ANNEX E
QUITMAN COUNTY

This annex includes jurisdiction-specific information for Quitman County and the Towns of Crowder, Falcon, Lambert, City of Marks, and Town of Sledge. It consists of the following five subsections:

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

E.1 QUITMAN COUNTY COMMUNITY PROFILE

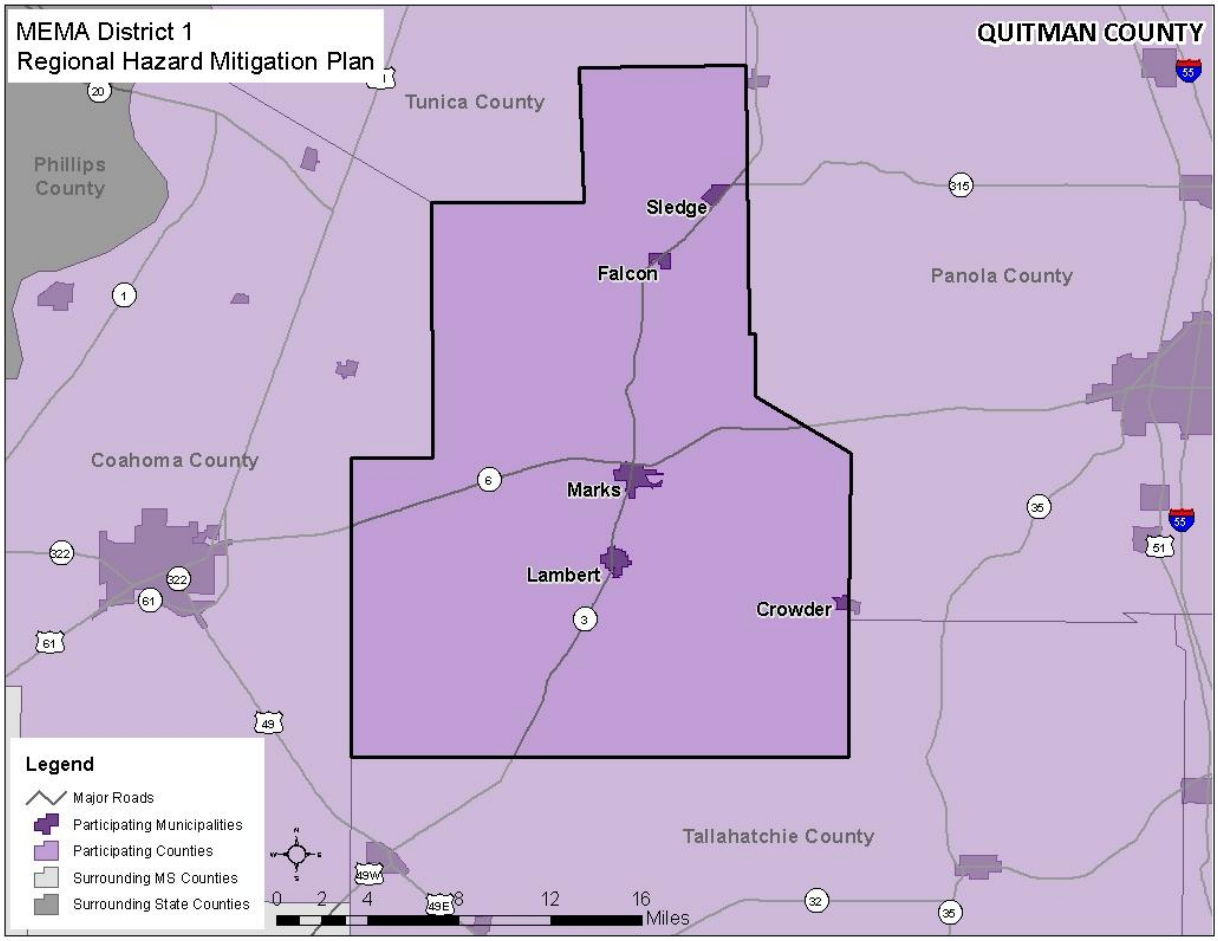
E.1.1 Geography and the Environment

Quitman County is located in northwestern Mississippi. It comprises four towns and one city, Town of Crowder, Town of Falcon, Town of Lambert, City of Marks, and Town of Sledge, as well as many small unincorporated communities. Where Quitman County is mentioned in this annex, it refers to all of the above jurisdictions. An orientation map is provided as **Figure E.1**.

The county is within the Mississippi Alluvial Plain suppling diverse recreational and cultural activities. The total area of the county is 406 square miles, 1 square mile of which is water area.

Summer temperatures in the county range from highs in 90 degrees Fahrenheit (˚F) to lows in the 60s. Winter temperatures range from highs in the low to mid 50s to lows in 30˚F. Average annual rainfall is approximately 55 inches, with the wettest months being May and December.

FIGURE E.1: QUITMAN COUNTY ORIENTATION MAP



E.1.2 Population and Demographics

According to the 2020 Census, Quitman County has a population of 6,176 people. The county has seen a decrease in population between 2010 and 2020, and the population density is 15 people per square mile. Population counts from the U.S. Census Bureau for 2000, 2010, and 2020 for the county and participating jurisdictions are presented in **Table E.1**.

TABLE E.1: POPULATION COUNTS FOR QUITMAN COUNTY

Jurisdiction	2000 Census Population	2010 Census Population	2020 Census Population	% Change 2010-2020
Quitman County	**10,117**	**8,223**	**6,176**	**-33.0%**
Crowder	766	712	573	-24.0%
Falcon	317	167	143	-17.0%
Lambert	1,967	1,638	1,343	-22.0%
Marks	1,551	1,735	1,419	-22.0%
Sledge	529	545	476	-14.0%
Unincorporated Area	4,987	3,436	2,222	-55.0%

Source: United States Census Bureau, 2000, 2010, and 2020 Census

Based on the 2020 Census, the median age of residents of Quitman County is 38.7 years. The racial characteristics of the county are presented in **Table E.2**. Blacks or African Americans make up the majority of the population in the county, accounting for almost 71 percent of the population.

TABLE E.2: DEMOGRAPHICS OF QUITMAN COUNTY

Jurisdiction	White, Percent (2020)	Black or African American, Percent (2020)	American Indian or Alaska Native, Percent (2020)	Asian, Percent (2020)	Native Hawaiian or Other Pacific Islander, Percent (2020)	Other Race, Percent (2020)	Two or More Races, percent (2020)	Persons of Hispanic Origin, Percent (2020)*
Quitman County	**26.5%**	**71.7%**	**0.3%**	**0.2%**	**0.0%**	**0.0 %**	**1.3%**	**1.8%**
Crowder	45.6%	54.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Falcon	0.0%	100%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Lambert	4.5%	93.7%	0.0%	0.0%	0.0%	0.0%	0.2 %	0.0 %
Marks	22.2%	76.8%	0.3%	0.2%	0.0%	0.1%	0.8%	0.2%
Sledge	10.5%	89.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

*Hispanics may be of any race, so also are included in applicable race categories
Source: United States Census Bureau, 2020 Census

E.1.3 Housing

According to the 2020 U.S. Census, there are 3,581 housing units in Quitman County, the majority of which are single family homes or mobile homes. Housing information for the county and five municipalities is presented in **Table E.3**. The table also includes the percentage of housing classified as mobile homes or other dwelling, and the median home value for 2015-2019.

TABLE E.3: HOUSING CHARACTERISTICS OF QUITMAN COUNTY

Jurisdiction	Housing Units (2010)	Housing Units (2020)	Mobile Homes or other, Percent (2020)	Median Home Value (2015-2019)
Quitman County	**3,589**	**3,030**	**8.17%**	**$89,800**
Crowder	331	305	0.6%	$83,929
Falcon	324	61	0.0%	$40,476
Lambert	70	563	0.6%	$62,789
Marks	648	810	1.4%	$69,000
Sledge	730	234	1.0%	$45,840

Source: United States Census Bureau, 2010 and 2020 Census and 2015-2019 American Community Survey 5-Year Estimates

E.1.4 Infrastructure

TRANSPORTATION

In Quitman County, U.S. Highway 278 provides access to the north and south. State Highway 3 run north to south through Quitman County.

The Selfs Airport is located in Quitman County and provides local service. The closest international airport is in Memphis, approximately 70 miles away from the county.

Canadian National Railway, a Class I Major railroad, operates within Quitman County. Amtrak provides service to Quitman County for north and south routes.

UTILITIES

Electrical power in Quitman County is provided by South Quitman Utilities, Entergy Utility, and Tallahatchie Valley electric power association.

Water and sewer service is provided by all of the participating towns and/or community based associations. There are twelve water utilities operating within Quitman County, including Big Field Water Association, Birdie Water Association, Town of Falcon, and West Lambert Water Association. Many unincorporated areas often rely on septic systems and wells in the county.

COMMUNITY FACILITIES

There are a number of buildings and community facilities located throughout Quitman County. According to the data collected for the vulnerability assessment (Section 6.4.1), there are 1 fire station, 3 police stations, and 5 schools located within the county.

There is one hospital located in Quitman County. Quitman County Hospital is a twenty-five bed crucial care hospital in the City of Marks.

Various recreational activities are available in Quitman County. The Quitman Softball complex operates within Quitman County. Coldwater River National Wildlife Refuge in Quitman County is a smaller refuge with multiple ponds attracting all type of bird species. The refuge is closed to public access to maintain the integrity of the refuge and the birds within it. Tallahatchie National Wildlife Refuge is in Grenada and Tallahatchie Counties and maintained by the state. This area is home to various bird species throughout the year depending on migration patterns. Deer and other mammals can also be seen within the area.

E.1.5 Land Use

Many areas of Quitman County are undeveloped or sparsely developed. There are several small incorporated municipalities located throughout the county, with a few larger hubs interspersed. These areas are where the county'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 county 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.

North Delta Planning and Development District provides services related to regional planning, local technical assistance, and coordination and review of applications for federally sponsored programs within Northwest Mississippi. The purpose of the district is to promote economic development, encourage responsibility short and long term community planning, and to aid in general civic, social, and economic development.

E.1.6 Employment and Industry

According to DATA USA in 2019, Quitman County had an average annual employment of 2,296 workers and an average unemployment rate of 8.6 percent. The most common jobs held for those living in Quitman County were in Sales & Related Occupations (274 people), Production Occupations (223 people), and Management Occupations (209 people) followed by Office & Administrative Support Occupations (187 people) and Transportation (167 people). Compared to other counties, Quitman County has an unusually high number of residents working as Law Enforcement Workers including Supervisors (5.11 times higher than expected), Farming, Fishing, & Forestry Occupations (3.95 times), and Community & Social Service Occupations (1.99 times). The median household income in Quitman County was $ 25,283.

E.2 QUITMAN COUNTY RISK ASSESSMENT

This subsection includes hazard profiles for each of the significant hazards identified in Section 4: *Hazard Identification* as they pertain to Quitman 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*.

