Mississippi school districts or universities have been targeted in ransomware attacks since 2013, according to a database compiled by StateScoop, though others may not have been publicly disclosed. The Oxford School District was targeted in 2016, though officials said they did not pay a ransom.[12] Also, in May 2021, Colonia Pipeline fell victim to a ransomware attack that completely shut down their pipeline. The 5,500-mile Colonial system which runs from Texas to New Jersey carries over 100 million gallons of gasoline, diesel, jet fuel and home heating oil to the East Coast from refineries along the Gulf Coast. It delivers about 45% of the fuel for the East Coast. The pipeline traverses Mississippi.[13]

[12] Mississippi Today. *Mississippi Schools Targeted by Ransomware*. Retrieved 8.19.2021 from: https://mississippitoday.org/2021/06/11/school-district-ransomware-attack-mississippi/

[13] Clarion Ledger. Colonial Pipeline Attack. Retrieved 8.19.2021 from: https://www.clarionledger.com/story/news/2021/05/11/colonial-pipeline-hack-mississippi-gas-prices-collins-ms-shortage-outage-impacts/5036923001/

PROBABILITY OF FUTURE OCCURRENCES

Cyberterrorism has generally not occurred within Lafayette County historically, but the issue is becoming much larger and incidents that occur outside of the county may still have impacts inside of it. Therefore, likelihood of this type of incident is considered possible (between 1 and 50 percent annual probability).

D.2.20 Human Trafficking

LOCATION AND SPATIAL EXTENT

While unfortunate, human trafficking is likely happening throughout the county and there is no definitive boundary to define the areas in which it is most likely to occur.

HISTORICAL OCCURRENCES

There have been many incidents of human trafficking in the state, though this type of incident occurs in a covert manner and so many incidents are not reported and the problem is much larger than most people understand.

PROBABILITY OF FUTURE OCCURRENCES

Although it is difficult to account for and to determine because it is covert by nature, this type of incident occurs often and the future threat to the county is considered to remain likely (between 50 and 100 percent annual probability).

C.2.21 Pandemic

LOCATION AND SPATIAL EXTENT

Pandemics are global in nature. However, they may start anywhere. Lafayette County chose to analyze this hazard given the agriculture in the area and potential for this kind of event to occur in any location at any time.

All populations should be considered at risk to pandemic. Buildings and infrastructure are not directly impacted by the virus/pathogen but could be indirectly impacted if people are not able to operate and maintain them due to illness. Many buildings may be shutdown, at least temporarily, as a result. Employers may initiate work from home procedures for non-essential workers in order to help stop infection. Commerce activities, and thus the economy, may suffer greatly during this time.

HISTORICAL OCCURRENCES

Several pandemics have been reported throughout history. A short history of the flu/Spanish Flu was collected from The Historical Text Archive and is described below.

The first known pandemic dates back to 430 B.C. with the Plague of Athens. It reportedly killed a quarter of the population over four years due to typhoid fever. In 165-180 A.D., the Antonine Plague killed nearly 5 million people. Next, the Plague of Justinian (the first bubonic plague pandemic) occurred from 541 to 566. It killed 10,000 people a day at its peak and resulted in a 50 percent drop in Europe's population. Since the 1500s, influenza pandemics have occurred about three times every century or roughly every 10 to 50 years. The Black Death devastated European populations in the 14th century. Nearly a third of the population (20-30 million) was killed over six years. From 1817 to present, seven Cholera Pandemics have

impacted to the world and killed millions. Perhaps most severe, was the Third Cholera Pandemic (1852-1959) which started in China. Isolated cases can still be found in the Western U.S. today. There were three major pandemics in the 20th century (1918-1919, 1957-1958, and 1968-1969). The most infamous pandemic flu of the 20th century, however, was that of 1918-1919. Since the 1960s, there has only been one pandemic, the 2009 H1N1 influenza. The pandemics of the 20th and 21st centuries that impacted the United States are detailed below.

1918 Spanish Flu: This was the most devastating flu of the 20th century. This pandemic spread across the world in three waves between 1918 and 1919. It typically impacted areas for around twelve weeks and then would largely disappear. However, it would frequently reemerge several months later. Worldwide, approximately 50 million persons died and over a quarter of the population was infected. Nearly 675,000 people died in the United States. The illness came on suddenly and could cause death within a few hours. The virus impacted those aged 15 to 35 especially hard. The movement of troops during World War I is thought to have facilitated the spread of the virus.

In Mississippi, state officials noted that "epidemics have been reported from a number of places in the State," on October 4th, 1918. By the 18th, twenty-six localities reported 1,934 cases (the real number of cases was likely much higher). West Point, Mississippi was hit especially hard and quarantine was established. Throughout the state, African Americans were impacted at a greater rate than white populations. This is thought to be partly caused from a shortage of caretakers. It is estimated that over 6,000 people died in Mississippi, though that number may be much higher as death records were not widely recorded.

1957 Asian Flu: It is estimated that the Asian Flu caused 2 million deaths worldwide. Approximately 70,000 deaths were in the U.S. However, the proportion of people impacted was substantially higher than that of the Spanish Flu. This flu was characterized as having much milder effects than the Spanish Flu and greater survivability. Similar to other pandemics, this pandemic has two waves. Elderly and infant populations were more likely to succumb to death. This flu is thought to have originated from a genetic mutation of a bird virus.

1968 Hong Kong Flu: The Hong Kong Flu is thought to have caused one million deaths worldwide. It was milder than both the Asian and Spanish influenza viruses. It was similar to the Asian Flu, which may have provided some immunity to the virus. It had the most severe impact on elderly populations.

2009 H1N1 Influenza: This flu was derived from human, swine, and avian virus strains. It was initially reported in Mexico in April 2009. On April 26, the U.S. government declared H1N1 a public health emergency. A vaccine was developed and over 80 million were vaccinated which helped minimize the impacts. The virus had mild impacts on most of the population but did cause death (usually from viral pneumonia) in high-risk populations such as pregnant women, obese persons, indigenous people, and those with chronic respiratory, cardiac, neurological, or immunity conditions. Worldwide, it is estimated that 43 million to 89 million people contracted H1N1 between April 2009 and April 2010, and between 8,870 and 18,300 H1N1 cases resulted in death.

2020 SARS-CoV-2 (COVID-19): Coronavirus Disease 2019 (COVID-19) was declared as pandemic by the World Health Organization on March 11th, 2020 mainly due to the speed and scale of the transmission of the disease. Prior to that, it started as an epidemic in mainland China with the focus being firstly reported in the city of Wuhan, Hubei province on February 26th, 2020. The etiologic agent of COVID-19 was isolated and identified as a novel coronavirus, initially designated as 2019-nCoV. Later, the virus genome was sequenced and because it was genetically related to the coronavirus outbreak responsible for the SARS outbreak of 2003, the virus was named as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) by the International Committee for Taxonomy of Viruses.

There is a considerable amount of data on the extent of COVID-19 throughout the State of Mississippi and Lafayette County. The number of reported cases and deaths across the State of Mississippi and Lafayette County are shown in the figure below.

Table B.24: COVID-19 Cases as of 08/31/2021[14]

	Cases	Deaths
Mississippi	439,661	8,490
Lafayette County	7,500	130

In addition to the pandemics above, there have been several cases of pandemic threats, some of which reached epidemic levels. They were contained before spreading globally. Examples include Smallpox, Polio, Tuberculosis, Malaria, AIDS, SARS and Yellow Fever. Advances in medicine and technology have been instrumental in containing the spread of viruses in recent history.

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It is notable that no birds have been infected with Avian Flu in North and South America.

PROBABILITY OF FUTURE OCCURRENCES

Based on historical occurrence information, it is assumed that all of Lafayette County has a probability level of unlikely (less than 1 percent annual probability) for future pandemics events. While pandemic can have devastating impacts, they are relatively rare.
The Mississippi State Department of Health maintains a state pandemic plan which can be found here: http://www.msdh.state.ms.us/msdhsite/index.cfm/44,1136,122,154,pdf/SNSPlan.pdf

[14] Mississippi State Department of Health. *COVID-19 Dashboard*. Retrieved from: https://msdh.ms.gov/msdhsite/_static/14,0,420.html

D.2.22 Terror Threat

LOCATION AND SPATIAL EXTENT

A terror threat could potentially occur at any location in the county. However, the very definition of a terrorist event indicates that it is most likely to be targeted at a critical or symbolic resource/location/event. Ensuring and protecting the continuity of critical infrastructure and key resources (CIKR) of the United States is essential to the Nation's security, public health and safety, economic vitality, and way of life. CIKR includes physical and/or virtual systems or assets that, if damaged, would have a detrimental impact on national security, including large-scale human casualties, property destruction, economic disruption, and significant damage to morale and public confidence. **Table D.25** lists the U.S. Department of Homeland Security's (DHS) identified main critical infrastructure sectors.

Table D.25: U.S. DEPARTMENT OF HOMELAND SECURITY CRITICAL INFRASTRUCTURE SECTORS

- Agriculture and Food
- Banking and Finance
- Chemical
- Commercial Facilities
- Communications
- Critical Manufacturing
- Dams
- Defense Industrial Base
- Emergency Services
- Energy
- Government Facilities
- Healthcare and Public Health
- Information Technology
- National Monuments and Icons
- Nuclear Reactors, Materials, and Waste
- Postal and Shipping
- Transportation Systems
- Water

HISTORICAL OCCURRENCES

Perhaps the most notable terrorist incident in recent memory was the attacks on the World Trade Center and Pentagon on September 11, 2001. These events resulted in more than an estimated 3,000 deaths and caused destruction of many buildings including both of the World Trade Center buildings. Prior to this, in 1995, the bombing of the federal office building in Oklahoma City was one of the most devastating attacks on U.S. soil, causing more than 150 deaths and damage to more than 200 buildings.

Although there have been no recorded incidents of a major terror attack occurring in the county since the last plan update and prior, there have been several instances where attacks were thwarted or discovered in advance. These kinds of events are indicative of the fact that future terror threats could impact the county.

Additionally, it is possible that locally-targeted terrorist incidents could occur in the future and there are several facilities/events in the county that could be potential targets.

PROBABILITY OF FUTURE OCCURRENCES

The county has had no recorded major terrorist events since the last plan update and prior. However, given the historic attempts to carry out attacks that were thwarted and the existence of government complexes, notable structures, and significant landmarks, there is a possibility that a terrorist incident might occur. Due to few recorded incidents against the county, the probability of future occurrences of a

terrorist attack is unlikely (less than 1 percent annual probability).

D.2.23 Conclusions on Hazard Risk

The hazard profiles presented in this subsection were developed using best available data and result in what may be considered principally a qualitative assessment as recommended by FEMA in its "How-to" guidance document titled *Understanding Your Risks: Identifying Hazards and Estimating Losses* (FEMA Publication 386-2). It relies heavily on historical and anecdotal data, stakeholder input, and professional and experienced judgment regarding observed and/or anticipated hazard impacts. It also carefully considers the findings in other relevant plans, studies, and technical reports.

HAZARD EXTENT

The table below describes the extent of each natural hazard identified for Lafayette County. The extent of a hazard is defined as its severity or magnitude, as it relates to the planning area.

Table D.26: EXTENT OF LAFAYETTE COUNTY HAZARDS

Flood-related Hazards	
Flood	Flood extent can be measured by the amount of land and property in the floodplain as well as flood height and velocity. The amount of land in the floodplain accounts for 24.0 percent of the total land area in Lafayette County. Flood depth and velocity are recorded via United States Geological Survey stream gages throughout the region. While a gage does not exist for each participating jurisdiction, there is one at or near many areas. The greatest peak discharge recorded for the county was at the Yocona River near Oxford in 1955. Water reached a discharge of 44,100 cubic feet per second and the stream gage height was recorded at 23.72 feet.
Erosion	The extent of erosion can be defined by the measurable rate of erosion that occurs. There are no erosion rate records located in Lafayette County.
Dam and Levee Failure	Dam Failure extent is defined using the Mississippi Department of Environmental Quality criteria. Fourteen dams are classified as high-hazard in Lafayette County.
Winter Storm and Freeze	The extent of winter storms can be measured by the amount of snowfall received (in inches). Official long term snow records are not kept for any areas in Lafayette County. However, the greatest snowfall reported in Meridian (south of the county) was 14.0 inches in 1963.
Fire-related Hazards	
Drought / Heat Wave	Drought extent is defined by the U.S. Drought Monitor Classifications which include Abnormally Dry, Moderate Drought, Severe Drought, Extreme Drought, and Exceptional Drought. According to the U.S. Drought Monitor Classifications, the most severe drought condition is Exceptional. Lafayette County has received this ranking once over the 15-year reporting period. The extent of extreme heat can be measured by the record high temperature recorded. Official long term temperature records are not kept for any areas in Lafayette County. However, the highest recorded temperature in Greenwood (southwest of the county) was 106°F in 2007 and in Meridian (south of the county) was 107°F in 1980.