FLOOD-RELATED HAZARDS

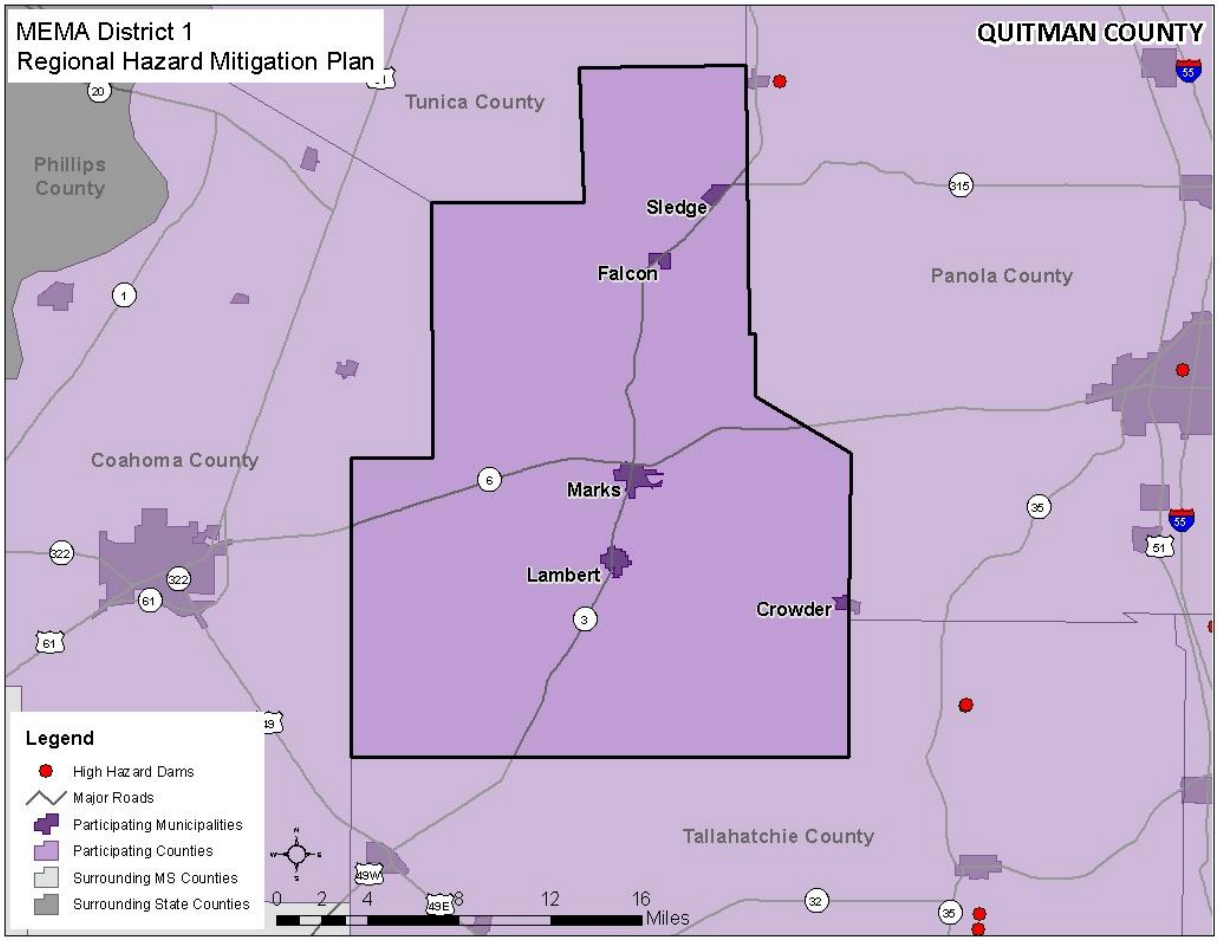
E.2.1 Dam and Levee Failure

LOCATION AND SPATIAL EXTENT

According to the Mississippi Department of Environmental Quality, there are no high hazard dams in Quitman County, which includes all jurisdictions in Quitman County as shown in **Figure E.2** and **Table E.4**.[1]

[1] The list of high hazard dams obtained from the Mississippi Department of Environmental Quality was reviewed and amended by local officials to the best of their knowledge.

FIGURE E.2: QUITMAN COUNTY HIGH HAZARD DAM LOCATIONS



Source: Mississippi Department of Environmental Quality

TABLE E.4: QUITMAN COUNTY HIGH HAZARD DAMS

Dam Name	Hazard Potential
Quitman County Unincorporated	*None*
Crowder	*None*
Falcon	None
Lambert	*None*
Marks	*None*
Sledge	*None*

Source: Mississippi Department of Environmental Quality

HISTORICAL OCCURRENCES

According to the Mississippi State Hazard Mitigation Plan, there is no record of dam breaches in Quitman County, which includes all jurisdictions in Quitman County (**Table E.5**). However, several breach scenarios in the region could be catastrophic.

TABLE E.5: QUITMAN COUNTY DAM FAILURES (1982-2020)

Date	County	Structure Name	Cause of Failure
None Reported	Quitman Unincorporated	--	--
None Reported	Crowder	--	--
None Reported	Falcon	--	--
None Reported	Lambert	--	--
None Reported	Marks	--	--
None Reported	Sledge	--	--

Source: Mississippi Department of Environmental Quality

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. As has been demonstrated in the past, regular monitoring is necessary to prevent these events.

E.2.2 Erosion

LOCATION AND SPATIAL EXTENT

Erosion in Quitman County is typically caused by flash flooding events. Unlike coastal areas, areas of concern for erosion in Quitman County are primarily rivers/streams and reservoirs. Generally, vegetation helps to prevent erosion in the area, and it is not an extreme threat to the county.

At this time, there is no data available on localized areas of erosion so it is not possible to depict extent on a map.

HISTORICAL OCCURRENCES

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

PROBABILITY OF FUTURE OCCURRENCES

Erosion remains a natural, dynamic, and continuous process for Quitman County, and it will continue to occur. The annual probability level assigned for erosion is likely (between 10 and 100 percent annually).

E.2.3 Flood

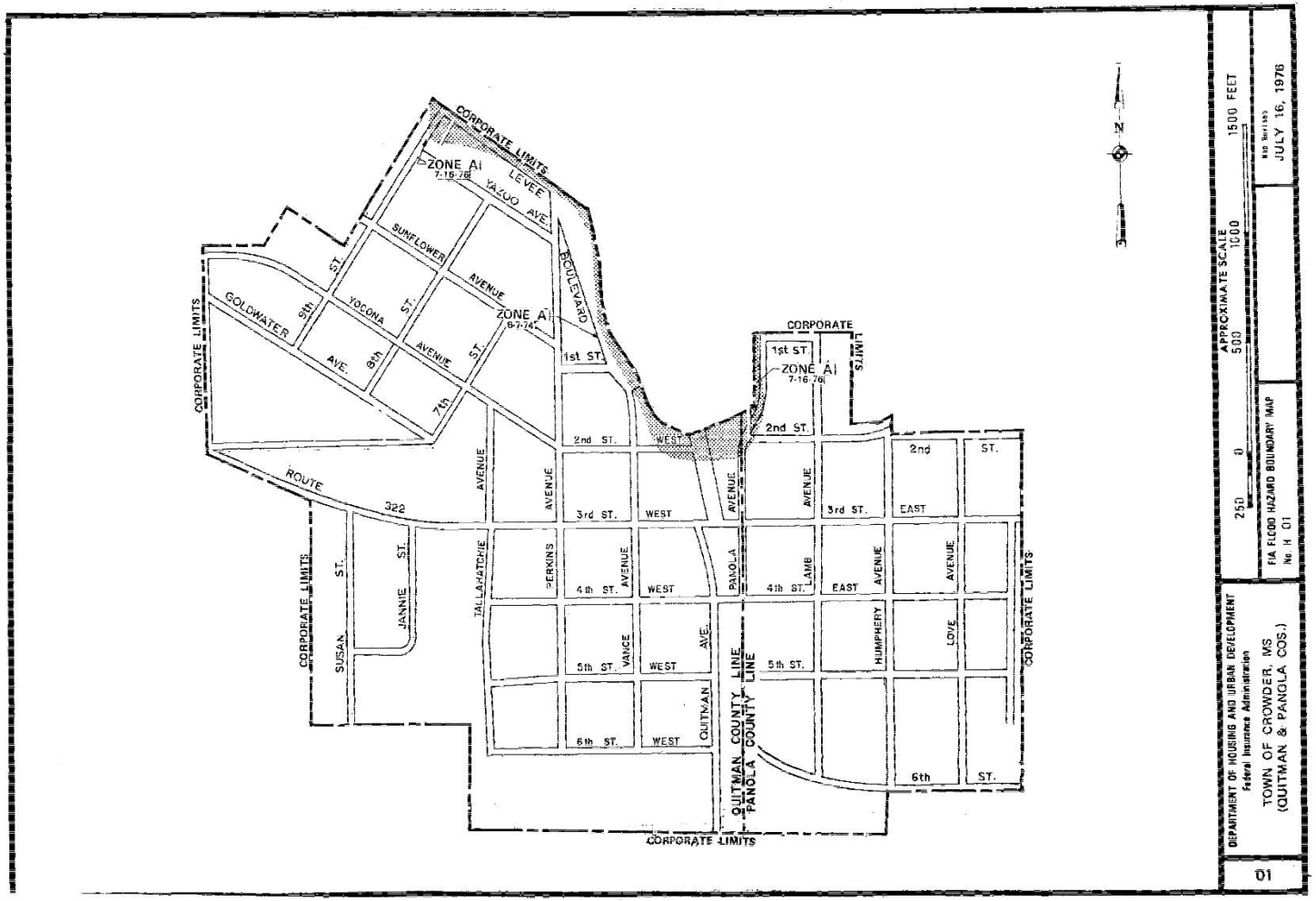
LOCATION AND SPATIAL EXTENT

There are areas in Quitman County that are susceptible to flood events. For the 2016 Plan Update, special flood hazard areas in the county could not be mapped using Geographic Information System (GIS) because

FEMA Digital Flood Insurance Rate Maps (DFIRM) was not available. Instead, FEMA Flood Insurance Rate Map (FIRM) panels are provided.

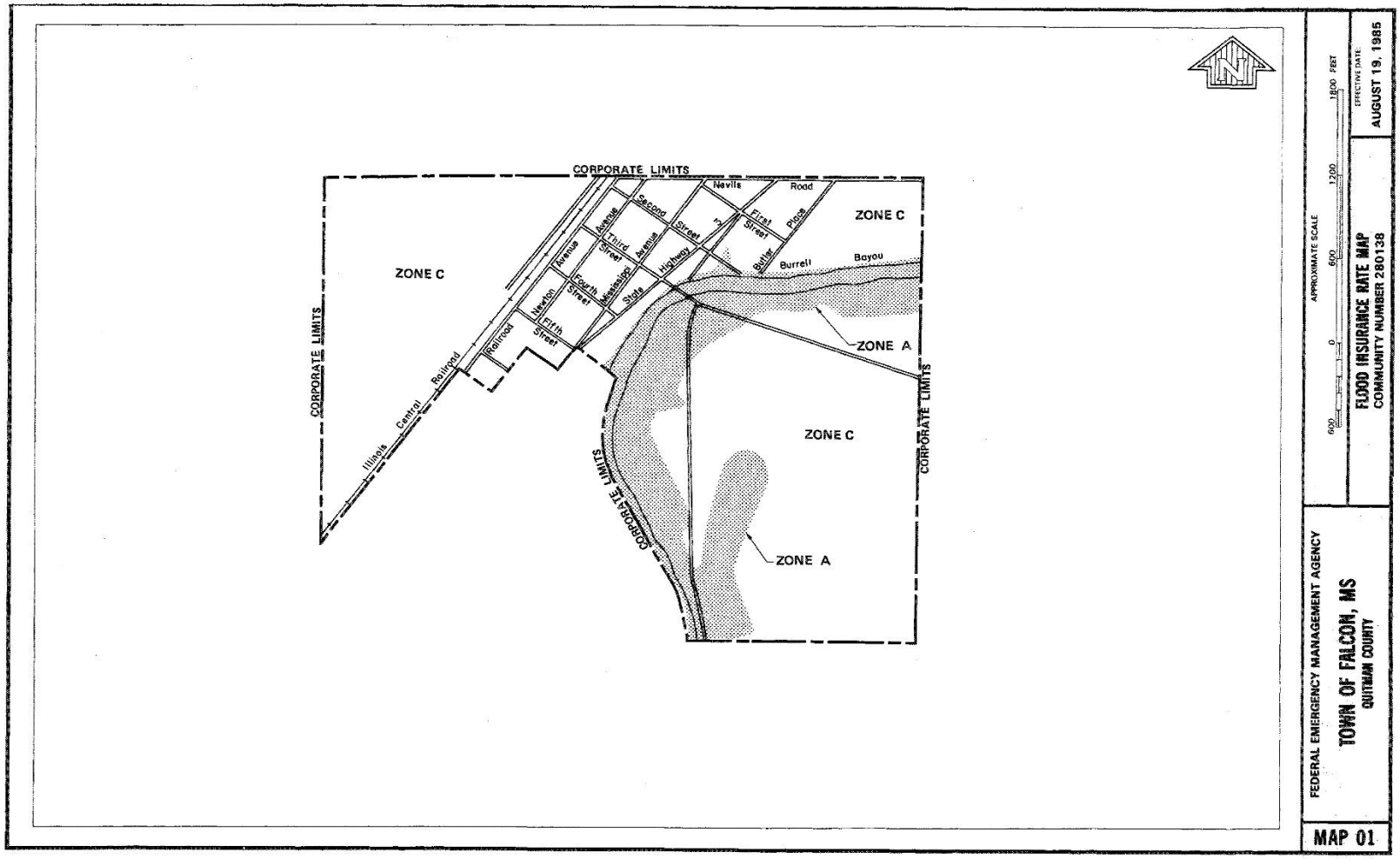
Flooding and flood-related losses often do occur outside of delineated special flood hazard areas. **Figure E.3, Figure E.4, Figure E.5, Figure E.6, Figure E.7, Figure E.8, Figure E.9, Figure E.10, Figure E.11, Figure E.12, Figure E.13, Figure E.14, Figure E.15, Figure E.16, Figure E.17,** and **Figure E.18** illustrate the location and extent of currently mapped special flood hazard areas for Quitman County based on the best available FEMA Flood Insurance Rate Map (FIRM) data.