Wildfire	Wildfire data was provided by the Mississippi Forestry Commission and is reported annually by county from 2005-2014. The greatest number of fires to occur in Lafayette County in any year 44 in 2007. The greatest number of acres to burn in the county in a single year occurred in 2007 when 836 acres were burned. Although this data lists the extent that has occurred, larger and more frequent wildfires are possible throughout the county.
Geologic Hazards	
Earthquake	Earthquake extent can be measured by the Richter Scale, the Modified Mercalli Intensity (MMI) scale, and the distance of the epicenter from Lafayette County. According to data provided by the National Geophysical Data Center, the greatest earthquake to impact the county was reported in Abbeville with a MMI of VI (strong), a correlating Richter Scale measurement of approximately 4.9, and 150 km away from the epicenter.
Expansive Soils	Expansive Soils can have large scale impacts depending on the nature of the soil and the soil conditions (wet vs. dry). Expansive soil extent is difficult to quantify, but it is possible that the volume of soil could increase by as much as 50% saturation.
Landslide	As noted above in the landslide profile, there is no extensive history of landslides in Lafayette County and landslide events typically occur in isolated areas. This provides a challenge when trying to determine an accurate extent for the landslide hazard. However, when using USGS landslide susceptibility index, extent can be measured with incidence, which is low throughout the county. There is also low susceptibility throughout the county.
Land Subsidence / Sinkhole	The extent of land subsidence can be defined by the measurable rate of subsidence that occurs. There are no subsidence rate records located in Lafayette County nor is there any significant historical record of events. The largest potential event might be as a large as 10,000 cubic yards.
Wind-related Hazards	
Hurricane and Tropical Storm	Hurricane extent is defined by the Saffir-Simpson Scale which classifies hurricanes into Category 1 through Category 5. The greatest classification of hurricane to traverse directly through Lafayette County was Hurricane Audrey which carried tropical force winds of 40 knots upon arrival in the county.
Thunderstorm / Hail / Lightning	Thunderstorm extent is defined by the number of thunder events and wind speeds reported. According to a 65-year history from the National Centers for Environmental Information, the strongest recorded wind event in Lafayette County was reported on April 28, 1966 at 80 knots (approximately 92 mph). It should be noted that future events may exceed these historical occurrences. Hail extent can be defined by the size of the hail stone. The largest hail stone reported in Lafayette County was 5.0 inches (reported on April 10, 1962). It should be noted that future events may exceed this. According to the Vaisala's flash density map (Figure 5.26), Lafayette County is located in an area that experiences 6 to 8 lightning flashes per square kilometer per year. It should be noted that future lightning occurrences may exceed these figures.
Tornado	Tornado hazard extent is measured by tornado occurrences in the US provided by FEMA as well as the Fujita/Enhanced Fujita Scale. The greatest magnitude reported in Lafayette County was an F3 last reported on March 1, 1997).
Other Hazards	

Hazardous Materials Incident	According to USDOT PHMSA, the largest hazardous materials incident reported in the Lafayette County was 0.125 LGA released on the highway (reported on September 29, 2009). It should be noted that larger events are possible.
Pipelines	A pipeline failure could be caused in several different ways. If an explosion or fire were the cause of the incident, the impacts might include fatalities or injuries as well as loss of a fuel source and damage to personal property. However, the impacts could also be less fatal in which case the more immediate effects might be down time for services and significant price hikes for consumers.
Water Supply / System Failure	There are many impacts that would occur as a result of water system failure. Among other impacts, residents might lose water supply, medical equipment and operations may not be able to be carried out, and access to clean water will be limited for business operations. These failures could potentially leave many homes and businesses without water service.
Active Shooter	The potential impacts of an active shooter might be that there are fatalities or significant injuries to members of the public. Additionally, there would likely be a negative impact on the community emotionally.
Civil Unrest	Often one of the greatest impacts from civil unrest is collateral damage to people and property. During civil unrest, property can be destroyed or stolen and citizens can be injured due to violence that erupts. First responders may also be targeted and many times are more likely to be injured as a result of civil unrest than the average citizen.
Cyberterrorism	While there is seldom physical damage inflicted from a cyberterrorism event, the effects of such an event are often damaging in other ways. For example, theft, denial of service attacks, and dissemination of misinformation can all result from a cyberterrorism event. Moreover, these events are often aimed at shutting down IT systems which can result in loss of productivity and damage to IT
Human Trafficking	There is a significant emotional and physical toll on victims of human trafficking and this extends to their families and communities as well. This can cause long-term impacts on communities that are affected and has an overall negative impact on our culture.
Pandemic	The extent of a pandemic impacting the county is difficult to estimate. It could result in thousands of deaths and extreme disruption of commerce and everyday life.
Terror Threat	Although there is a low probability of one these events, if one were to take place, the magnitude of the event could range on the scale of critical damage with many fatalities and injuries to the population.

PRIORITY RISK INDEX RESULTS

In order to draw some meaningful planning conclusions on hazard risk for Lafayette County, the results of the hazard profiling process were used to generate countywide hazard classifications according to a "Priority Risk Index" (PRI). More information on the PRI and how it was calculated can be found in Section 5.

Table D.27 summarizes the degree of risk assigned to each category for all initially identified hazards based on the application of the PRI. Assigned risk levels were based on the detailed hazard profiles developed for this subsection, as well as input from the Regional Hazard Mitigation Council. The results were then used in calculating PRI values and making final determinations for the risk assessment.

Table D.27: SUMMARY OF PRI RESULTS FOR LAFAYETTE COUNTY

Hazard	Category/Degree of Risk					
	Probability	Impact	Spatial Extent	Warning Time	Duration	PRI Score
Flood-related Hazards						
Flood	Likely	Limited	Moderate	6 to 12 hours	Less than 24 hours	**2.6**
Erosion	Likely	Minor	Moderate	More than 24 hours	More than 1 week	**2.3**
Dam Failure and Levee Failure	Unlikely	Critical	Small	Less than 6 hours	Less than 6 hours	**2.1**
Winter Storm and Freeze	Likely	Limited	Moderate	More than 24 hours	Less than 1 week	**2.5**
Fire-related Hazards						
Drought / Heat Wave	Likely	Minor	Large	More than 24 hours	More than 1 week	**2.5**
Wildfire	Highly Likely	Minor	Small	Less than 6 hours	Less than 1 week	**2.6**
Geologic Hazards						
Earthquake	Possible	Catastrophic	Large	Less than 6 hours	Less than 6 hours	**3.1**
Expansive Soils	Likely	Minor	Small	More than 24 hours	More than 1 week	**2.1**
Landslide	Unlikely	Minor	Small	Less than 6 hours	Less than 6 hours	**1.5**
Land Subsidence / Sinkhole	Possible	Minor	Small	Less than 6 hours	More than 1 week	**2.1**
Wind-related Hazards						
Hurricane and Tropical Storm	Likely	Limited	Large	More than 24 hours	Less than 24 hours	**2.6**
Thunderstorm Wind / High Wind	Highly Likely	Critical	Moderate	6 to 12 hours	Less than 6 hours	**3.1**
Hailstorm	Highly Likely	Minor	Moderate	6 to 12 hours	Less than 6 hours	**2.5**
Lightning	Highly Likely	Limited	Small	6 to 12 hours	Less than 6 hours	**2.6**
Tornado	Likely	Catastrophic	Small	Less than 6 hours	Less than 6 hours	**3.0**
Other Hazards						
Hazardous Materials Incident	Likely	Critical	Small	Less than 6 hours	Less than 24 hours	**2.8**
Pipelines	Possible	Critical	Small	Less than 6 hours	Less than 24 hours	**2.5**
Water Supply / System Failure	Possible	Limited	Moderate	Less than 6 hours	Less than 24 hours	**2.4**
Active Shooter	Possible	Critical	Small	Less than 6 hours	Less than 24 hours	**2.5**
Civil Unrest	Possible	Minor	Small	Less than 6 hours	Less than 24 hours	**1.9**
Cyberterrorism	Possible	Limited	Small	Less than 6 hours	More than 1 week	**2.4**
Human Trafficking	Likely	Limited	Negligible	Less than 6 hours	Less than 24 hours	**2.3**
Pandemic	Unlikely	Limited	Large	More than 24 hours	More than 1 week	**2.2**
Terror Threat	Unlikely	Critical	Small	Less than 6 hours	Less than 1 week	**2.3**

D.2.24 Final Determinations on Hazard Risk

The conclusions drawn from the hazard profiling process for Lafayette County, including the PRI results and input from the Regional Hazard Mitigation Council, resulted in the classification of risk for each

identified hazard according to three categories: High Risk, Moderate Risk, and Low Risk (**Table D.28**). For purposes of these classifications, risk is expressed in relative terms according to the estimated impact that a hazard will have on human life and property throughout all of Lafayette County. A more quantitative analysis to estimate potential dollar losses for each hazard has been performed separately, and is described in Section 6: *Vulnerability Assessment* and below in Section D.3. It should be noted that although some hazards are classified below as posing low risk, their occurrence of varying or unprecedented magnitudes is still possible in some cases and their assigned classification will continue to be evaluated during future plan updates.

Table D.28: CONCLUSIONS ON HAZARD RISK FOR LAFAYETTE COUNTY

HIGH RISK	Earthquake Thunderstorm Wind / High Wind Tornado Hazardous Materials Incident
MODERATE RISK	Flood Wildfire Lightning Hurricane / Tropical Storm Winter Storm and Freeze Hailstorm Pipelines Active Shooter Drought / Heat Wave Cyberterrorism Water Supply / System Failure
LOW RISK	Hurricane and Tropical Storm Erosion Terror Threat Human Trafficking Pandemic Expansive Soils Land Subsidence Dam and Levee Failure Civil Unrest Landslide

D.3 LAFAYETTE COUNTY VULNERABILITY ASSESSMENT

This subsection identifies and quantifies the vulnerability of Lafayette County to the significant hazards previously identified. This includes identifying and characterizing an inventory of assets in the county and assessing the potential impact and expected amount of damages caused to these assets by each identified hazard event. More information on the methodology and data sources used to conduct this assessment can be found in Section 6: *Vulnerability Assessment*.

D.3.1 Asset Inventory

Table D.29 lists the fire stations, police stations, emergency operations centers (EOCs), hospitals, schools, government buildings, and other facilities located in Lafayette County according to Hazus-MH Version 2.2.

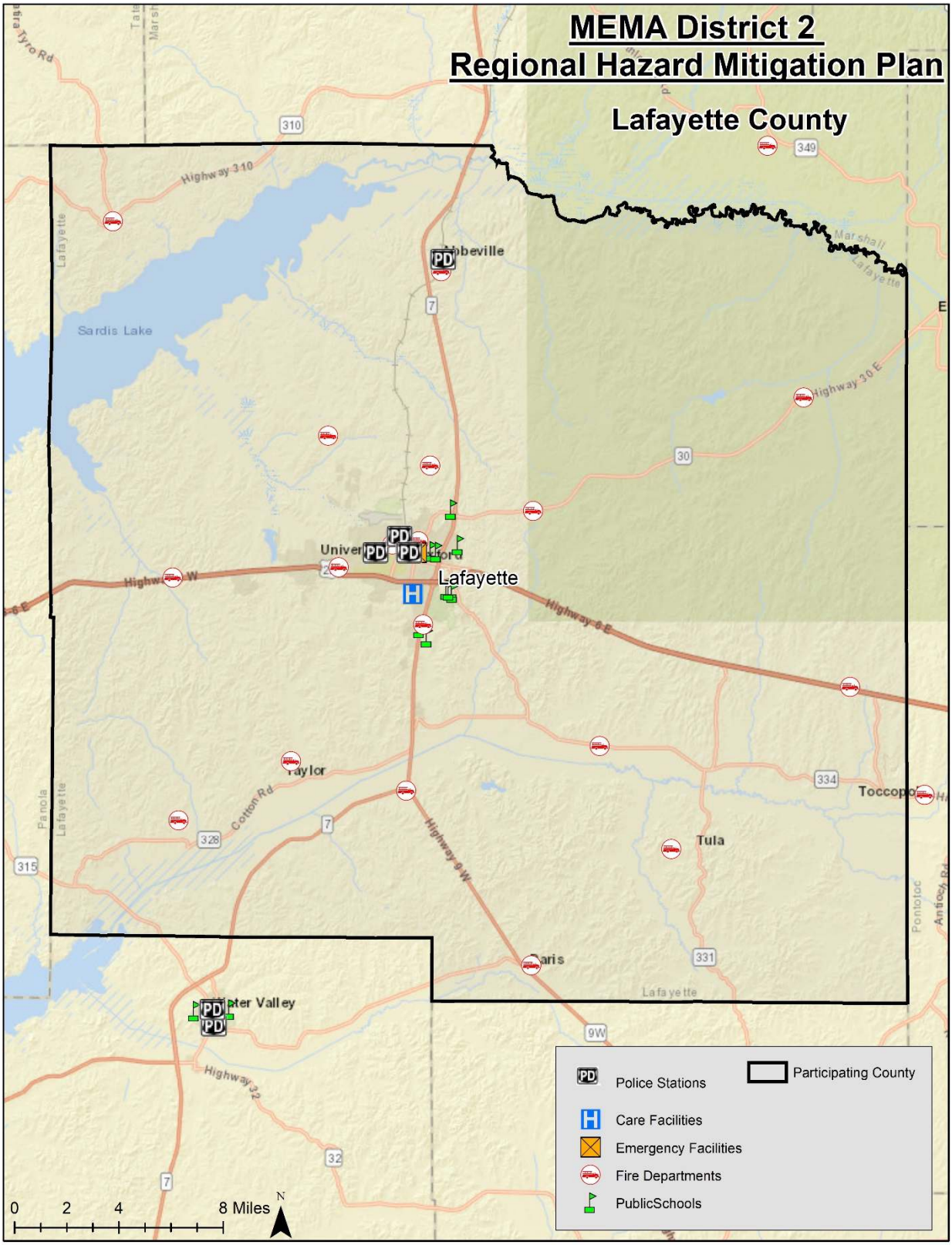
In addition, **Figure D.15** shows the locations of critical facilities in Lafayette County. The table at the end of this subsection, shows a complete list of the critical facilities by name, as well as the hazards that affect each facility. As noted previously, this list is not all-inclusive and only includes information provided through Hazus.

Table D.29: CRITICAL FACILITY INVENTORY IN LAFAYETTE COUNTY

Location	Fire Stations	Police Stations	Hospitals	EOC	Schools
Abbeville	1	1	0	0	0
Oxford	14	2	1	1	17
Taylor	1	0	0	0	0
Unincorporated Area	2	1	0	0	1
ASSET VALUATION	**$38,759,900**	**$8,613,311**	**$2,273,847**	**$2,153,327**	**$491,314,439**
LAFAYETTE COUNTY TOTAL	**18**	**2**	**1**	**1**	**18**

Source: Hazus-MH 2.2

Figure D.15: CRITICAL FACILITY LOCATIONS IN LAFAYETTE COUNTY



Source: Hazus-MH 2.2

D.3.2 Social Vulnerability

In addition to identifying those assets potentially at risk to identified hazards, it is important to identify and assess those particular segments of the resident population in Lafayette County that are potentially at risk to these hazards.

The table below lists the population by jurisdiction according to U.S. Census 2019 population estimates. The total population in Lafayette County according to Census data is 53,590 persons. Additional population estimates are presented above in Section D.1.

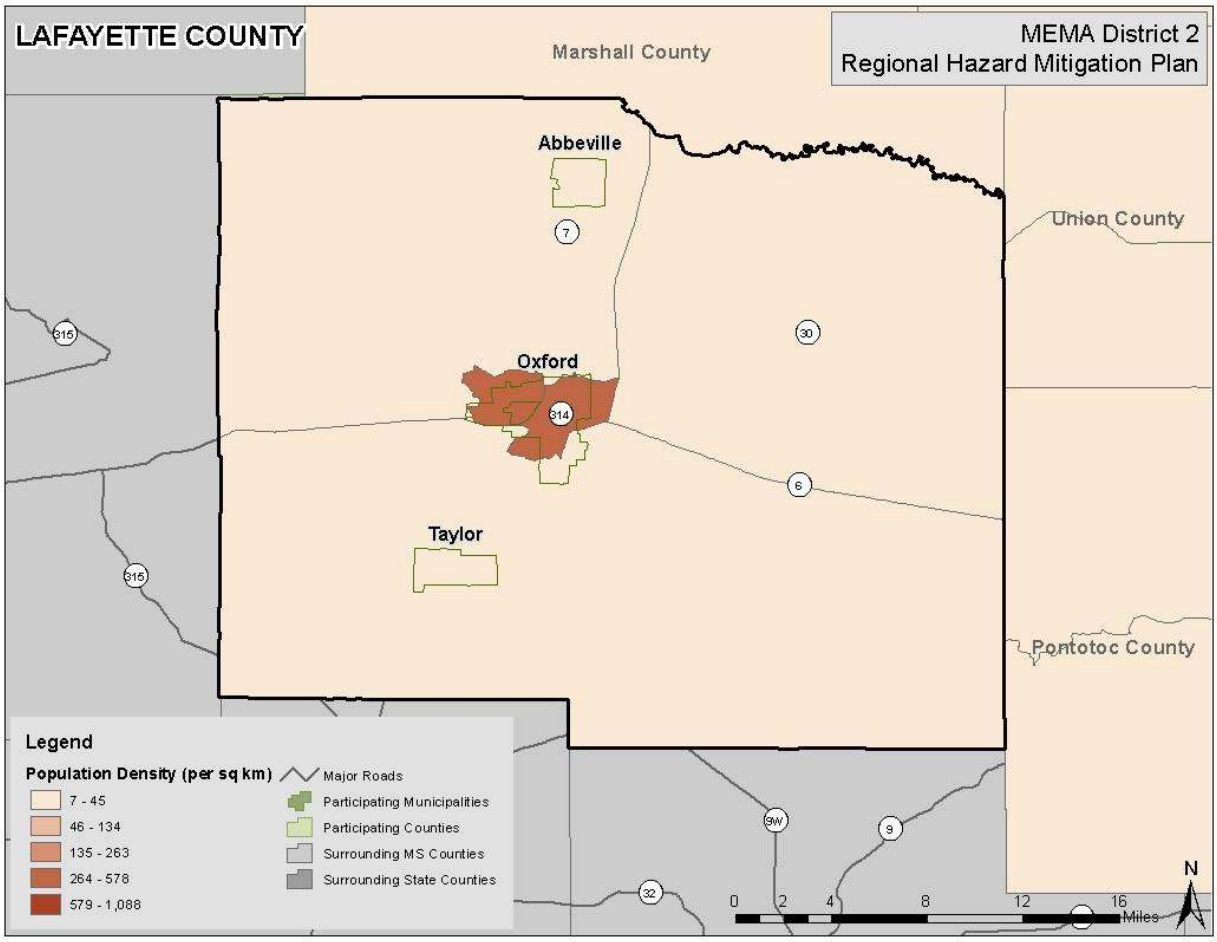
Table D.30: TOTAL POPULATION IN LAFAYETTE COUNTY

Location	Total 2019 Population
Abbeville	407
Oxford	26,962
Taylor	282
Unincorporated Area	25,939
LAFAYETTE COUNTY TOTAL	**53,590**

Source: United States Census – American Community Survey 2019

In addition, **Figure D.16** illustrates the population density per square kilometer by census tract as it was reported by the U.S. Census Bureau in 2019.

Figure D.16: POPULATION DENSITY IN LAFAYETTE COUNTY



Source: United States Census Bureau, 2010

D.3.3 Development Trends and Changes in Vulnerability

Since the previous county hazard mitigation plan was approved (in 2015), Lafayette County has experienced some growth and development. The following table shows the number of building units constructed since 2010 according to the U.S. Census American Community Survey.

Table D.31: BUILDING COUNTS FOR LAFAYETTE COUNTY

Jurisdiction	Total Housing Units (2019)	Units Built 2014 or later	% Building Stock Built Post-2014
Abbeville	164	2	1.2%
Oxford	13,331	904	6.8%
Taylor	147	10	6.8%
Unincorporated Area	11,624	431	3.7%
LAFAYETTE COUNTY TOTAL	**25,266**	**1,347**	**5.3%**

Source: United States Census Bureau
**The City of Oxford provided more detailed construction data which was obtained from its Building Department.*

The table below shows population growth estimates for the county from 2015 to 2019 based on the U.S. Census Annual Estimates of Resident Population.

Table D.32: POPULATION GROWTH FOR LAFAYETTE COUNTY

Jurisdiction	Population Estimates (as of July 1)					% Change 2015-2019
	2015	2016	2017	2018	2019	
Abbeville	428	423	427	421	423	-1.2%
Oxford	25,532	26,371	27,058	27,685	28,122	9.2%
Taylor	342	364	387	417	444	23.0%
Unincorporated Area	26,434	26,318	22,544	23,470	23,941	-10.4%
LAFAYETTE COUNTYTOTAL	**52,736**	**53,476**	**50,416**	**51,993**	**52,930**	**0.4%**

Source: United States Census Bureau

Based on the data above, there has been a low rate of residential development but moderate population growth in the county since 2015. However, the Town of Taylor and City of Oxford has experienced a higher rate of development compared to the rest of the county, resulting in an increased number of structures that are vulnerable to the potential impacts of the identified hazards. Additionally, since the population has increased across the county, there are now greater numbers of people exposed to the identified hazards. Therefore, development and population growth have impacted the county's vulnerability since the previous local hazard mitigation plan was approved and there has been an increase in the overall vulnerability.

It is also important to note that as development increases in the future, greater populations and more structures and infrastructure will be exposed to potential hazards if development occurs in the floodplains, moderate landside susceptibility areas, high wildfire risk areas, or primary and secondary TRI site buffers.

D.3.4 Vulnerability Assessment Results

As noted in Section 6: *Vulnerability Assessment*, only hazards with a specific geographic boundary, available modeling tool, or sufficient historical data allow for further analysis. Those results, specific to Lafayette County, are presented here. All other hazards are assumed to impact the entire planning region (drought / heat wave; thunderstorm—wind, hail, lightning; tornado; and winter storm and freeze) or, due to lack of data, analysis would not lead to credible results (dam and levee failure, erosion, landslide / land

subsidence, pipelines, water supply / system failure, active shooter, civil unrest, cyberterrorism, and human trafficking).

The hazards to be further analyzed in this subsection include: flood, wildfire, earthquake, hurricane and tropical storm winds, and hazardous materials incident.

The annualized loss estimate for all hazards is presented near the end of this subsection**.**

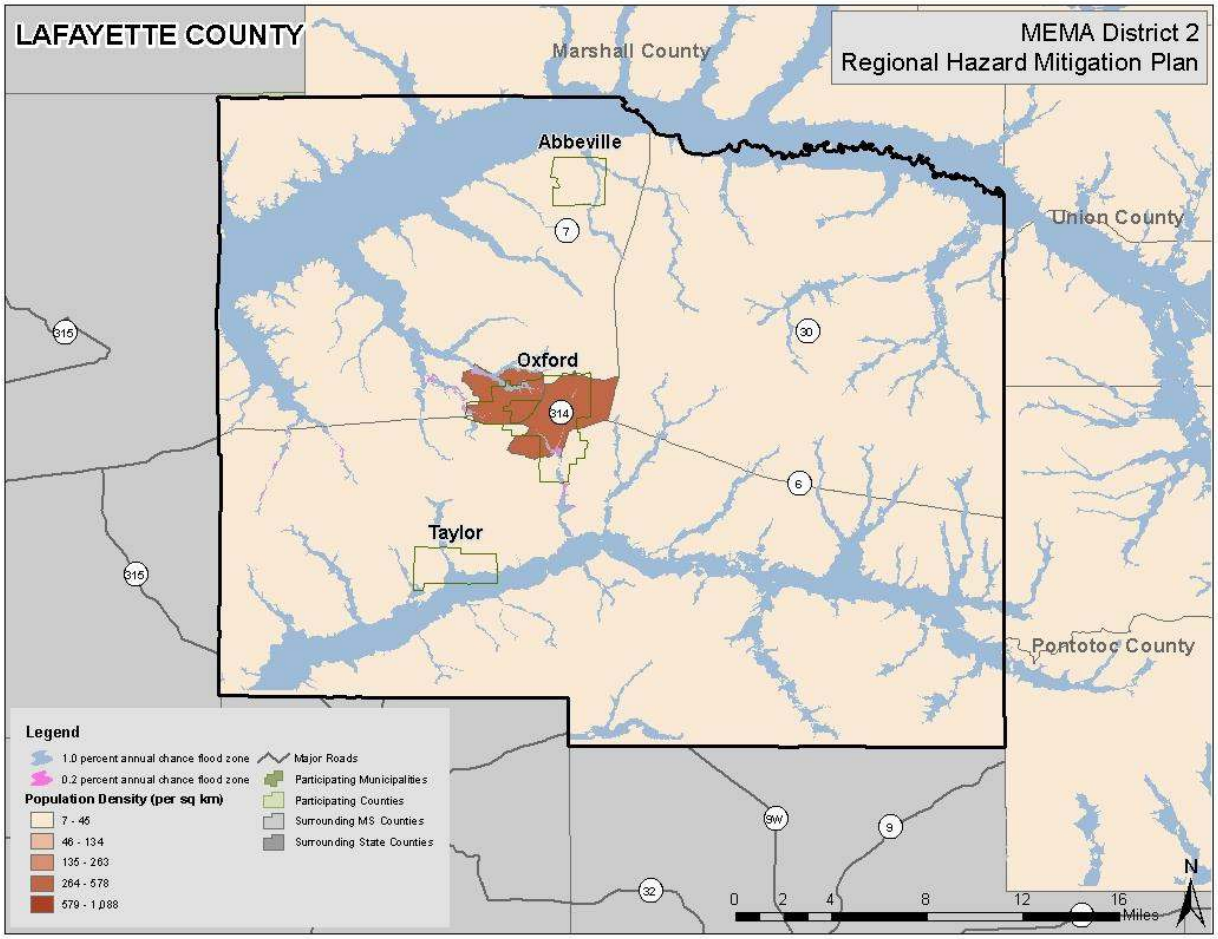
FLOOD

Historical evidence indicates that Lafayette County is susceptible to flood events. A total of 23 flood events have been reported by the National Centers for Environmental Information resulting in $1.2 million in property damage. On an annualized level, these damages amounted to $71,958 for Lafayette County.

Social Vulnerability

Figure D.17 is presented to gain a better understanding of at-risk population by evaluating census tract level population data against mapped floodplains. There are areas of concern in the population center around the City of Oxford. Indeed, nearly every incorporated municipality is potentially at risk of being impacted by flooding in some areas of its jurisdiction. Therefore, further investigation in these areas may be warranted. This data remains unchanged since the last plan update.

Figure D.17: POPULATION DENSITY NEAR FLOODPLAINS



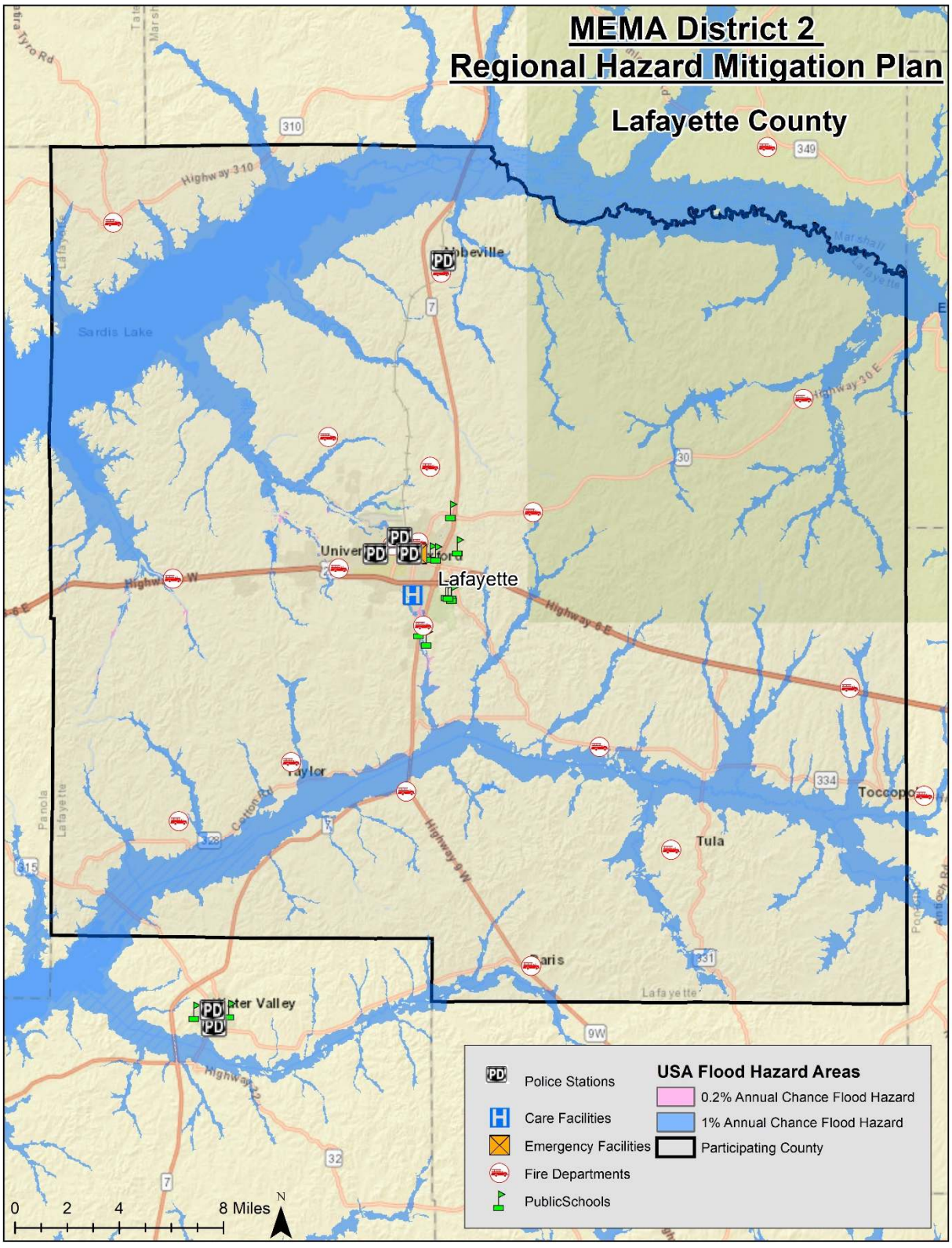
Source: Federal Emergency Management Agency DFIRM, United States Census 2010

Critical Facilities

The following figure shows critical facilities in relation to Special Flood Hazard Areas. (Please note, as previously indicated, this analysis does not consider building elevation, which may negate risk.) These facilities are both schools located in the 1.0 percent annual chance flood zone. A list of specific critical facilities and their associated risk can be found at the end of this subsection.