FIGURE E.3: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



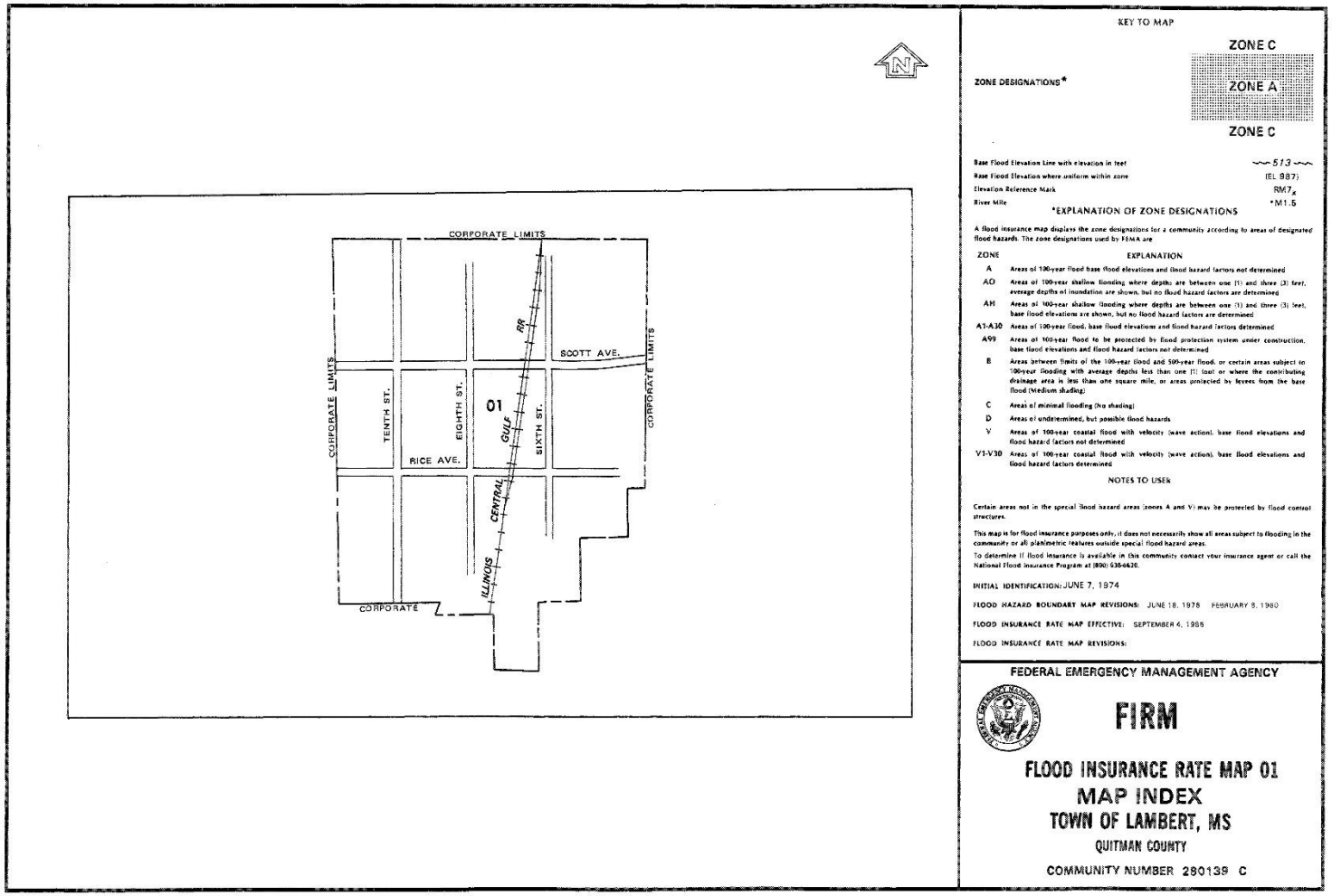
Source: Federal Emergency Management Agency

FIGURE E.4: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



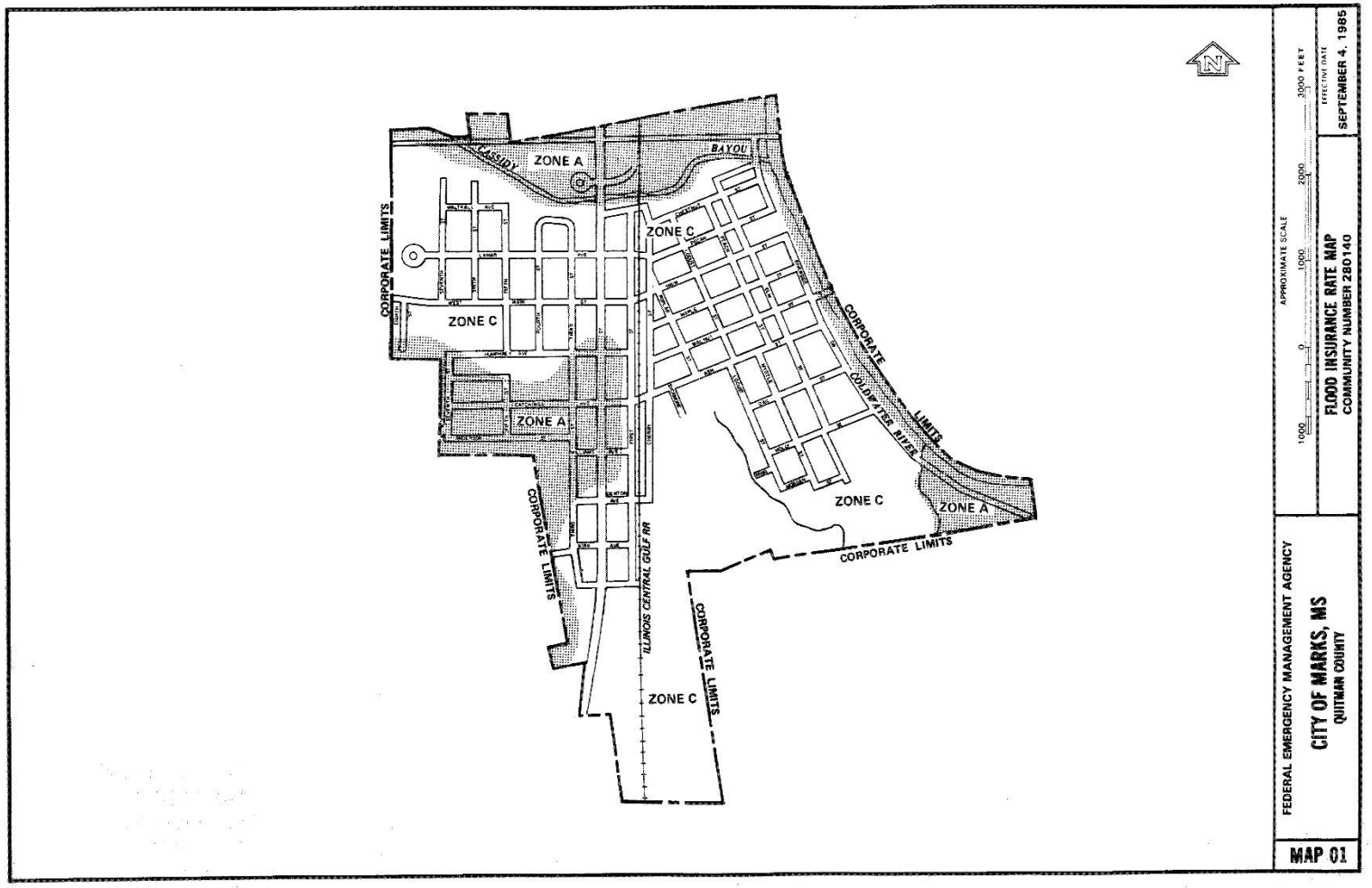
Source: Federal Emergency Management Agency

FIGURE E.5: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



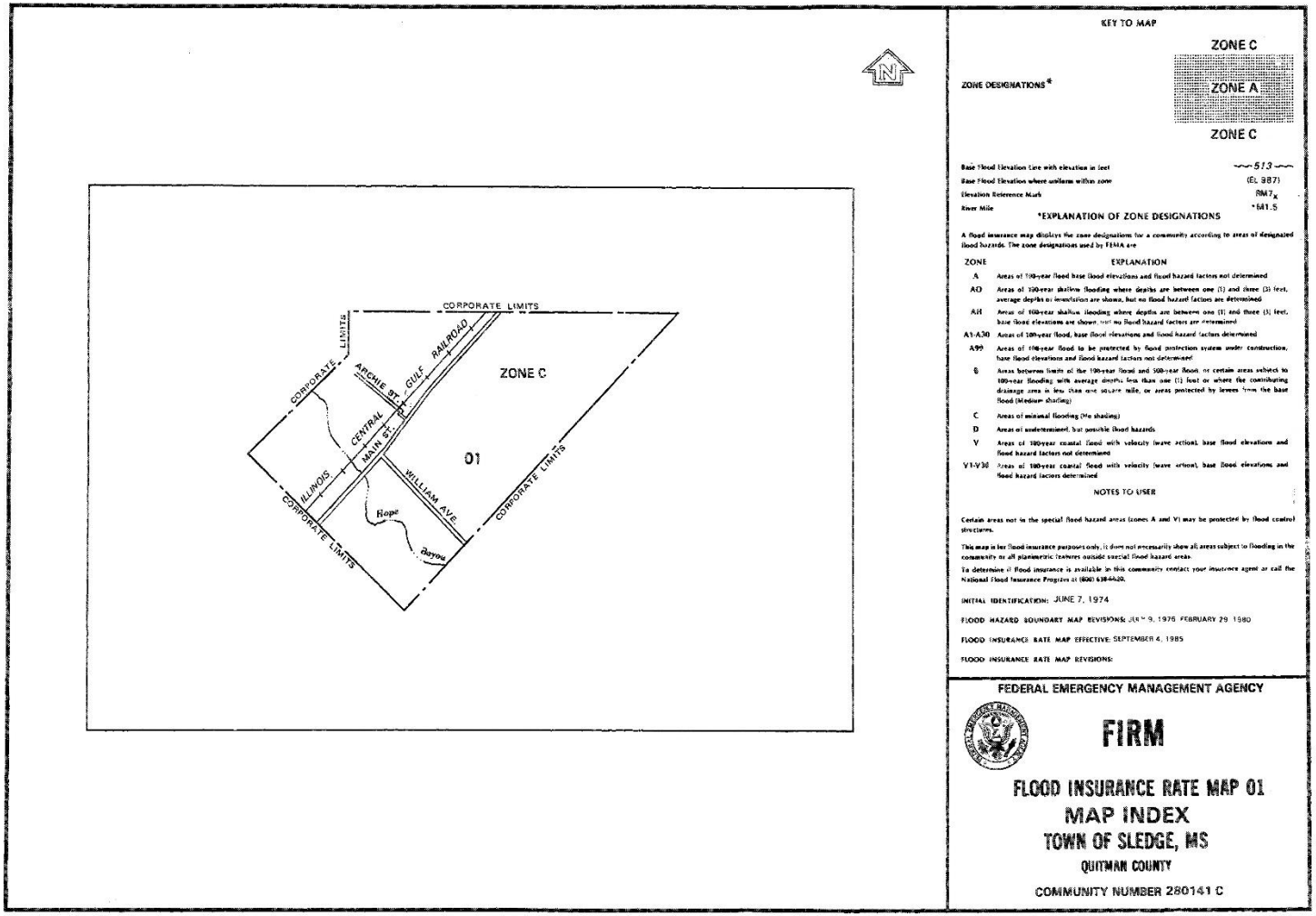
Source: Federal Emergency Management Agency

FIGURE E.6: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



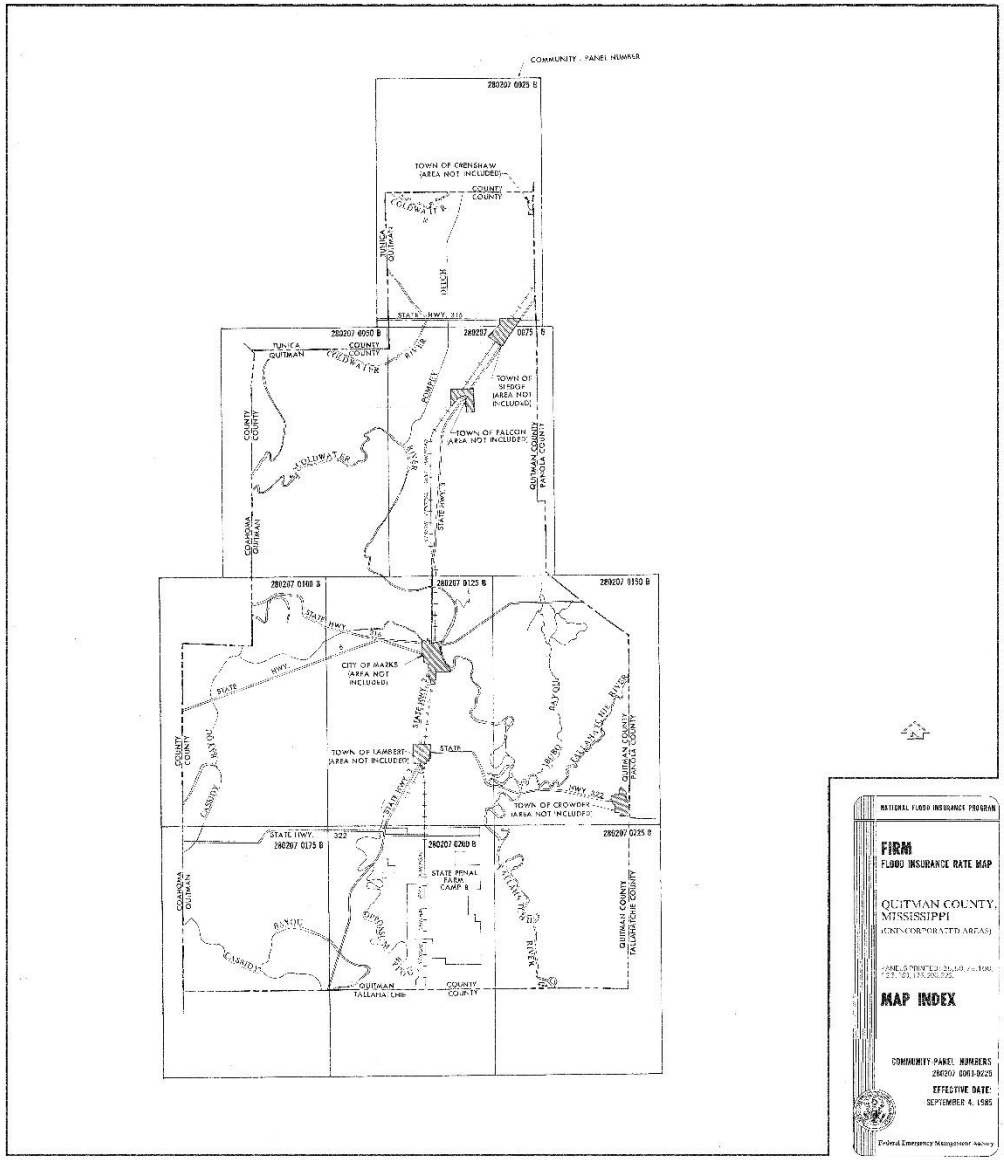
Source: Federal Emergency Management Agency

FIGURE E.7: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



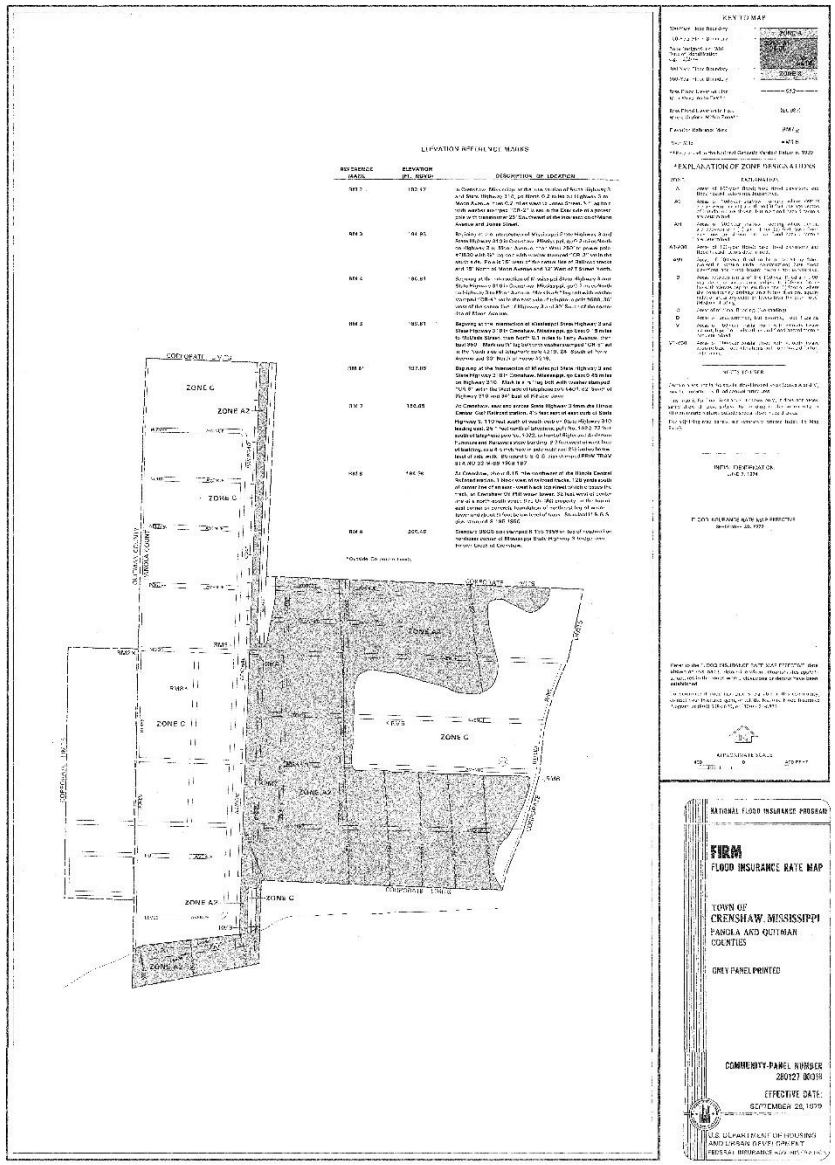
Source: Federal Emergency Management Agency

FIGURE E.8: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



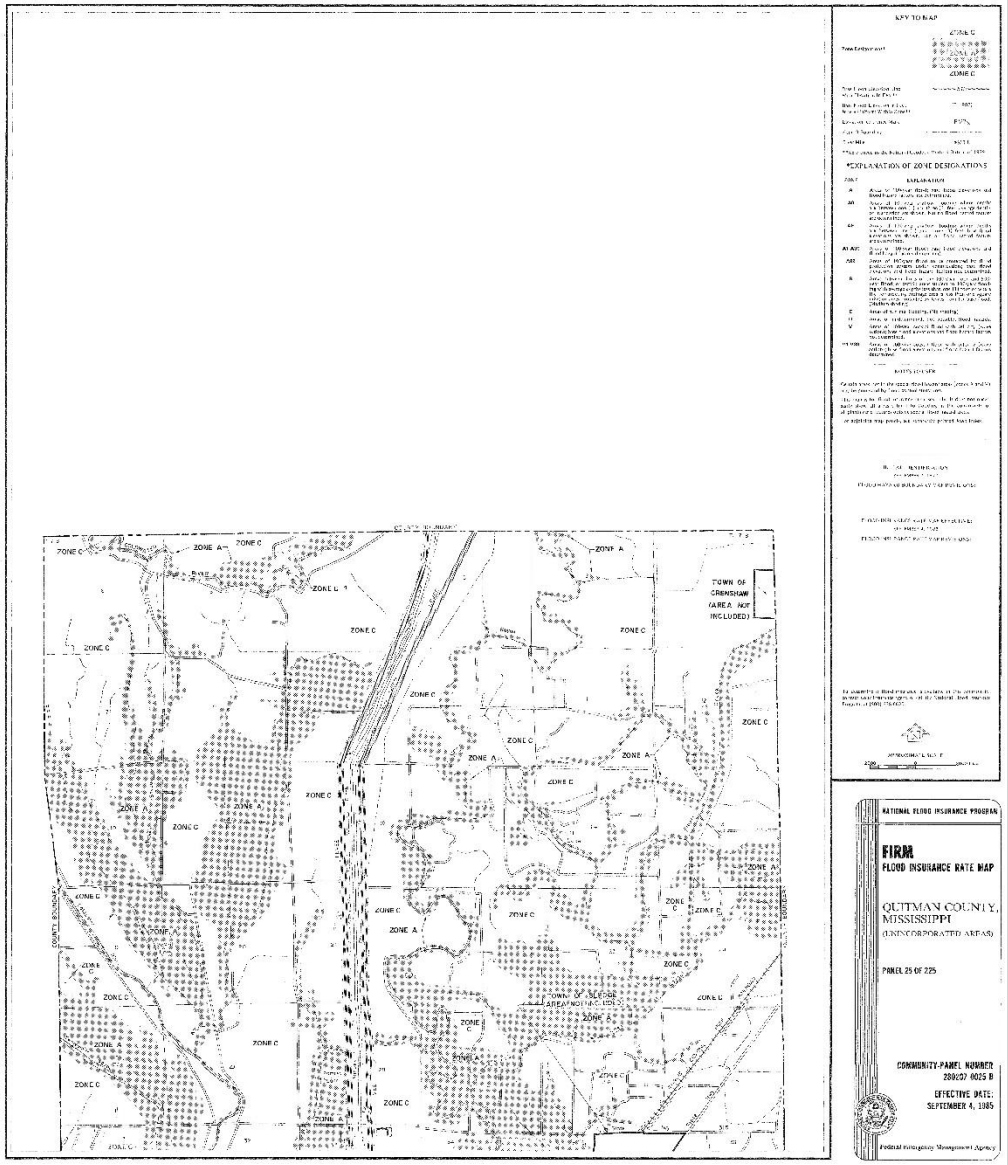
Source: Federal Emergency Management Agency

FIGURE E.9: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



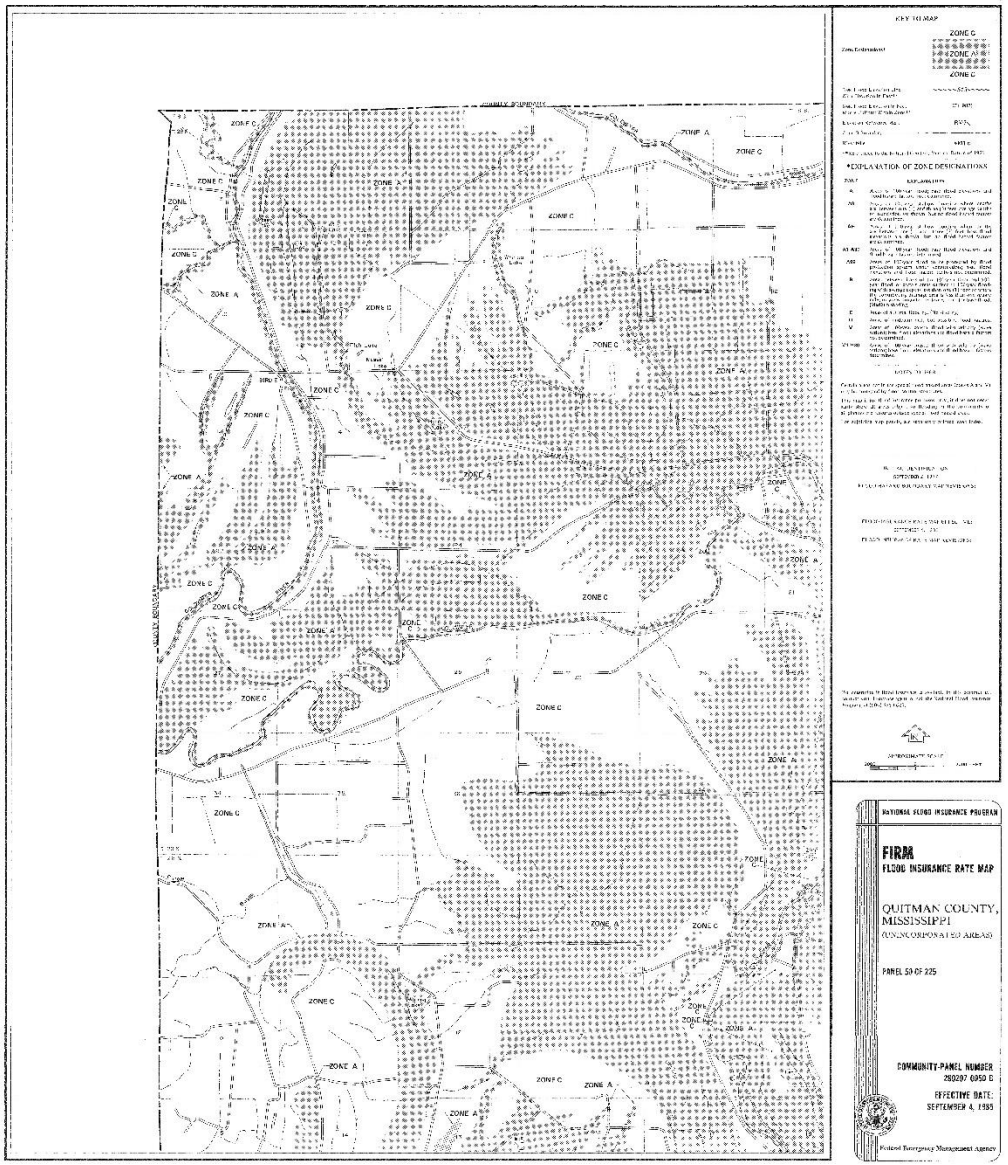
Source: Federal Emergency Management Agency