In conclusion, a flood has the potential to impact many existing and future buildings, facilities, and populations in Lafayette County, though some areas are at a higher risk than others. All types of structures in a floodplain are at-risk, though elevated structures will have a reduced risk. Such site-specific vulnerability determinations are outside the scope of this assessment but will be considered during future plan updates. Furthermore, areas subject to repetitive flooding should be analyzed for potential mitigation actions.

Figure D.18: CRITICAL FACILITIES ANALYSIS - SFHA



Source: Federal Emergency Management Agency DFIRM

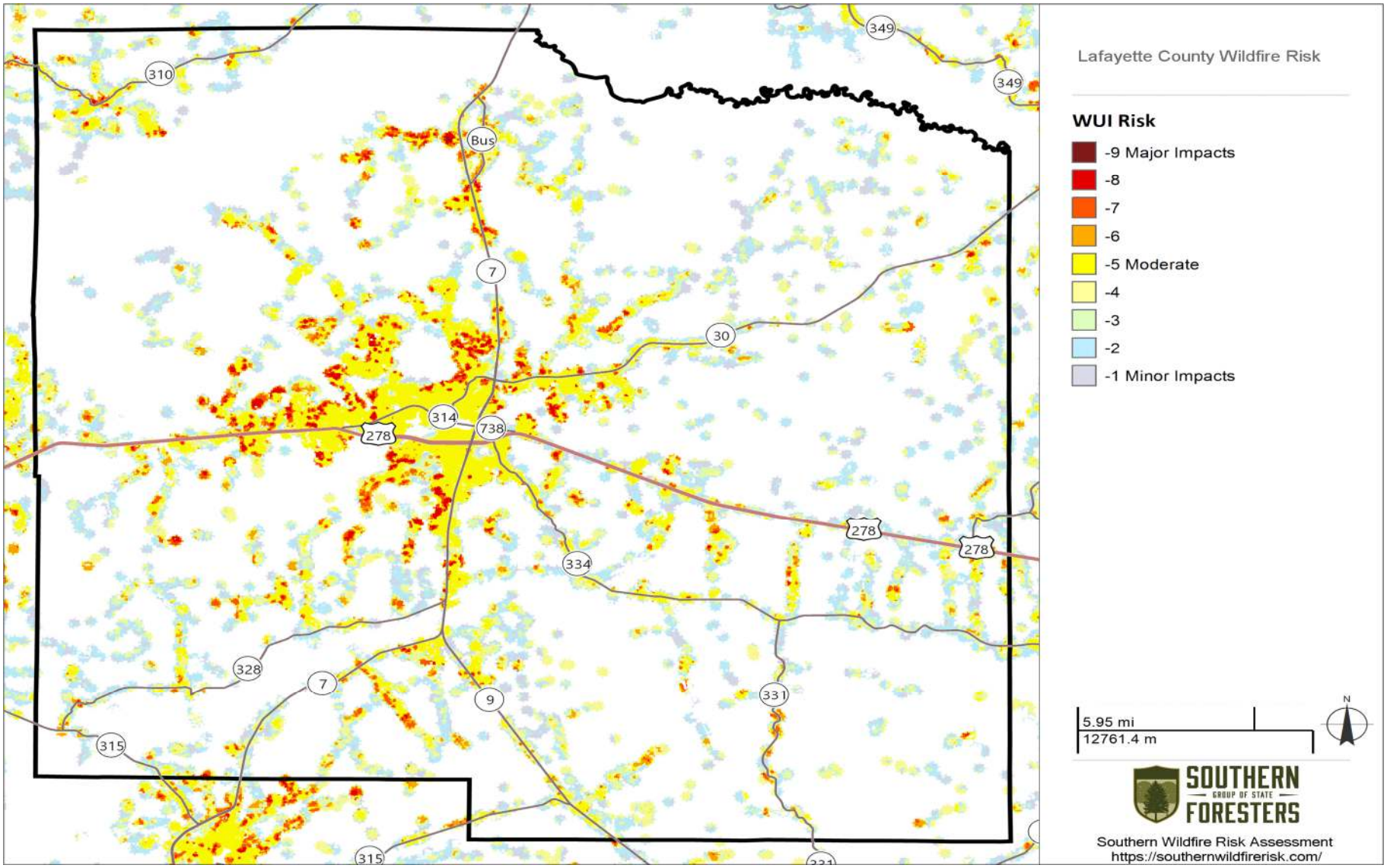
WILDFIRE

Although historical evidence indicates that Lafayette County is susceptible to wildfire events, there are few reports of damage. Therefore, it is difficult to calculate a reliable annualized loss figure. Annualized loss is considered negligible though it should be noted that a single event could result in significant damages throughout the county.

To estimate exposure to wildfire, building data was obtained from Hazus-MH 2.2 which includes information that has been aggregated at the Census block level and which has been deemed useful for analyzing wildfire vulnerability. However, it should be noted that the accuracy of Hazus data is somewhat lower than that of parcel data. For the critical facility analysis, areas of concern were intersected with critical facility locations.

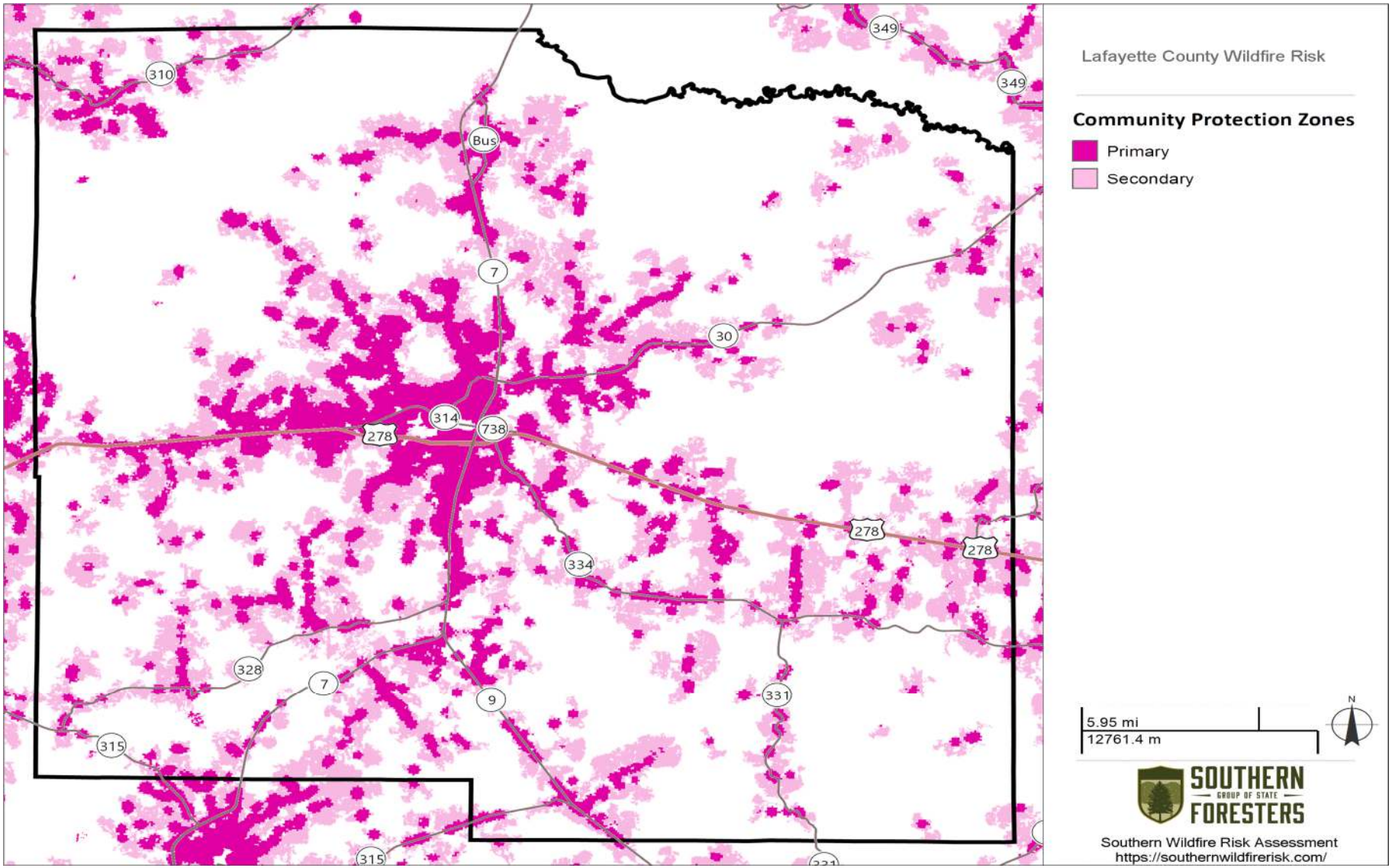
Figure D.19 shows the Wildland Urban Interface Risk Index (WUIRI) data, which is a data layer that shows a rating of the potential impact of a wildfire on people and their homes. The key input, Wildland Urban Interface (WUI), reflects housing density (houses per acre) consistent with Federal Register National standards. The location of people living in the WUI and rural areas is key information for defining potential wildfire impacts to people and homes. Initially provided as raster data, it was converted to a polygon to allow for analysis. The Wildland Urban Interface Risk Index data ranges from 0 to -9 with lower values being most severe (as noted previously, this is only a measure of relative risk). **Figure D.20** Community Protection Zones (CPZ) represent those areas considered highest priority for mitigation planning activities. CPZs are based on an analysis of the *Where People Live* housing density data and surrounding fire behavior potential. Rate of Spread data is used to determine the areas of concern around populated areas that are within a 2-hour fire spread distance. This is referred to as the Secondary CPZ. **Figure D.21** shows critical facility locations in relation to historical wildfire burns.

Figure D.19: WUI RISK INDEX AREAS IN LAFAYETTE COUNTY



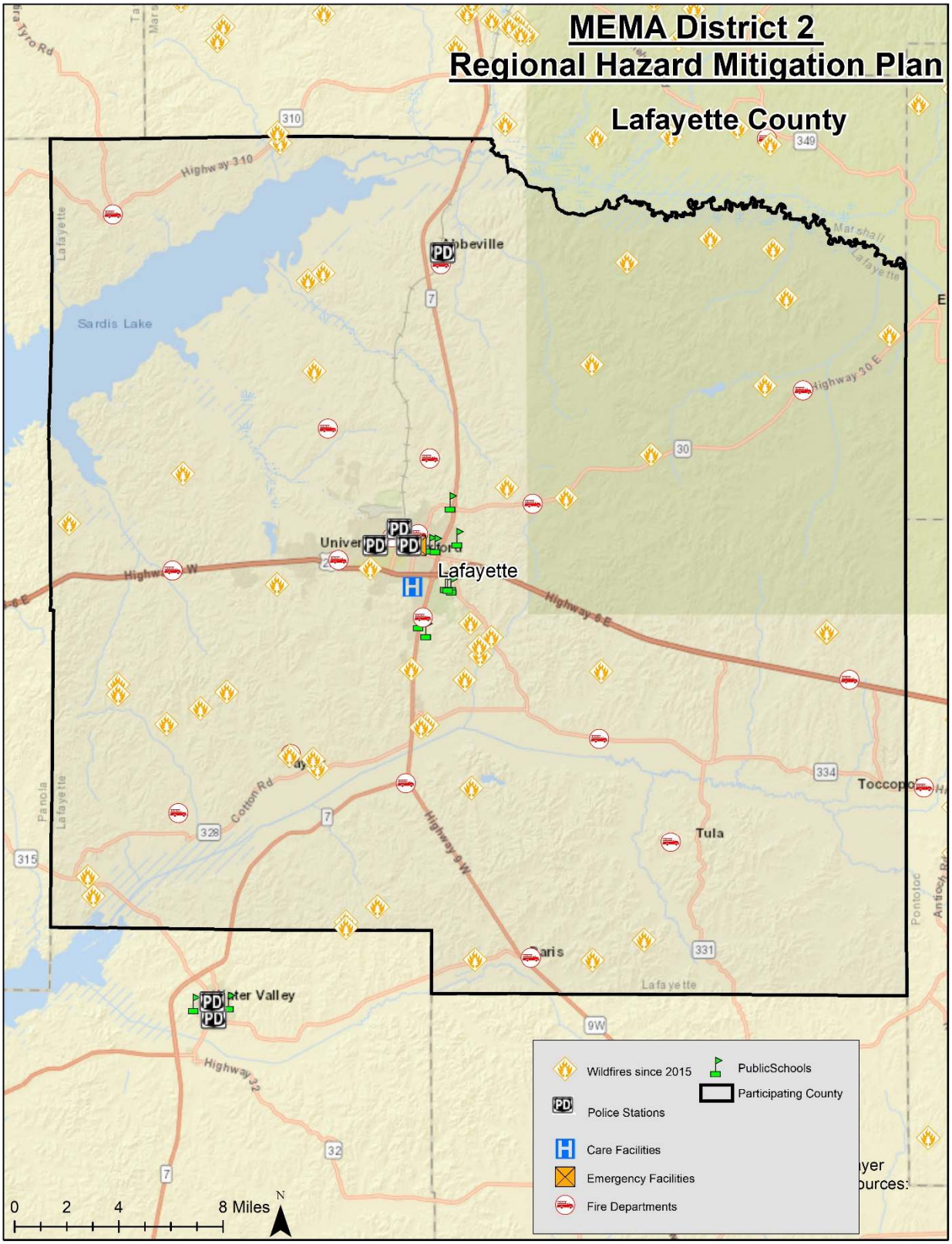
Source: Southern Wildfire Risk Assessment Data