FIGURE E.10: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



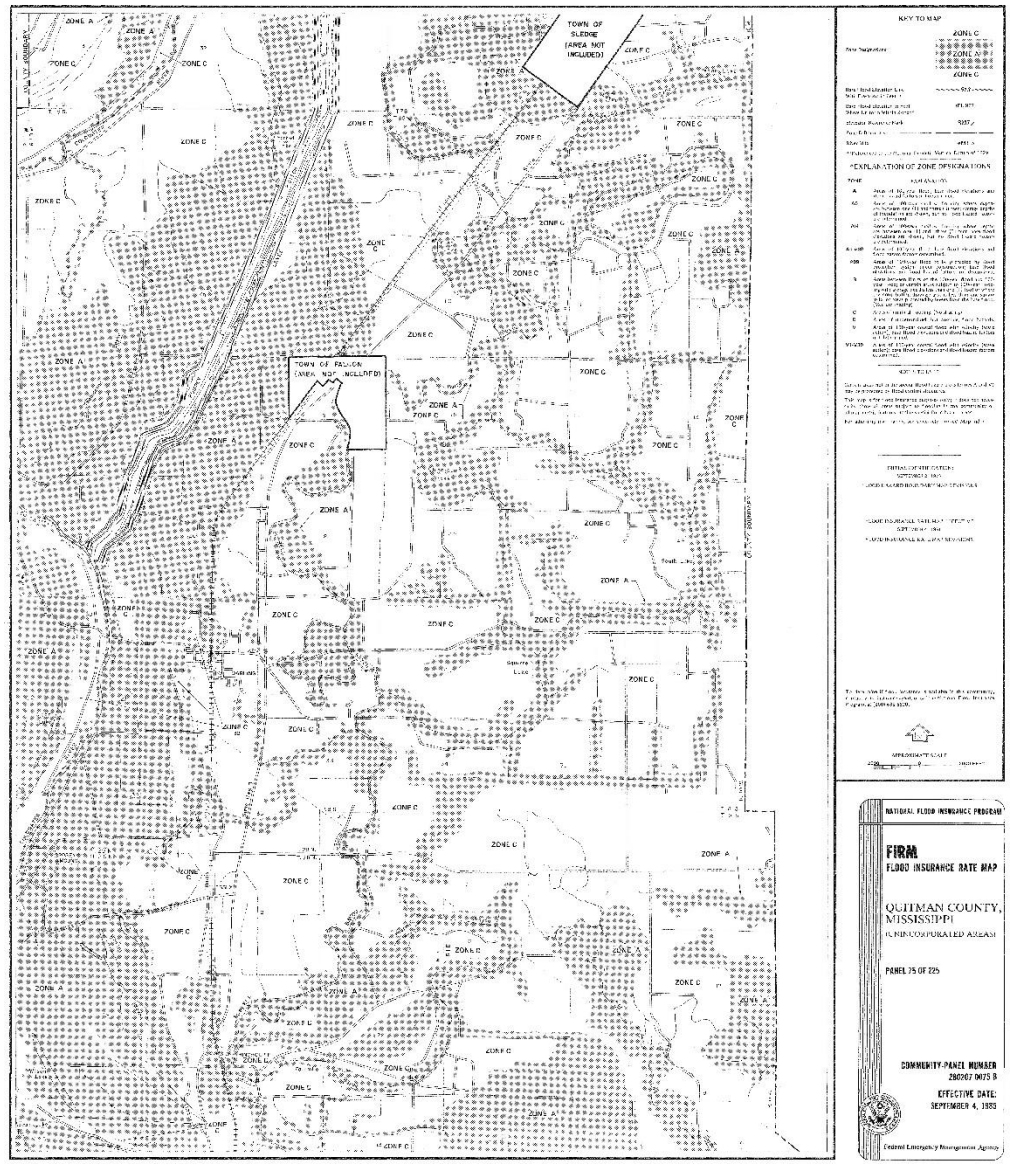
Source: Federal Emergency Management Agency

FIGURE E.11: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



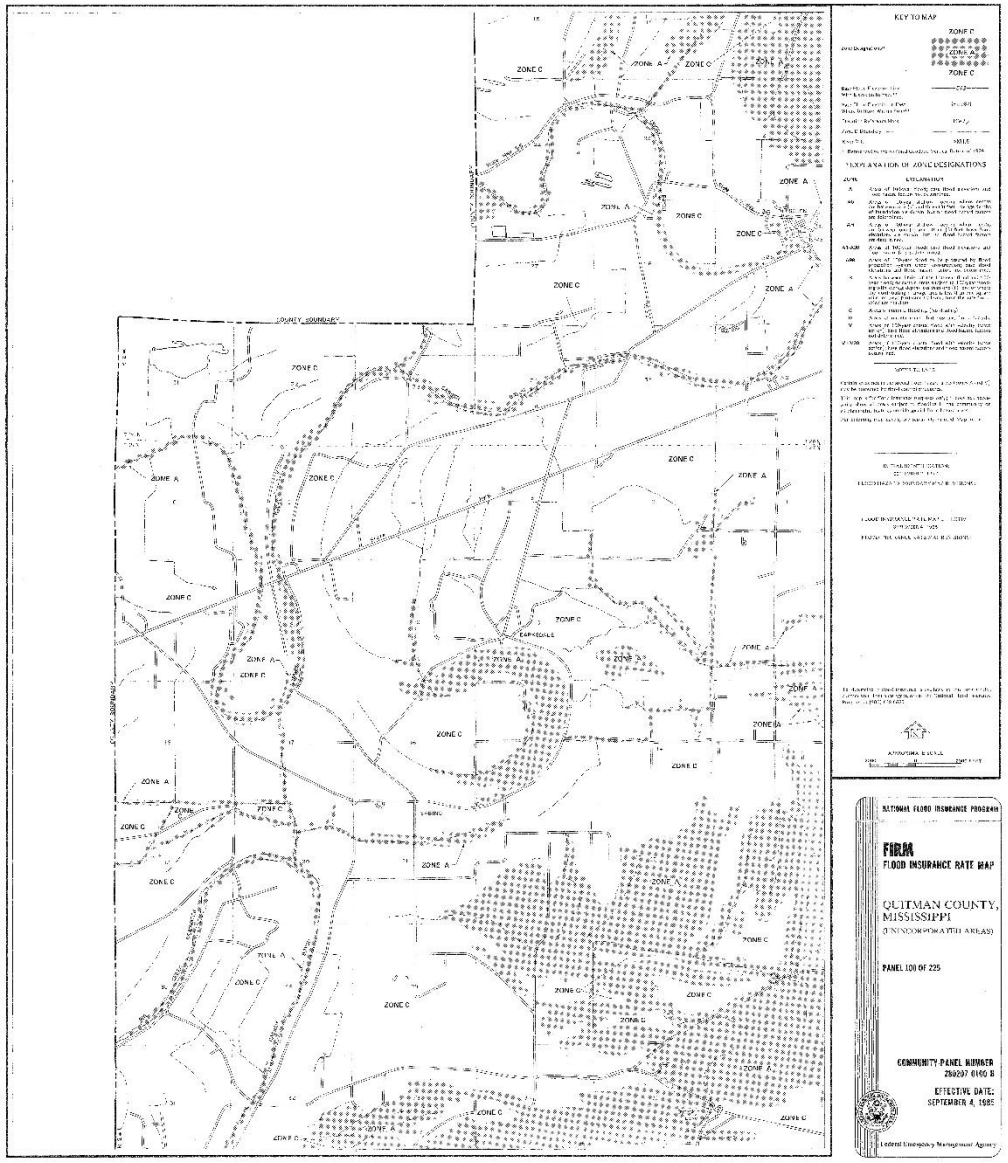
Source: Federal Emergency Management Agency

FIGURE E.12: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



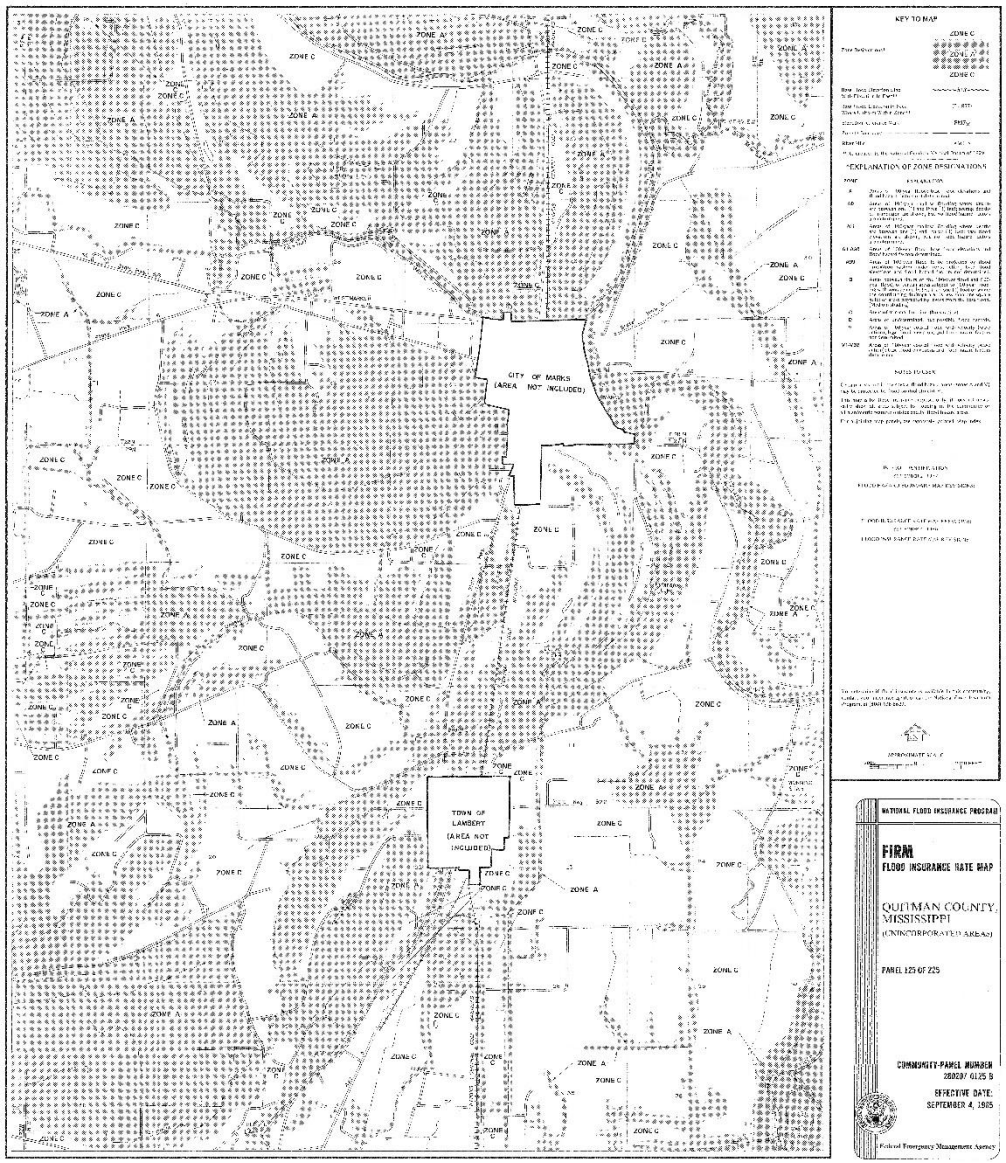
Source: Federal Emergency Management Agency

FIGURE E.13: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



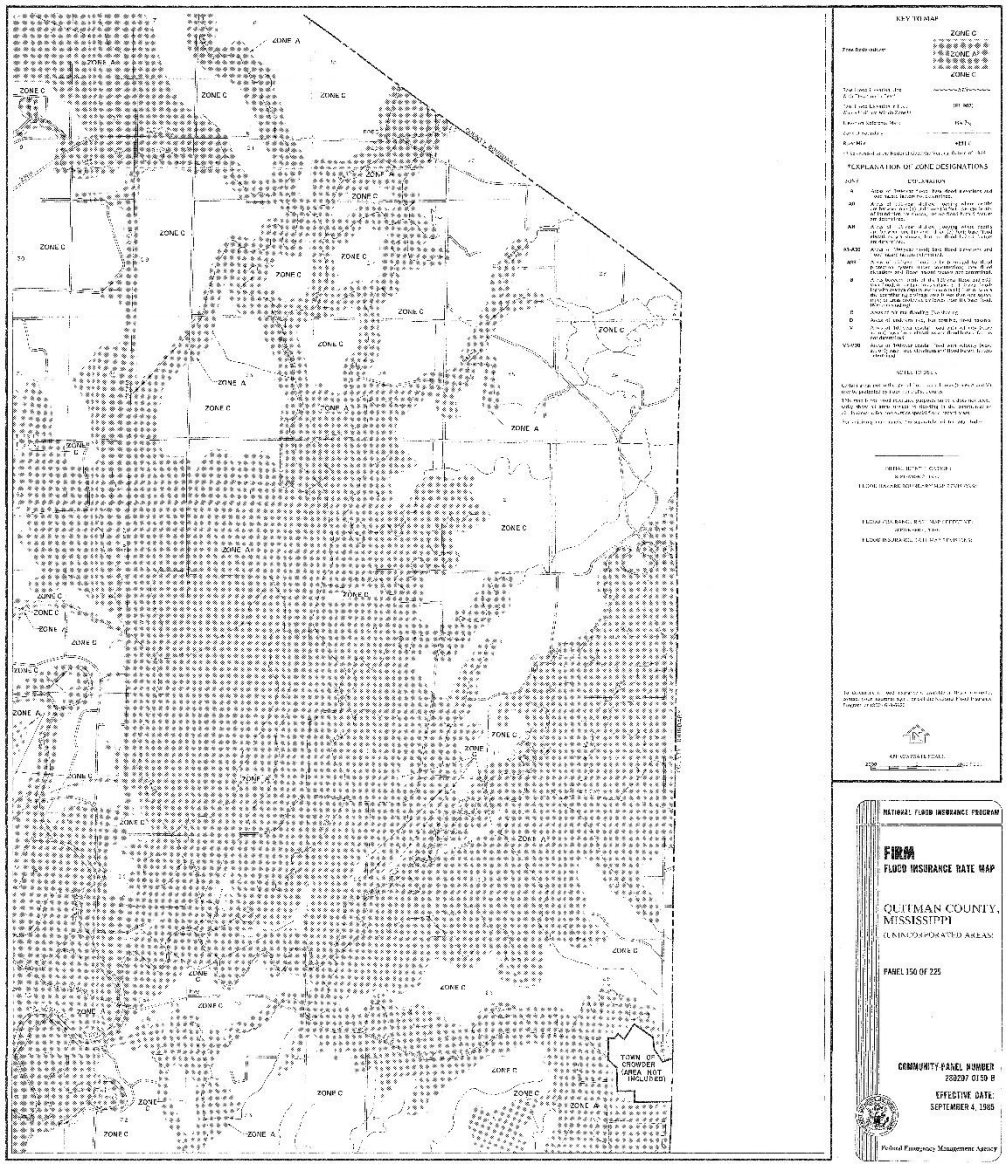
Source: Federal Emergency Management Agency

FIGURE E.14: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



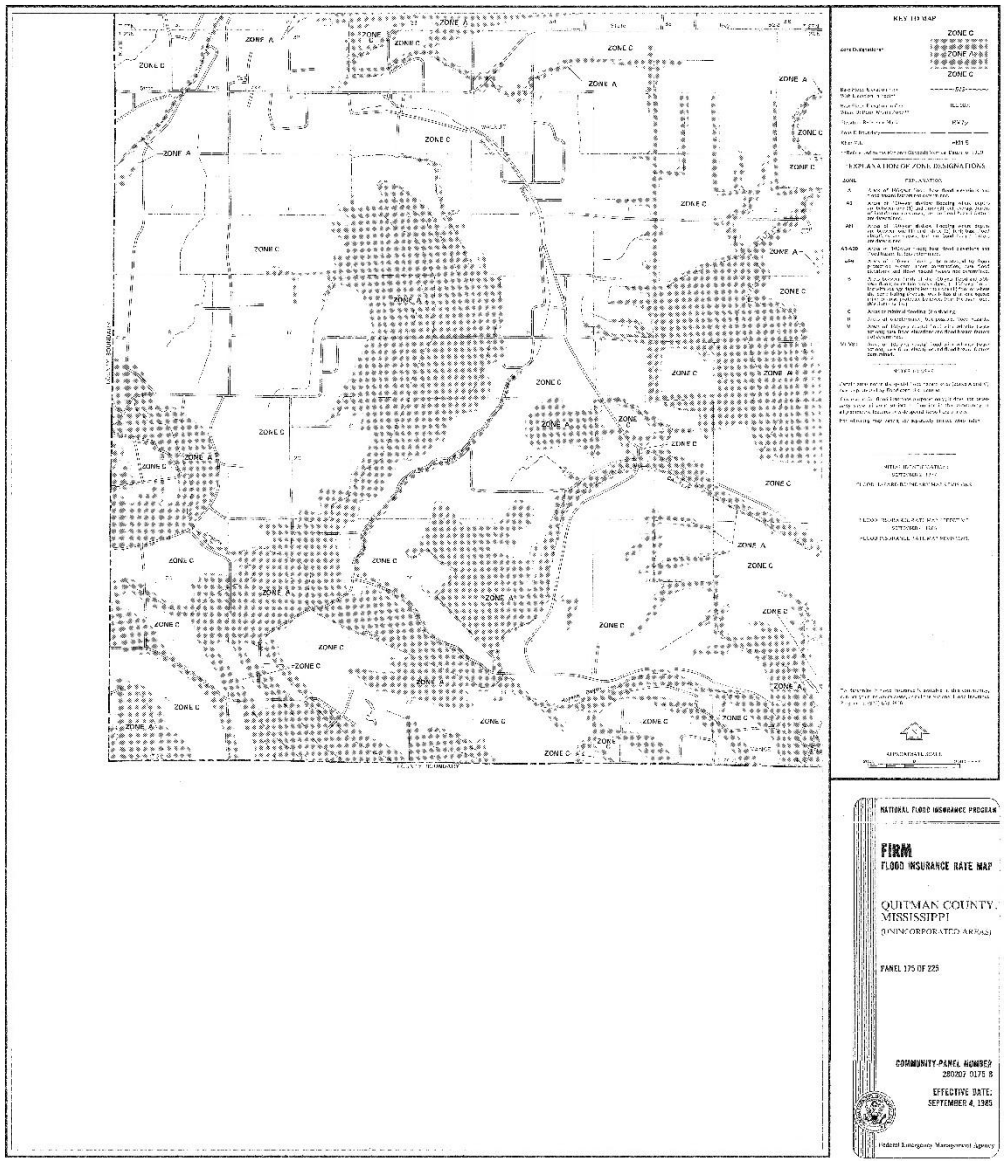
Source: Federal Emergency Management Agency

FIGURE E.15: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



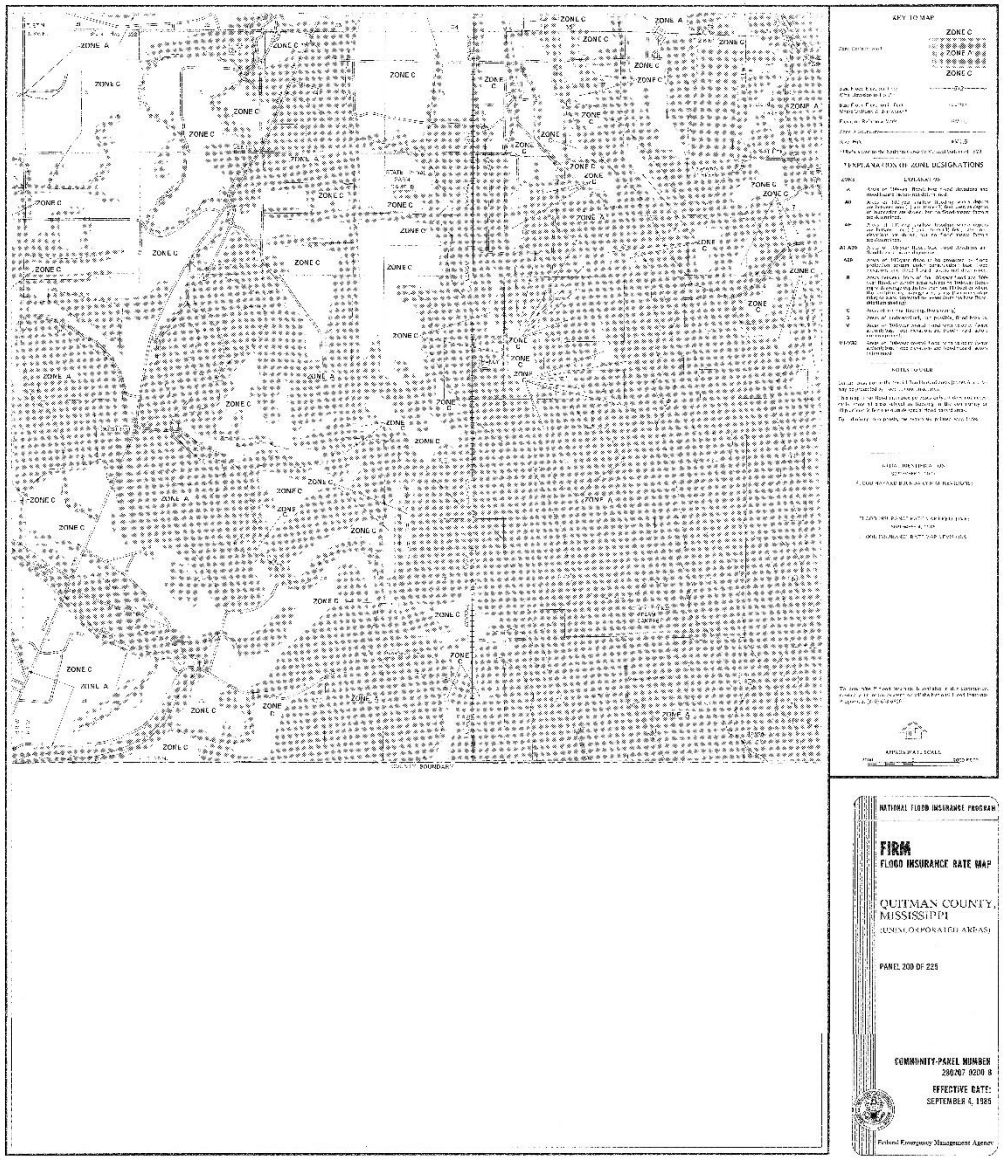
Source: Federal Emergency Management Agency

FIGURE E.16: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



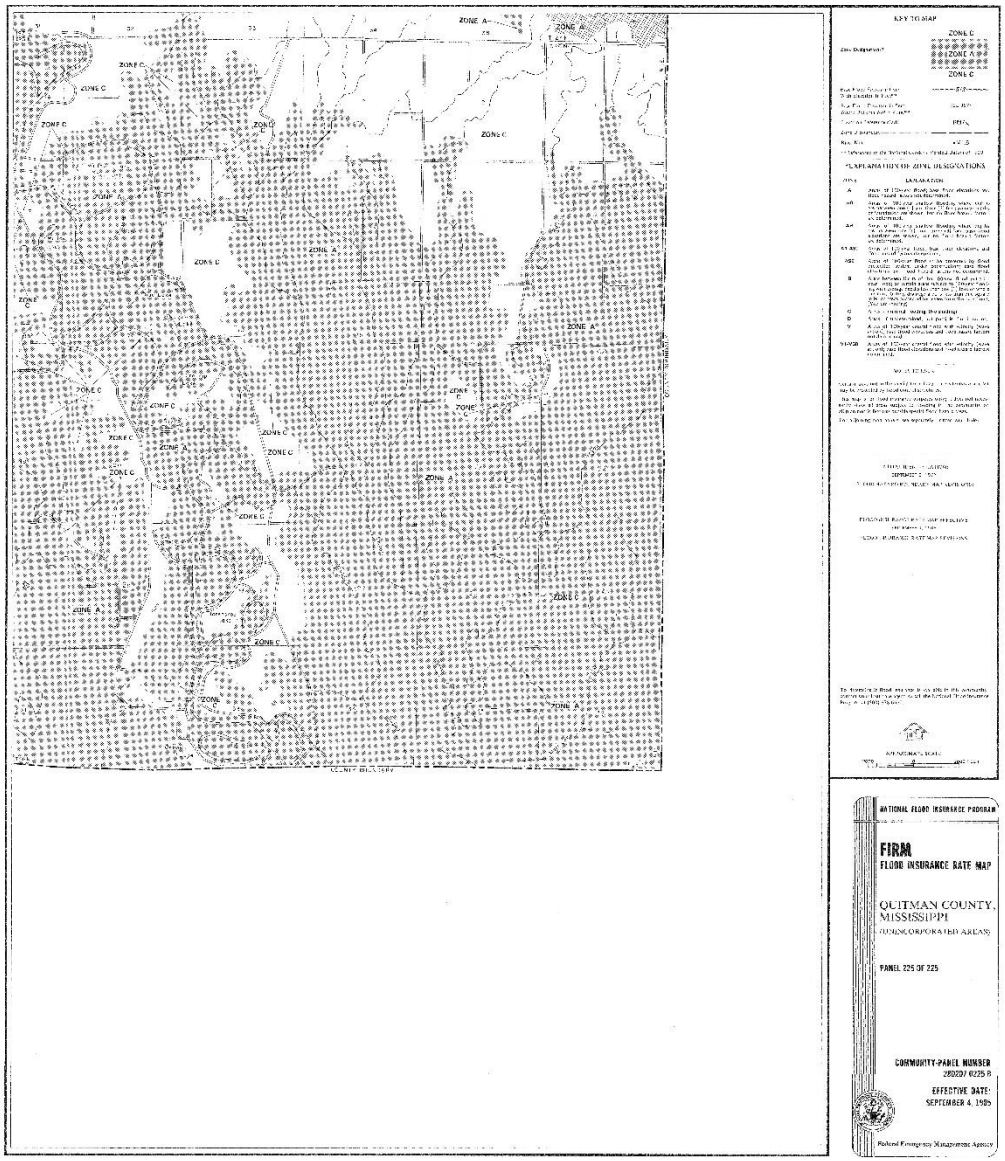
Source: Federal Emergency Management Agency