Figure D.20: COMMUNITY PROTECTION ZONES



Source: Southern Wildfire Risk Assessment Data

Figure D.21: CRITICAL FACILITIES ANALYSIS - WILDFIRE



Source: Southern Wildfire Risk Assessment Data

Social Vulnerability

Given some level of susceptibility across the entire county, it is assumed that the total population is at risk to the wildfire hazard. Determining the exact number of people in certain wildfire zones is difficult with existing data and could be misleading. In particular, the expansion of residential development from urban centers out into rural landscapes, increases the potential for wildland fire threat to public safety and the potential for damage to forest resources and dependent industries. This increase in population across the region will impact counties and communities that are located within the Wildland Urban Interface (WUI). According To the Southern Group of State Foresters, The Wildland Urban Interface is described as the area where structures and other human improvements meet and intermingle with undeveloped wildland or vegetative fuels. Population growth within the WUI substantially increases the risk from wildfire. For the Lafayette County Wildfire Risk project area, it is estimated that 46,030 people or 97.2 % percent of the total project area population (47,341) live within the WUI.[15]

Critical Facilities

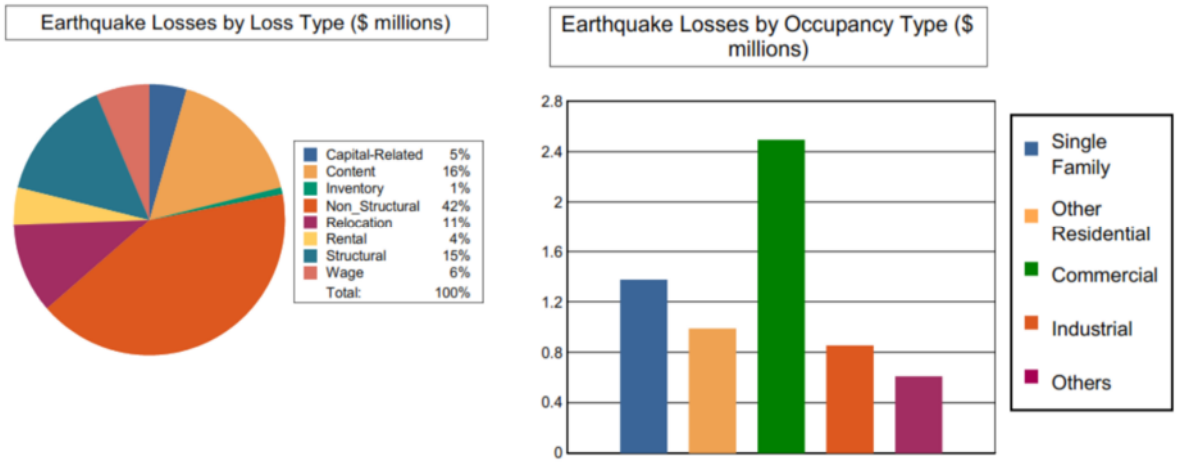
A list of specific critical facilities and their associated risk can be found at the end of this subsubsection.

In conclusion, a wildfire event has the potential to impact many existing and future buildings, critical facilities, and populations in Lafayette County.

EARTHQUAKE

A probabilistic earthquake model was performed for the MEMA District 2 Region. As the Hazus-MH model suggests below, and historical occurrences confirm, any earthquake activity in the area is likely to inflict minor damage to the county. Hazus-MH 2.2 estimates the total building-related losses to be $6.32 Million; 26 % of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 37 % of the total loss. See figure below.

Figure D.22: MEMA D2 EARTHQUAKE LOSSES BY TYPE



For the earthquake hazard vulnerability assessment, a probabilistic scenario was created to estimate the average annualized loss for the region. The results of the analysis are generated at the Census Tract level within Hazus-MH and then aggregated to the region level. Since the scenario is annualized, no building counts are provided. Losses reported included losses due to structure failure, building loss, contents

[15] Southern Wildfire Risk Assessment (SWRA) August 2021

damage, and inventory loss.

Social Vulnerability

It can be assumed that all existing future populations are at risk to the earthquake hazard. Hazus estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 450 households in the region to be displaced due to the earthquake. Of these, 352 people (out of a total region population of 360,784) will seek temporary shelter in public shelters.[16] The total economic loss estimated for the earthquake is $840.85 Million, which includes building and lifeline related losses based on the region's available inventory.

Critical Facilities

The Hazus-MH probabilistic analysis indicated that no critical facilities would sustain measurable damage in an earthquake event. However, all critical facilities should be considered at-risk to minor damage, should an event occur. Before the earthquake, the region had 1,522 hospital beds available for use. On the day of the earthquake, the model estimates that only 907 hospital beds (60.00%) are available for use by patients already in the hospital and those injured by the earthquake. After one week, 79.00% of the beds will be back in service. By 30 days, 94.00% will be operational.

In conclusion, an earthquake has the potential to impact all existing and future buildings, facilities, and populations in Lafayette County. The Hazus-MH scenario indicates that minimal to moderate damage is expected from an earthquake occurrence. While Lafayette County may not experience a large earthquake (the greatest on record is a magnitude VI MMI), localized damage is possible with an occurrence. A list of specific critical facilities and their associated risk can be found at the end of this subsection.

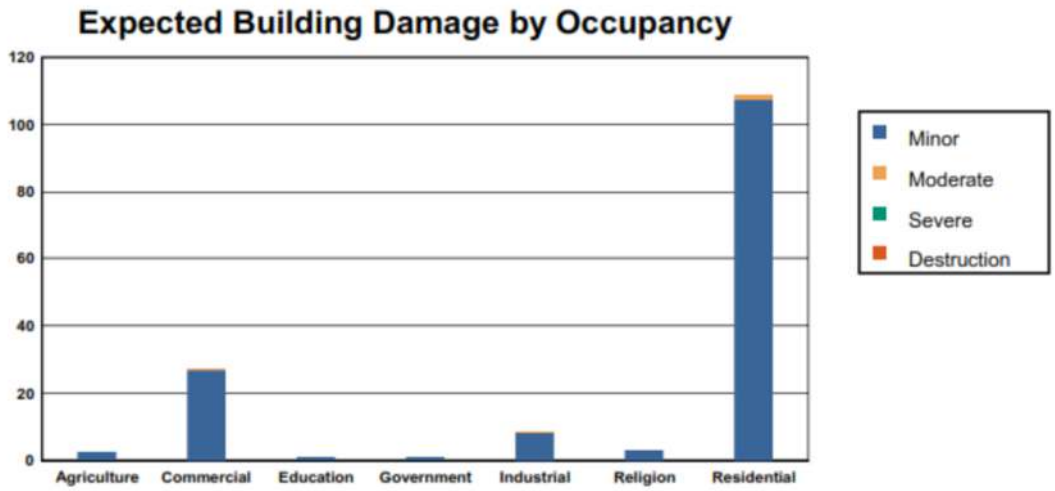
HURRICANE AND TROPICAL STORM

Historical evidence indicates that Lafayette County has some risk to the hurricane and tropical storm hazard. There has been one disaster declaration due to hurricanes (Hurricane Katrina). Several tracks have come near or traversed through the county, as shown and discussed in Section D.2.9.

A probabilistic 100-year hurricane model was performed for the MEMA District 2. Hazus estimates that about 2 buildings will be at least moderately damaged. This is over 0% of the total number of buildings in the region. There are an estimated 0 buildings that will be completely destroyed. The figure below summarizes the expected damage by general occupancy for the buildings in the region.

[16] HAZUS-MH utilizes 2010 Census Data

Figure D.23: MEMA D2 100-YEAR HURRICANE



Hurricanes and tropical storms can cause damage through numerous additional hazards such as flooding, erosion, tornadoes, and high winds, thus it is difficult to estimate total potential losses from these cumulative effects. The current Hazus-MH hurricane model only analyzes hurricane winds and is not capable of modeling and estimating cumulative losses from all hazards associated with hurricanes; therefore, only hurricane winds are analyzed in this section. It can be assumed that all existing and future buildings and populations are at risk to the hurricane and tropical storm hazard.

The total property damage losses were $14 million dollars. 0% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 98% of the total loss.

Social Vulnerability

Hazus estimates the number of households that are expected to be displaced from their homes due to the hurricane and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 0 households to be displaced due to the hurricane. Of these, 0 people (out of a total population of 360,784) will seek temporary shelter in public shelters.

Critical Facilities

Given equal vulnerability across Lafayette County, all critical facilities are considered to be at risk. Some buildings may perform better than others in the face of such an event due to construction and age, among other factors. Determining individual building response is beyond the scope of this plan. However, this plan will consider mitigation action for especially vulnerable structures and/or critical facilities to mitigate against the effects of the hurricane hazard. A list of specific critical facilities can be found at the end of this subsection.

In conclusion, a hurricane event has the potential to impact many existing and future buildings, critical facilities, and populations in Lafayette County.

HAZARDOUS MATERIALS INCIDENT

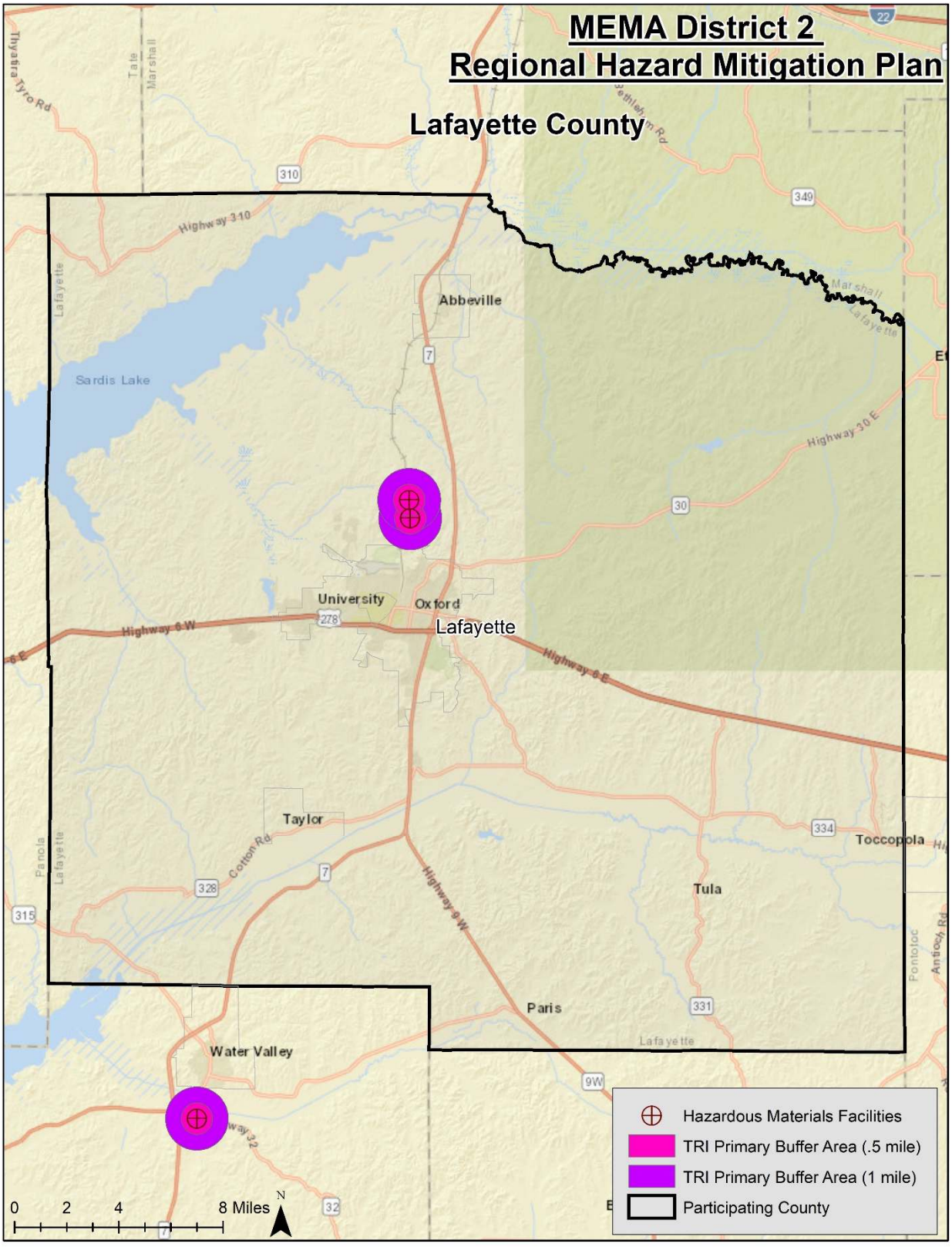
Although historical evidence indicates that Lafayette County is susceptible to hazardous materials events, there are no reports of damage. Therefore, it is difficult to calculate a reliable annualized loss figure. It is

assumed that while one major event could result in significant losses, annualizing structural losses over a long period of time would most likely yield a negligible annualized loss estimate for Lafayette County.

Most hazardous materials incidents that occur are contained and suppressed before destroying any property or threatening lives. However, they can have a significant negative impact. Such events can cause multiple deaths, completely shut down facilities for 30 days or more, and cause more than 50 percent of affected properties to be destroyed or suffer major damage. In a hazardous materials incident, solid, liquid, and/or gaseous contaminants may be released from fixed or mobile containers. Weather conditions will directly affect how the hazard develops. Certain chemicals may travel through the air or water, affecting a much larger area than the point of the incidence itself. Non-compliance with fire and building codes, as well as failure to maintain existing fire and containment features, can substantially increase the damage from a hazardous materials release. The duration of a hazardous materials incident can range from hours to days. Warning time is minimal to none.