FIGURE E.17: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



Source: Federal Emergency Management Agency

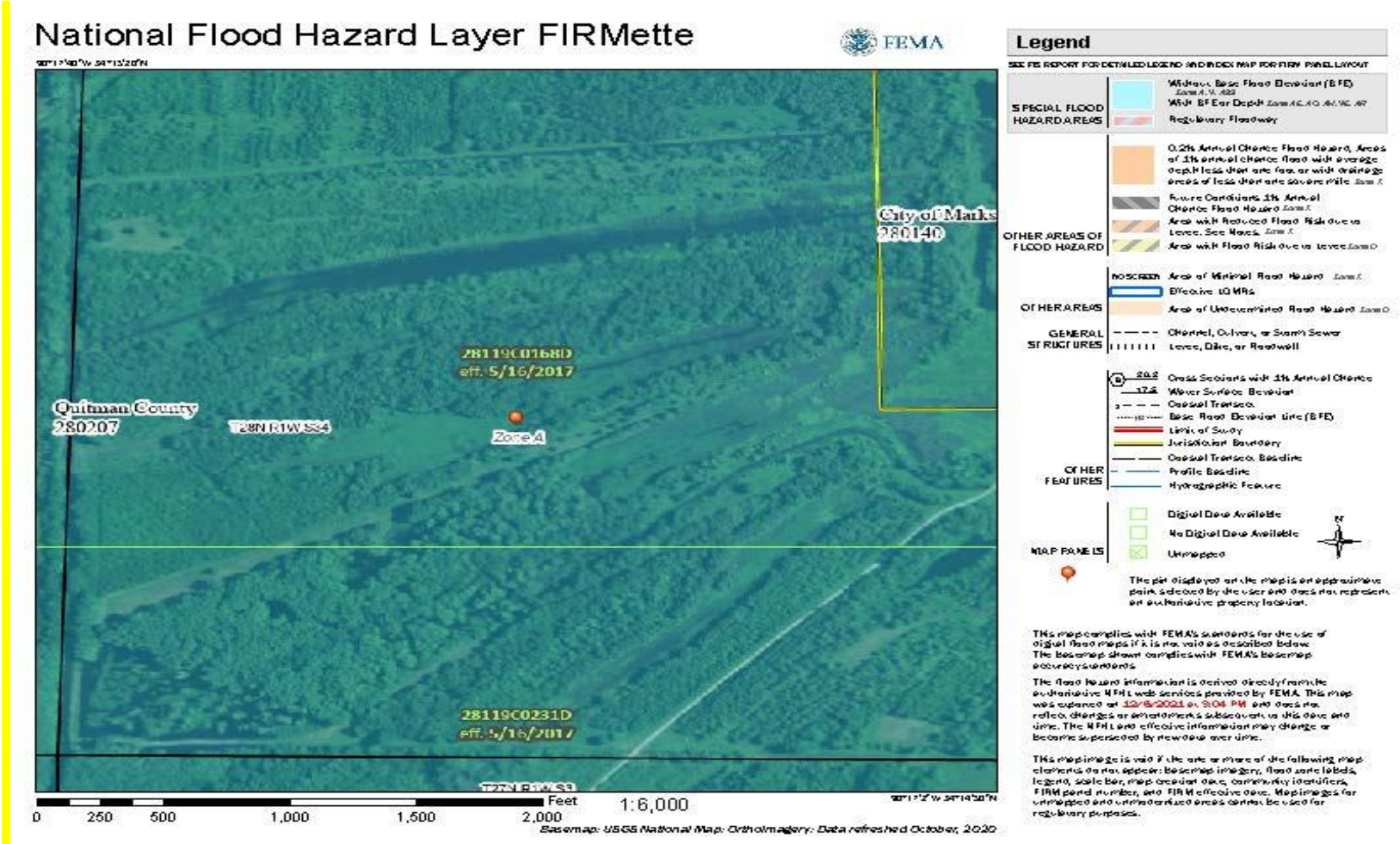
FIGURE E.18: FLOOD INSURANCE RATE MAP FOR QUITMAN COUNTY



Source: Federal Emergency Management Agency

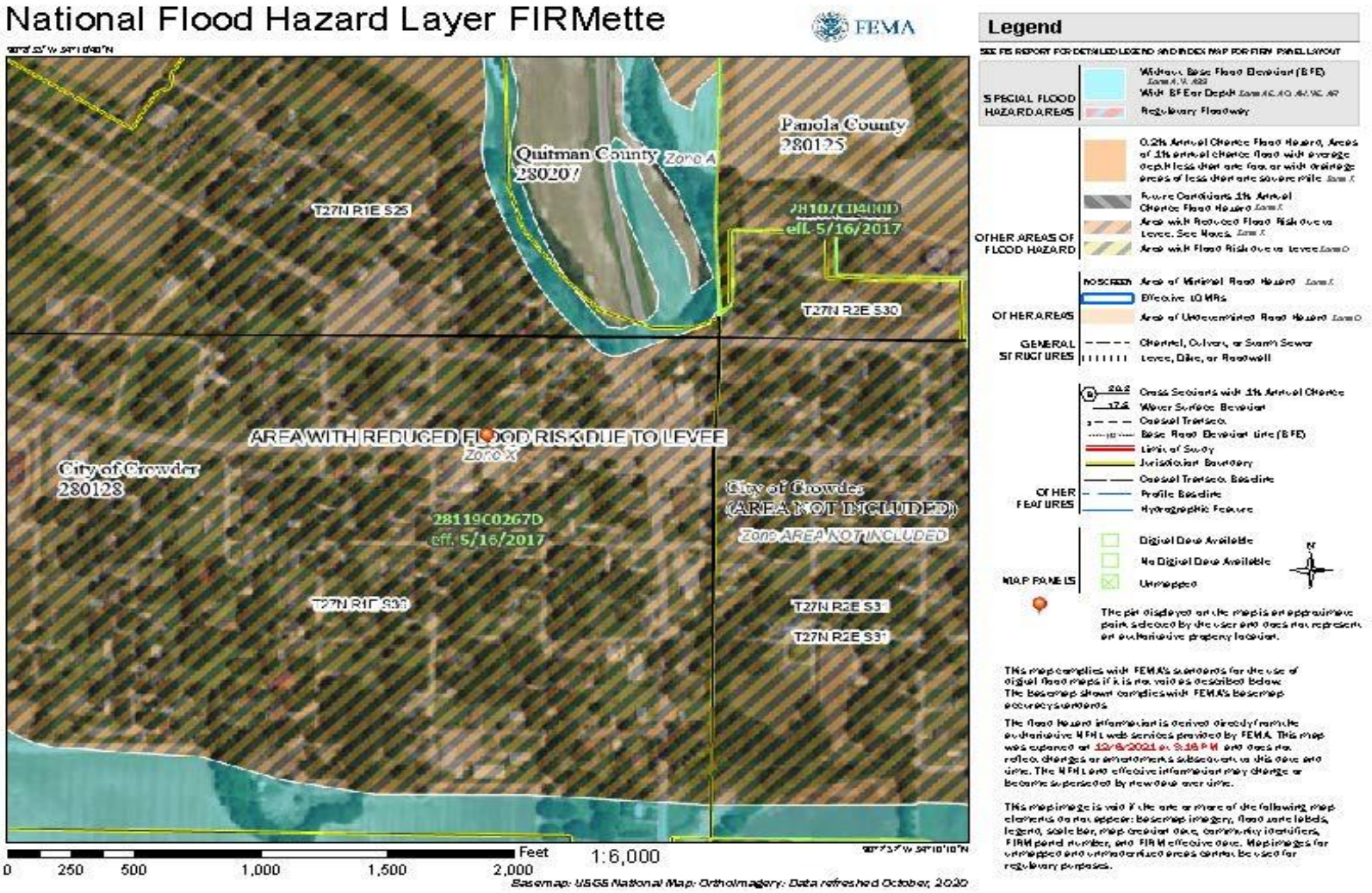
For the 2021 update, **Figures E.18.1 thru E.18.6** contain special flood hazard areas for Quitman County. The location and extent of currently mapped special flood hazard areas for Quitman County and its jurisdictions are based on the best available data.

FIGURE E.18.1: SPECIAL FLOOD HAZARD AREAS FOR QUITMAN COUNTY



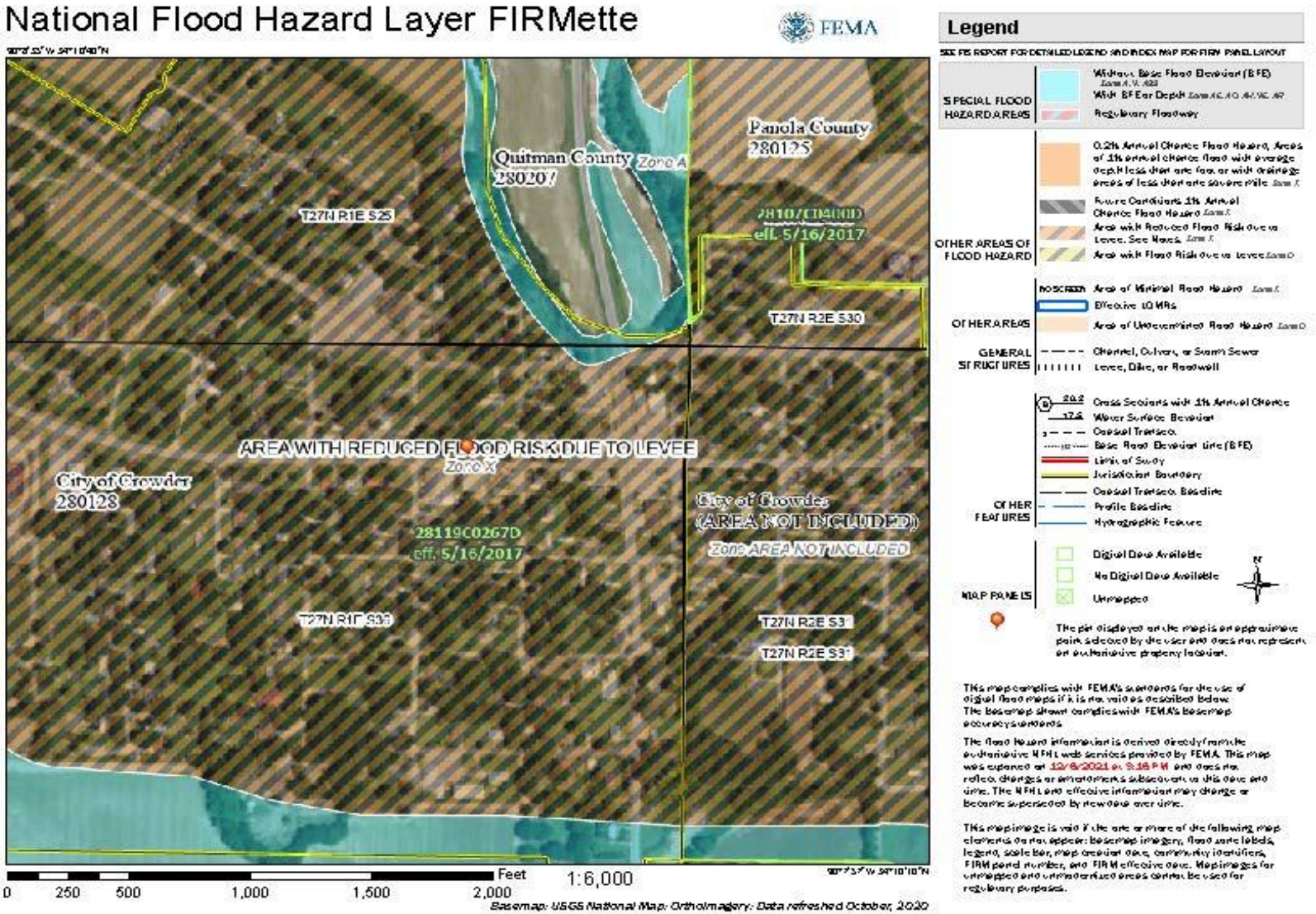
SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY