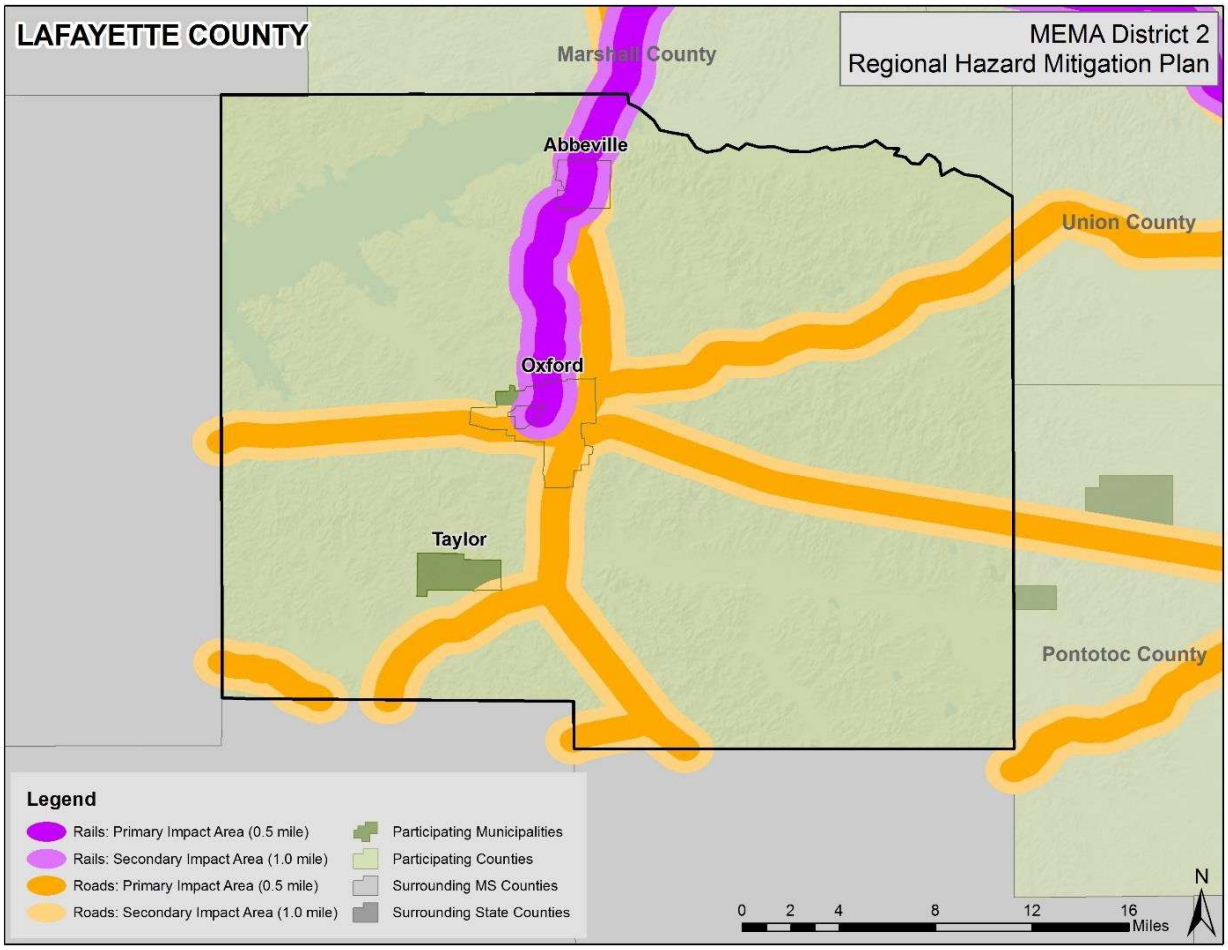
In order to conduct the vulnerability assessment for this hazard, GIS intersection analysis was used for fixed and mobile areas and building footprints/parcels.[33] In both scenarios, two sizes of buffers—0.5-mile and 1.0-mile—were used. These areas are assumed to represent the different levels of effect: immediate (primary) and secondary. Primary and secondary impact zones were selected based on guidance from the PHMSA Emergency Response Guidebook. For the fixed site analysis, geo-referenced TRI sites in the region, along with buffers, were used for analysis as shown in **Figure D.24.** For the mobile analysis, the major roads (Interstate highway, U.S. highway, and State highway) and railroads, where hazardous materials are primarily transported that could adversely impact people and buildings, were used for the GIS buffer analysis. **Figure D.25** shows the areas used for mobile toxic release buffer analysis.

Figure D.24: TRI SITES WITH BUFFERS IN LAFAYETTE COUNTY



Source: Environmental Protection Agency

Figure D.25: MOBILE HAZMAT BUFFERS IN LAFAYETTE COUNTY



Social Vulnerability

Given high susceptibility across the entire county, it is assumed that the total population is at risk to a hazardous materials incident. It should be noted that areas of population concentration may be at an elevated risk due to a greater burden to evacuate population quickly.

Critical Facilities

Fixed Site Analysis:

The critical facility analysis for fixed TRI sites revealed that there are sixteen facilities located in a HAZMAT risk zone. This includes one EOC, two fire stations, three police stations, four schools, five government buildings, and one other. Only five facilities are located within the primary impact zone. A list of specific critical facilities and their associated risk can be found at the end of this subsection.

Mobile Analysis:

It should be presumed that any facility located near a public roadway or rail line is susceptible to a potential HAZMAT event. A list of specific critical facilities and their associated risk can be found at the end of this subsection.

For the rail line buffer areas, there are a total of twenty critical facilities located in primary and secondary buffer areas, including one EOC, three fire stations, three police stations, six schools, six government buildings, and one other. Of these, twelve facilities are located within the primary buffer area.

A list of specific critical facilities and their associated risk can be found at the end of this subsection.

In conclusion, a hazardous material incident has the potential to impact many existing and future buildings, critical facilities, and populations in Lafayette County. Those areas in a primary buffer are at the highest risk, though all areas carry some vulnerability due to variations in conditions that could alter the impact area (i.e., direction and speed of wind, volume of release, etc.). Further, incidents from neighboring counties could also impact the county and participating jurisdictions.

CONCLUSIONS ON HAZARD VULNERABILITY

The following table presents a summary of annualized loss for each hazard in Lafayette County. Due to the reporting of hazard damages primarily at the county level, it was difficult to determine an accurate annualized loss estimate for each municipality. Therefore, an annualized loss was determined through the damage reported through historical occurrences at the county level. These values should be used as an additional planning tool or measure risk for determining hazard mitigation strategies throughout the county.

Table D.33: ANNUALIZEDLOSS FOR LAFAYETTE COUNTY

Event	Lafayette County
Flood-related Hazards	
Flood	$71,958
Erosion	Negligible
Dam and Levee Failure	Negligible
Winter Storm & Freeze	$883,357
Fire-related Hazards	
Drought / Heat Wave	Negligible
Wildfire	Negligible
Geologic Hazards	
Earthquake	$481,000
Expansive Soils	Negligible
Landslide	Negligible
Land Subsidence / Sinkhole	Negligible
Wind-related Hazards	
Hurricane & Tropical Storm	$108,000
Thunderstorm / High Wind	$33,963
Hail	$1,796
Lightning	$40,987
Tornado	$1,610,085
Other Hazards	
HAZMAT Incident	Negligible
Pipelines	Negligible
Water Supply / System Failure	Negligible
Active Shooter	Negligible
Civil Unrest	Negligible
Cyberterrorism	Negligible
Human Trafficking	Negligible
Pandemic	Negligible
Terror Threat	Negligible

**In this table, the term "Negligible" is used to indicate that no records of dollar losses for the particular hazard were recorded. This could be the case either because there were no events that caused dollar damage or because documentation of that particular type of event is not well kept. Annualized losses were calculated based on the total number of years of reporting and damage totals.*

As noted previously, all existing and future buildings and populations (including critical facilities) are vulnerable to atmospheric hazards including drought / heat wave, hurricane and tropical storm, thunderstorm (wind, hail, lightning), tornado, and winter storm and freeze. In addition, all buildings and populations are vulnerable to all of the man-made and technological hazards identified above. Some buildings may be more vulnerable to these hazards based on locations, construction, and building type. **Table D.46** shows the critical facilities vulnerable to additional hazards analyzed in this subsection. The table lists those assets that are determined to be exposed to each of the identified hazards (marked with an "**X**").

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Table D.34: AT-RISK CRITICAL FACILITIES IN LAFAYETTE COUNTY

		FLOOD-RELATED					FIRE-RELATED		GEOLOGIC					WIND-RELATED			OTHER													
FACILITY NAME	FACILITY TYPE	Flood – 100 yr	Flood – 500 yr	Erosion	Dam and Levee Failure[17]	Winter Storm and Freeze	Drought / Heat Wave	Wildfire	Earthquake	Expansive Soils	Landslide – Mod	Landslide – High	Land Subsidence / Sinkhole	Hurricane and Tropical Storm	Thunderstorm (wind, hail,	Tornado	Fixed HAZMAT – 0.5 mile	Fixed HAZMAT – 1.0 mile	Mobile HAZMAT – 0.5 mile (road)	Mobile HAZMAT – 1.0 mile (road)	Mobile HAZMAT – 0.5 mile (rail)	Mobile HAZMAT – 1.0 mile (rail)	Pipelines	Water Supply / System Failure	Active Shooter	Civil Unrest	Cyberterrorism	Human Trafficking	Pandemic	Terror Threat
Lafayette County																													
Oxford Emergency Operations Center	EOC			X	X	X	X	X	X	X			X	X	X	X	X	X			X	X	X	X	X	X	X	X	X
Central Station	Fire Station			X	X	X	X		X	X			X	X	X	X		X		X		X	X	X	X	X	X	X	X	X
Lafayette County Fire Department 16	Fire Station			X	X	X	X		X	X			X	X	X	X							X	X	X	X	X	X	X	X
Lafayette County Fire Department 9	Fire Station			X	X	X	X		X	X			X	X	X	X							X	X	X	X	X	X	X	X
Oxford Fire Station #1	Fire Station			X	X	X	X	X	X	X			X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X
Oxford Fire Station #3	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Oxford Fire Station #4	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Station #1	Fire Station			X	X	X	X		X	X			X	X	X	X							X	X	X	X	X	X	X	X
Station #11	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Station #12	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Station #14	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X

[17] As noted previously, these facilities could be at risk to dam failure if located in an inundation area. Data was not available to conduct such an analysis. There was no local knowledge of these facilities being at risk to dam failure. As additional data becomes available, more in-depth analysis will be conducted.

Station #15	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Station #2	Fire Station			X	X	X	X	X	X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Station #2 (Future)	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Station #3	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Station #4	Fire Station			X	X	X	X		X	X			X	X	X	X							X	X	X	X	X	X	X	X
Station #5	Fire Station			X	X	X	X		X	X			X	X	X	X							X	X	X	X	X	X	X	X
Station #6	Fire Station			X	X	X	X		X	X			X	X	X	X							X	X	X	X	X	X	X	X
Station #7	Fire Station			X	X	X	X		X	X			X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X
Baptist Memorial Hospital	Hospital			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Abbeville Police Department	Police Station																												
University Police and Campus Safety	Police Station																												
Lafayette County Sheriff's Dept. & Jail	Police Station			X	X	X	X		X	X			X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
Oxford City Police Dept	Police Station			X	X	X	X		X	X			X	X	X	X		X		X	X	X	X	X	X	X	X	X	X	X
Bramlett Elementary School	School			X	X	X	X		X	X			X	X	X	X			X	X		X	X	X	X	X	X	X	X	X
Della Davidson Elem	School			X	X	X	X	X	X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Lafayette County Elem	School			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Lafayette County High School	School			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Lafayette County Middle	School			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Northwest Mississippi Community College	School																												

ANNEX D: LAFAYETTE COUNTY

Oxf\Laf School Of Applied Tech	School	X		X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Oxford Elementary School	School			X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
Oxford High School	School			X	X	X	X		X	X			X	X	X	X			X	X		X	X	X	X	X	X	X	X	X
Oxford Intermediate School	School																													
Oxford Learning Center	School			X	X	X	X		X	X			X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X
Oxford Middle School	School			X	X	X	X		X	X			X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
Oxford University School	School			X	X	X	X		X	X			X	X	X	X				X			X	X	X	X	X	X	X	X
Regents School of Oxford	School																													
Scott Child Development Center	School			X	X	X	X		X	X			X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X
Stovall SPED Complex	School	X		X	X	X	X		X	X			X	X	X	X			X	X			X	X	X	X	X	X	X	X
University of Mississippi	School																													

In addition to the site-specific critical facilities listed above, Lafayette County also noted several rural water systems whose infrastructure is considered critical. This infrastructure runs in many locations throughout the county and would have significant impacts if affected by a hazard. Rural water systems are identified below.

Table D.35: CRITICAL RURAL WATER SYSTEMS IN LAFAYETTE COUNTY

Rural Water System
Harmontown Water Association
Hurricane Hills Water Association
Turner Springs Water Association
Town of Abbeville Water
Hurricane Creek Water Association
College Hill Water Association
Sardis Lake Water Association
Westover Water Association
Taylor Water Association
Tri-Lake Water Association
Anchor Water Association
O-Tuckalofa Water Association
Mt. Comfort Water Association
Yocona Water Association
Toccopola Water Association
Denmark Water Association
La. Spring Water Association
Mudd Creek Water Association
Sanders Water Association
Hopewell Water Association
Campbell Water Association
East Oxford Water Association
City of Oxford Water Association

D.4 LAFAYETTE COUNTY CAPABILITY ASSESSMENT

This subsection discusses the capability of Lafayette County to implement hazard mitigation activities. More information on the purpose and methodology used to conduct the assessment can be found in Section 7: *Capability Assessment*.

D.4.1 Planning and Regulatory Capability

The following table provides a summary of the relevant local plans, ordinances, and programs already in place or under development for Lafayette County. A checkmark (✓) indicates that the given item is currently in place and being implemented. An asterisk (*) indicates that the given item is currently being developed for future implementation. Each of these local plans, ordinances, and programs should be considered available mechanisms for incorporating the requirements of the MEMA District 2 Regional Hazard Mitigation Plan.

Table D.36: RELEVANT PLANS, ORDINANCES, AND PROGRAMS

Planning Tool/Regulatory Tool	Hazard Mitigation Plan	Comprehensive Land Use Plan	Floodplain Management Plan	Open Space Management Plan (Parks & Rec/Greenway Plan	Stormwater Management Plan/Ordinance	Natural Resource Protection Plan	Flood Response Plan	Emergency Operations Plan	Continuity of Operations Plan	Evacuation Plan	Disaster Recovery Plan	Capital Improvements Plan	Economic Development Plan	Historic Preservation Plan	Flood Damage Prevention Ordinance	Zoning Ordinance	Subdivision Ordinance	Unified Development Ordinance	Post-Disaster Redevelopment Ordinance	Building Code	Fire Code	National Flood Insurance Program (NFIP)	NFIP Community Rating System
LAFAYETTE COUNTY	✓	✓						✓					✓		✓		✓			✓		✓	
Abbeville	✓	✓		✓				✓	✓	*	*		✓	*	✓	*	*			*	*	✓	
Oxford	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Taylor	✓	✓						✓					✓		✓	✓	✓	✓		✓		✓	

A more detailed discussion on the county's planning and regulatory capabilities follows.

EMERGENCY MANAGEMENT

Hazard Mitigation Plan
Lafayette County has previously adopted a hazard mitigation plan. The Town of Abbeville, City of Oxford, and Town of Taylor were also included in this plan.

Emergency Operations Plan
Lafayette County maintains an emergency operations plan through its Emergency Management Agency. The Town of Abbeville, City of Oxford, and Town of Taylor are each covered by this plan.

GENERAL PLANNING

Comprehensive Land Use Plan
Lafayette County has adopted a county comprehensive plan. Additionally, the Town of Abbeville has adopted a municipal comprehensive plan, the City of Oxford has adopted a municipal comprehensive land use plan, and the Town of Taylor has adopted a municipal general development and preservation plan.

Zoning Ordinance
Lafayette County does not have a zoning ordinance in place. However, the City of Oxford and Town of Taylor include zoning regulations as part of their local development codes.

Subdivision Ordinance
Lafayette County has adopted as standalone subdivision ordinance while the City of Oxford and Town of Taylor include subdivision regulations as part of their local development codes.

Building Codes, Permitting, and Inspections
Lafayette County, the City of Oxford, and the Town of Taylor have adopted a building code.

FLOODPLAIN MANAGEMENT

The following table provides NFIP policy and claim information for each participating jurisdiction in Lafayette County.

Table D.37: NFIP POLICY AND CLAIM INFORMATION

Jurisdiction	Date Joined NFIP	Current Effective Map Date	NFIP Policies in Force	Insurance in Force	Closed Claims	Total Payments to Date
LAFAYETEE COUNTY†	12/08/06	11/26/10	103	$24,102,700	2	$13,160
Abbeville	11/26/10	11/26/10(M)	0	$0	0	$0
Oxford	09/29/78	11/26/10	159	$41,916,400	16	$200,687
Taylor	03/15/11	11/26/10(M)	2	$301,700	0	$0

†Includes unincorporated areas of county only
*Community does not participate in the NFIP
(M) – No Elevation Determined, All Zone A, C and X
Source: NFIP Community Status information as of 8/17/2015; NFIP claims and policy information as of 6/30/2015

Community Rating System
The City of Oxford participates in the Community Rating System (CRS) had has a Class 8 rating.

Flood Damage Prevention Ordinance
All communities participating in the NFIP are required to adopt a local flood damage prevention ordinance. Lafayette County, the Town of Abbeville, the City of Oxford, and the Town of Taylor all participate in the NFIP and have adopted flood damage prevention ordinances.

Open Space Management Plan
Although Lafayette County has not adopted an open space management plan, the Town of Abbeville has a municipal open space management plan in place.

Stormwater Management Plan
Although Lafayette County has not adopted a stormwater management plan, it includes some stormwater regulations in its local subdivision ordinance. The City of Oxford is the only jurisdiction in the county that has adopted a local stormwater management ordinance.

D.4.2 Administrative and Technical Capability

The following table provides a summary of the capability assessment results for Lafayette County with regard to relevant staff and personnel resources. A checkmark (✓) indicates the presence of a staff member(s) in that jurisdiction with the specified knowledge or skill.

Table D.38: RELEVANT STAFF / PERSONNEL RESOURCES

Staff / Personnel Resource	Planners with knowledge of land development/land management practices	Engineers or professionals trained in construction practices related to buildings and/or infrastructure	Planners or engineers with an understanding of natural and/or human-caused hazards	Emergency Manager	Floodplain Manager	Land Surveyors	Scientists familiar with the hazards of the community	Staff with education or expertise to assess the community' s vulnerability to hazards	Personnel skilled in GIS and/or Hazus	Resource development staff or grant writers
LAFAYETTE COUNTY		✓		✓	✓		✓	✓	✓	
Abbeville				✓	✓		✓		✓	
Oxford	✓	✓	✓	✓	✓		✓	✓	✓	✓
Taylor				✓	✓		✓		✓	

Credit for having a floodplain manager was given to those jurisdictions that have a flood damage prevention ordinance, and therefore an appointed floodplain administrator, regardless of whether the appointee was dedicated solely to floodplain management. Credit was given for having a scientist familiar with the hazards of the community if a jurisdiction has a Cooperative Extension Service or Soil and Water Conservation Department. Credit was also given for having staff with education or expertise to assess the community's vulnerability to hazards if a staff member from the jurisdiction was a participant on the existing hazard mitigation plan's planning committee.

D.4.3 Fiscal Capability

The following table provides a summary of the results for Lafayette County with regard to relevant fiscal resources. A checkmark (✓) indicates that the given fiscal resource is locally available for hazard mitigation purposes (including match funds for state and federal mitigation grant funds) according to the previous county hazard mitigation plan.

Table D.39: RELEVANT FISCAL RESOURCES

Fiscal Tool / Resource	Capital Improvement Programming	Community Development Block Grants (CDBG)	Special Purpose Taxes (or taxing districts)	Gas/Electric Utility Fees	Water/Sewer Fees	Stormwater Utility Fees	Development Impact Fees	General Obligation, Revenue, and/or Special Tax Bonds	Partnering Arrangements or Intergovernmental Agreements	Other: other state and Federal funding sources
LAFAYETTE COUNTY	✓	✓							✓	✓
Abbeville	✓	✓								✓
Oxford	✓	✓							✓	✓
Taylor	✓	✓								✓

D.4.4 Political Capability

During the months immediately following a disaster, local public opinion in Lafayette County is more likely to shift in support of hazard mitigation efforts.

D.4.5 Conclusions on Local Capability

The following table shows the results of the capability assessment using the designed scoring methodology described in Section 7: *Capability Assessment*. The capability score is based solely on the information found in existing hazard mitigation plans and readily available on the jurisdictions' government websites. According to the assessment, the average local capability score for the county and its jurisdictions is 30.3, which falls into the moderate capability ranking.

Table D.40: CAPABILITY ASSESSMENT RESULTS

Jurisdiction	Overall Capability Score	Overall Capability Rating
LAFAYETTE COUNTY	29	Moderate
Abbeville	31	Moderate
Oxford	49	High
Taylor	23	Moderate

D.5 LAFAYETTE COUNTY MITIGATION STRATEGY

This subsection provides the blueprint for Lafayette County to follow in order to become less vulnerable to its identified hazards. It is based on general consensus of the Regional Hazard Mitigation Council and the findings and conclusions of the capability assessment and risk assessment. Additional Information can be found in Section 8: *Mitigation Strategy* and Section 9: *Mitigation Action Plan*.

D.5.1 Mitigation Goals

Lafayette County developed six mitigation goals in coordination with the other participating MEMA District 2 Region jurisdictions. The regional mitigation goals are presented below.

Table D.41: MEMA DISTRICT 2 REGIONAL MITIGATION GOALS

	Goal
Goal #1	**Reduce the loss of life and injury** from natural and man-made hazards.
Goal #2	**Reduce the damage and loss of existing and future property**, **buildings, infrastructure, and critical facilities** from natural and man-made hazards.
Goal #3	**Reduce economic losses** from natural and man-made hazards, including response and recovery costs and disruption of economic activity.
Goal #4	Reduce the destruction of **natural, historical, and cultural resources**.
Goal #5	Increase **public awareness and education** of natural and man-made hazards.
Goal #6	**Foster cooperation among the public and private sectors** to promote effective hazard mitigation planning.

D.5.2 Mitigation Action Plan

The mitigation actions proposed by Lafayette County, Abbeville, Oxford, and Taylor are listed in the following individual Mitigation Action Plans.

Lafayette County Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
Prevention							
P-1	Review policies, procedures, facilities, infrastructure, etc. to seek ways to help mitigate natural hazards so as to reduce losses and negative impacts associated with hazard events. The jurisdiction will review existing and future buildings and infrastructure as well as current policies and procedures.	All	High	Lafayette County EMA	Local	2020	The county has worked with all municipalities to implement policies/plans that can help reduce the potential impacts of hazards over the past 5 years. However, the overall regulatory system could be improved by reducing development in high hazard areas and directing growth away from high risk zones. Therefore this action will remain in the plan going forward.
Property Protection							
PP-1							
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1	Implement flood control drainage improvements/measures in flood-prone areas so as to reduce losses and impacts.	Flood, Land Subsidence/ Expansive Soils, Dam Failure	Moderate	Lafayette County EMA	Federal, State, Local	2020	Although some smaller-scale projects have been implemented, larger drainage projects need to be identified and implemented so this action will remain in place.
SP-2	Install Automatic Seismic Shutoff Valves to critical areas.	Earthquake	High	Lafayette County EMA	Federal, State, Local	2020	New Action

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
Emergency Services							
ES-1	Purchase fixed generators for utilization in the event of a natural hazard event. The fixed generators would be employed in critical facilities as well as other vital buildings and structures in order to provide power when needs arise.	All	High	Lafayette County EMA	Federal, State, Local	2018	A fixed generator has been installed at the Road Dept./Maintenance Shop and most fire stations. Additional generators are needed at other critical facilities.
ES-2	Purchase mobile generators for utilization in the event of a natural hazard event. The mobile generators could be moved from one site to another (e.g., critical facility to critical facility) in order to provide power where needs arise.	All	High	Lafayette County EMA	Federal, State, Local	2018	Two mobile generators have been purchased. Additional portable generators may be needed in the future.
ES-3	Purchase weather/hazard radios for utilization in the event of a natural hazard event (flood, tornado, earthquake, etc.). The weather/hazard radios would be distributed to citizens, businesses, and other entities in order to provide notification of natural hazard events.	All	High	Lafayette County EMA	Federal, State, Local	Deleted	Cancelled. It has been determined that Lafayette County cannot purchase weather radios for distribution to the public.
ES-4	Construct/install shelters and safe rooms for utilization in the event of a natural hazard event.	All	High	Lafayette County EMA	Federal, State, Local	2019	Lafayette Co. has several storm shelters available to the public. Additional shelters are needed to accommodate the demand.
ES-5	Construct/install advanced warning notification systems for utilization in the event of tornadoes and other severe storms.	Tornado, High Wind, Hail, Lightning	High	Lafayette County EMA	Federal, State, Local	2018	Lafayette County has a system of advanced warning notification systems. Improvements and upgrades may be needed in the future so this will remain in the plan.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
Public Education and Awareness							
PEA-1	Encourage local newspapers and media outlets to run articles and information pieces regarding the potential dangers of natural hazards and the positive impacts of various hazard mitigation actions. The articles and information pieces will address existing and future buildings and infrastructure.	All	High	Lafayette County EMA	Local	2020	Lafayette County has a good relationship with local and regional media outlets. Timely articles are published on a regular basis. This action will continue to be implemented going forward.
PEA-2	Modify/upgrade 17 existing outdoor warning sirens with two-way radio communication for improved monitoring and maintenance	Tornado, High Wind, Hail, Lightning	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-3	Construct critical facilities such as additional fire stations to enhance public safety	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-4	Conduct training exercises to test plans and capabilities of first responders	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-5	Preventing erosion with proper bank stabilization, sloping or grading techniques, planting vegetation on slopes, terracing hillsides, or installing riprap boulders or geotextile fabric.	Erosion, Flood	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-6	Increase awareness of flood risk and safety by Educating citizens about safety during flood conditions, including the dangers of driving on flooded roads.	Flood	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-7	Protect critical facilities and infrastructure from lighting damage by Installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities.	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
PEA-8	Protect critical facilities and infrastructure from lighting damage by Installing and maintaining surge protection on critical electronic equipment.	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-9	Conduct outreach activities to increase awareness of tornado risk.	Tornado	High	Lafayette County EMA	Federal, State, Local	2020	NEW

Town of Abbeville Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
Prevention							
P-1	Review policies, procedures, facilities, infrastructure, etc. to seek ways to help mitigate natural hazards so as to reduce losses and negative impacts associated with hazard events. The jurisdiction will review existing and future buildings and infrastructure as well as current policies and procedures.	All	High	Town of Abbeville, Lafayette County EMA	N/A	2020	The county has worked with all municipalities to implement policies/plans that can help reduce the potential impacts of hazards over the past 5 years. However, the overall regulatory system could be improved by reducing development in high hazard areas and directing growth away from high risk zones. Therefore this action will remain in the plan going forward.
Property Protection							
PP-1							
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1	Implement flood control drainage improvements/measures in flood-prone areas so as to reduce losses and impacts.	Flood, Land Subsidence/ Expansive Soils, Dam Failure	Moderate	Town of Abbeville, Lafayette County EMA	Federal, State, Local	2020	Although some smaller-scale projects have been implemented, larger drainage projects need to be identified and implemented so this action will remain in place.
SP-2	The Town proposes to construct 6 and 8 inch water mains to the city limits along State Highway 7, West and East Long Streets, North & South Business 7 and Graham Lake Road, replacing main service lines less than 6 inch.	Flood, Wildfire, Drought/Heat, Earthquake	High	Town of Abbeville	Local, Federal, State	2019	New Action. The town has been working on this project with a portion of the new lines be installed 2016. This action will remain in the plan until project completed.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
SP-3	The Town propose to create a sewage system including sewage treatment.	Flood, Drought/Heat, Land Subsidence/Expansive Soils	High	Town of Abbeville	Local, Federal, State	2019	New Action. The town has been working on this project , but it is still underway. This action will remain in the plan until project is complete.
Emergency Services							
ES-1	Purchase fixed generators for utilization in the event of a natural hazard event. The fixed generators would be employed in critical facilities as well as other vital buildings and structures in order to provide power when needs arise.	All	High	Town of Abbeville, Lafayette County EMA	Federal, State, Local	2018	A fixed generator has been installed at the Road Dept./Maintenance Shop and most fire stations. Additional generators are needed at other critical facilities.
ES-2	Purchase mobile generators for utilization in the event of a natural hazard event. The mobile generators could be moved from one site to another (e.g., critical facility to critical facility) in order to provide power where needs arise.	All	High	Town of Abbeville, Lafayette County EMA	Federal, State, Local	2018	Two mobile generators have been purchased. Additional portable generators may be needed in the future.
ES-3	Purchase weather/hazard radios for utilization in the event of a natural hazard event (flood, tornado, earthquake, etc.). The weather/hazard radios would be distributed to citizens, businesses, and other entities in order to provide notification of natural hazard events.	All	High	Town of Abbeville, Lafayette County EMA	Federal, State, Local	Deleted	Cancelled. It has been determined that Lafayette County cannot purchase weather radios for distribution to the public.
ES-4	Construct/install shelters and safe rooms for utilization in the event of a natural hazard event.	All	High	Town of Abbeville, Lafayette County EMA	Federal, State, Local	2019	Lafayette Co. has several storm shelters available to the public. Additional shelters are needed to accommodate the demand.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
ES-5	Construct/install advanced warning notification systems for utilization in the event of tornadoes and other severe storms.	Tornado, High Wind, Hail, Lightning	High	Town of Abbeville, Lafayette County EMA	Federal, State, Local	2018	Lafayette County has a system of advanced warning notification systems. Improvements and upgrades may be needed in the future so this will remain in the plan.
Public Education and Awareness							
PEA-1	Encourage local newspapers and media outlets to run articles and information pieces regarding the potential dangers of natural hazards and the positive impacts of various hazard mitigation actions. The articles and information pieces will address existing and future buildings and infrastructure.	All	High	Town of Abbeville, Lafayette County EMA	N/A	2020	Lafayette County has a good relationship with local and regional media outlets. Timely articles are published on a regular basis. This action will continue to be implemented going forward.
PEA-2	Modify/upgrade 17 existing outdoor warning sirens with two-way radio communication for improved monitoring and maintenance	Tornado, High Wind, Hail, Lightning	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-3	Construct critical facilities such as additional fire stations to enhance public safety	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-4	Conduct training exercises to test plans and capabilities of first responders	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-5	Preventing erosion with proper bank stabilization, sloping or grading techniques, planting vegetation on slopes, terracing hillsides, or installing riprap boulders or geotextile fabric.	Erosion, Flood	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-6	Increase awareness of flood risk and safety by Educating citizens about safety during flood conditions, including the dangers of driving on flooded roads.	Flood	High	Lafayette County EMA	Federal, State, Local	2020	NEW

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
PEA-7	Protect critical facilities and infrastructure from lighting damage by Installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities.	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-8	Protect critical facilities and infrastructure from lighting damage by Installing and maintaining surge protection on critical electronic equipment.	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-9	Conduct outreach activities to increase awareness of tornado risk.	Tornado	High	Lafayette County EMA	Federal, State, Local	2020	NEW

City of Oxford Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
Prevention							
P-1	Review policies, procedures, facilities, infrastructure, etc. to seek ways to help mitigate natural hazards so as to reduce losses and negative impacts associated with hazard events. The jurisdiction will review existing and future buildings and infrastructure as well as current policies and procedures.	All	High	City of Oxford, Lafayette County EMA	N/A	2020	The county has worked with all municipalities to implement policies/plans that can help reduce the potential impacts of hazards over the past 5 years. However, the overall regulatory system could be improved by reducing development in high hazard areas and directing growth away from high risk zones. Therefore this action will remain in the plan going forward.
Property Protection							
PP-1							
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1	Implement flood control drainage improvements/measures in flood-prone areas so as to reduce losses and impacts.	Flood, Land Subsidence/ Expansive Soils, Dam Failure	Moderate	City of Oxford, Lafayette County EMA	Federal, State, Local	2020	Although some smaller-scale projects have been implemented, larger drainage projects need to be identified and implemented so this action will remain in place.
SP-2	Install Automatic Seismic Shutoff Valves to critical areas.	Earthquake	High	Lafayette County EMA	Federal, State, Local	2020	New Action

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
SP-2	The project would address the recurring drainage and flooding problems along and in the Chandler Avenue area. Runoff from rain events has increased over the past several years and has started to overload the existing drainage system and caused flooding of homes in the area. The project will replace and upgrade existing drainage structures to handle the increased water capacity.	Flood, Land Subsidence/ Expansive Soils, Dam Failure	High	City of Oxford EMA, City of Oxford Engineering/ Public Works Department	Federal, State, Local	2020	The city has worked to implement a number of drainage control projects including this one, but it would like to continue to look at funding these kinds of projects going forward. These projects will need to be identified and scoped before implementation.
SP-3	The project would address the recurring drainage and flooding problems along and near Burney Branch Creek and Bailey Branch Creek. Runoff from rain events has increased over the past several years and has started to overload the existing drainage system and caused flooding of homes in the area. The project will replace and upgrade existing drainage structures to handle the increased water capacity.	Flood, Land Subsidence/ Expansive Soils, Dam Failure	High	City of Oxford EMA, City of Oxford Engineering/ Public Works Department	Federal, State, Local	2020	The city has worked to implement a number of drainage control projects including this one, but it would like to continue to look at funding these kinds of projects going forward. These projects will need to be identified and scoped before implementation.
Emergency Services							
ES-1	Purchase fixed generators for utilization in the event of a natural hazard event. The fixed generators would be employed in critical facilities as well as other vital buildings and structures in order to provide power when needs arise.	All	High	City of Oxford, Lafayette County EMA	Federal, State, Local	2018	A fixed generator has been installed at the Road Dept./Maintenance Shop and most fire stations. Additional generators are needed at other critical facilities.
ES-2	Purchase mobile generators for utilization in the event of a natural hazard event. The mobile generators could be moved from one site to another (e.g., critical facility to critical facility) in order to provide power where needs arise.	All	High	City of Oxford, Lafayette County EMA	Federal, State, Local	2018	Two mobile generators have been purchased. Additional portable generators may be needed in the future.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
ES-3	Purchase weather/hazard radios for utilization in the event of a natural hazard event (flood, tornado, earthquake, etc.). The weather/hazard radios would be distributed to citizens, businesses, and other entities in order to provide notification of natural hazard events.	All	High	City of Oxford, Lafayette County EMA	Federal, State, Local	Deleted	Cancelled. It has been determined that Lafayette County cannot purchase weather radios for distribution to the public.
ES-4	Construct/install shelters and safe rooms for utilization in the event of a natural hazard event.	All	High	City of Oxford, Lafayette County EMA	Federal, State, Local	2019	Lafayette Co. has several storm shelters available to the public. Additional shelters are needed to accommodate the demand.
ES-5	Construct/install advanced warning notification systems for utilization in the event of tornadoes and other severe storms.	Tornado, High Wind, Hail, Lightning	High	City of Oxford, Lafayette County EMA	Federal, State, Local	2018	Lafayette County has a system of advanced warning notification systems. Improvements and upgrades may be needed in the future so this will remain in the plan.
ES-6	Construct a hardened Emergency Operations Center and Central Fire Station to provide for the continuity of governmental operations in the event of natural hazard events. The facility would provide for a safe, centralized operations area for local government officials and emergency first responders during times of emergency. The facility would also be able to serve as a regional operations facility in the event of a state or region wide disaster.	All	High	City of Oxford EMA	Local, Federal, State	2017	Although some steps have been taken to construct and harden an EOC facility in the city, there are still numerous steps that could be taken to further protect this critical facility.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
ES-7	Install additional advanced warning systems throughout the City of Oxford. The sirens will warn area residents and businesses of approaching storms in an attempt to reduce the potential damages and losses associated with storm events.	Tornado, High Wind, Hail, Lightning	High	City of Oxford EMA	Local, Federal, State, Private sector	2020	Some effort has been made to secure funding for additional advanced warning systems in the city, but city officials feel there is still a need to pursue more sirens so it will attempt to pursue funding to construct these.
Public Education and Awareness							
PEA-1	Encourage local newspapers and media outlets to run articles and information pieces regarding the potential dangers of natural hazards and the positive impacts of various hazard mitigation actions. The articles and information pieces will address existing and future buildings and infrastructure.	All	High	City of Oxford, Lafayette County EMA	N/A	2020	Lafayette County has a good relationship with local and regional media outlets. Timely articles are published on a regular basis. This action will continue to be implemented going forward.
PEA-2	Modify/upgrade 17 existing outdoor warning sirens with two-way radio communication for improved monitoring and maintenance	Tornado, High Wind, Hail, Lightning	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-3	Construct critical facilities such as additional fire stations to enhance public safety	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-4	Conduct training exercises to test plans and capabilities of first responders	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-5	Preventing erosion with proper bank stabilization, sloping or grading techniques, planting vegetation on slopes, terracing hillsides, or installing riprap boulders or geotextile fabric.	Erosion, Flood	High	Lafayette County EMA	Federal, State, Local	2020	NEW

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
PEA-6	Increase awareness of flood risk and safety by Educating citizens about safety during flood conditions, including the dangers of driving on flooded roads.	Flood	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-7	Protect critical facilities and infrastructure from lighting damage by Installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities.	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-8	Protect critical facilities and infrastructure from lighting damage by Installing and maintaining surge protection on critical electronic equipment.	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-9	Conduct outreach activities to increase awareness of tornado risk.	Tornado	High	Lafayette County EMA	Federal, State, Local	2020	NEW

Town of Taylor Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
Prevention							
P-1	Review policies, procedures, facilities, infrastructure, etc. to seek ways to help mitigate natural hazards so as to reduce losses and negative impacts associated with hazard events. The jurisdiction will review existing and future buildings and infrastructure as well as current policies and procedures.	All	High	Town of Taylor, Lafayette County EMA	N/A	2020	The county has worked with all municipalities to implement policies/plans that can help reduce the potential impacts of hazards over the past 5 years. However, the overall regulatory system could be improved by reducing development in high hazard areas and directing growth away from high risk zones. Therefore this action will remain in the plan going forward.
Property Protection							
PP-1							
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1	Implement flood control drainage improvements/measures in flood-prone areas so as to reduce losses and impacts.	Flood, Land Subsidence/ Expansive Soils, Dam Failure	Moderate	Town of Taylor, Lafayette County EMA	Federal, State, Local	2020	Although some smaller-scale projects have been implemented, larger drainage projects need to be identified and implemented so this action will remain in place.
Emergency Services							
ES-1	Purchase fixed generators for utilization in the event of a natural hazard event. The fixed generators would be employed in critical facilities as well as other vital buildings and structures in order to provide power when needs arise.	All	High	Town of Taylor, Lafayette County EMA	Federal, State, Local	2018	A fixed generator has been installed at the Road Dept./Maintenance Shop and most fire stations. Additional generators are needed at other critical facilities.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
ES-2	Purchase mobile generators for utilization in the event of a natural hazard event. The mobile generators could be moved from one site to another (e.g., critical facility to critical facility) in order to provide power where needs arise.	All	High	Town of Taylor, Lafayette County EMA	Federal, State, Local	2018	Two mobile generators have been purchased. Additional portable generators may be needed in the future.
ES-3	Purchase weather/hazard radios for utilization in the event of a natural hazard event (flood, tornado, earthquake, etc.). The weather/hazard radios would be distributed to citizens, businesses, and other entities in order to provide notification of natural hazard events.	All	High	Town of Taylor, Lafayette County EMA	Federal, State, Local	Deleted	Cancelled. It has been determined that Lafayette County cannot purchase weather radios for distribution to the public.
ES-4	Construct/install shelters and safe rooms for utilization in the event of a natural hazard event.	All	High	Town of Taylor, Lafayette County EMA	Federal, State, Local	2019	Lafayette Co. has several storm shelters available to the public. Additional shelters are needed to accommodate the demand.
ES-5	Construct/install advanced warning notification systems for utilization in the event of tornadoes and other severe storms.	Tornado, High Wind, Hail, Lightning	High	Town of Taylor, Lafayette County EMA	Federal, State, Local	2018	Lafayette County has a system of advanced warning notification systems. Improvements and upgrades may be needed in the future so this will remain in the plan.
Public Education and Awareness							
PEA-1	Encourage local newspapers and media outlets to run articles and information pieces regarding the potential dangers of natural hazards and the positive impacts of various hazard mitigation actions. The articles and information pieces will address existing and future buildings and infrastructure.	All	High	Town of Taylor, Lafayette County EMA	N/A	2020	Lafayette County has a good relationship with local and regional media outlets. Timely articles are published on a regular basis. This action will continue to be implemented going forward.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2016)
PEA-2	Modify/upgrade 17 existing outdoor warning sirens with two-way radio communication for improved monitoring and maintenance	Tornado, High Wind, Hail, Lightning	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-3	Construct critical facilities such as additional fire stations to enhance public safety	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-4	Conduct training exercises to test plans and capabilities of first responders	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-5	Preventing erosion with proper bank stabilization, sloping or grading techniques, planting vegetation on slopes, terracing hillsides, or installing riprap boulders or geotextile fabric.	Erosion, Flood	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-6	Increase awareness of flood risk and safety by Educating citizens about safety during flood conditions, including the dangers of driving on flooded roads.	Flood	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-7	Protect critical facilities and infrastructure from lighting damage by Installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities.	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-8	Protect critical facilities and infrastructure from lighting damage by Installing and maintaining surge protection on critical electronic equipment.	All	High	Lafayette County EMA	Federal, State, Local	2020	NEW
PEA-9	Conduct outreach activities to increase awareness of tornado risk.	Tornado	High	Lafayette County EMA	Federal, State, Local	2020	NEW