FIGURE E.18.2: SPECIAL FLOOD HAZARD AREAS FOR QUITMAN COUNTY



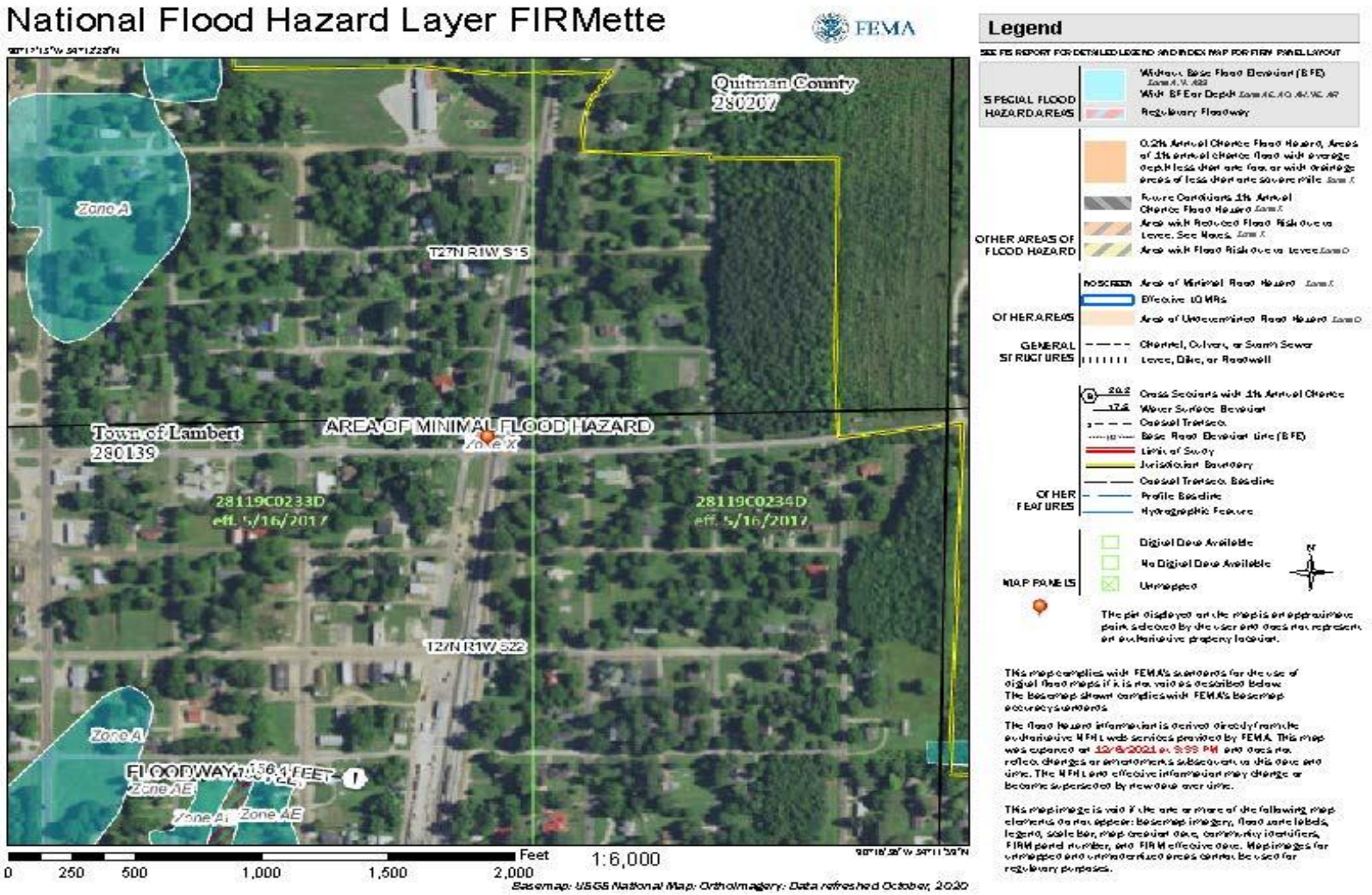
SOURCE: FEDERAL EMERGENCY MANAGEMENT /AGENCY

FIGURE E.18.3: SPECIAL FLOOD HAZARD AREAS FOR QUITMAN COUNTY



SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY

FIGURE E.18.4: SPECIAL FLOOD HAZARD AREAS FOR QUITMAN COUNTY



SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY

FIGURE E.18.5: SPECIAL FLOOD HAZARD AREAS FOR QUITMAN COUNTY

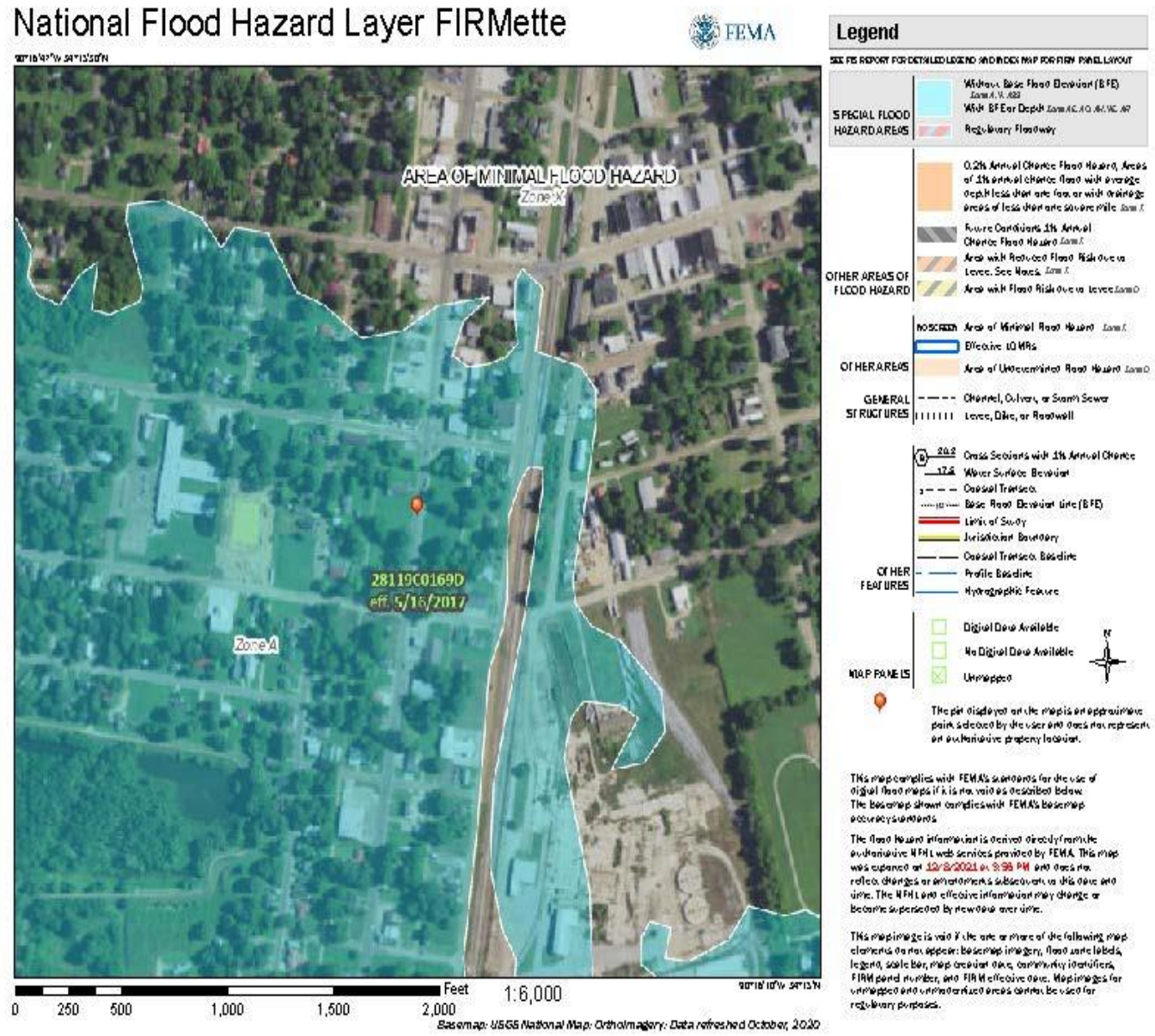
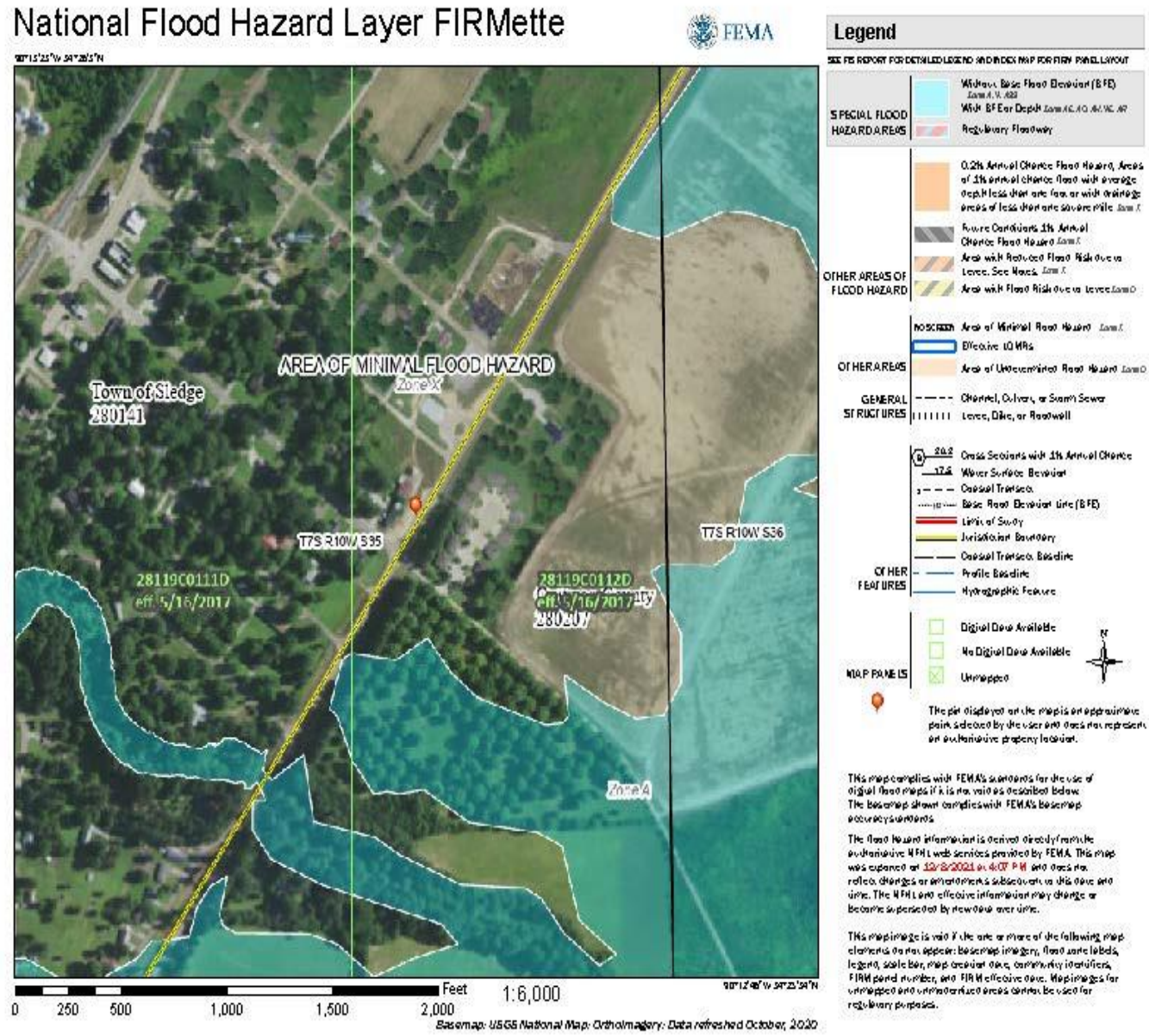


Figure E.18.6: Special Flood Hazard Areas for Quitman County



HISTORICAL OCCURRENCES

Floods were at least partially responsible for eight disaster declarations in Quitman County in 1973, 1990, twice in 1991, 2001, 2011, twice in 2016, 2019, and twice in 2020.[2] Information from the National Climatic Data Center was used to ascertain additional historical flood events. The National Climatic Data Center reported a total of five events in Quitman County since 2001.[3] A summary of these events is presented in **Table E.6**. These events accounted for almost $2.1 million in property damage and two injuries in the county. Specific information on flood events, including date, type of flooding, and deaths and injuries, can be found in **Table E.7**.

TABLE E.6: SUMMARY OF FLOOD OCCURRENCES IN QUITMAN COUNTY

Location	Number of Occurrences	Deaths/Injuries	Property Damage (2021)	Annualized Property Losses
Crowder	0	0/0	$0	$0
Falcon	0	0/0	$0	$0
Lambert	0	0/0	$0	$0
Marks	2	0/0	$60,000	$2,400
Sledge	1	0/2	$2,000,000	$80,000
Unincorporated Area	2	0/0	$2,000	$80
QUITMAN COUNTY TOTAL	**5**	**0/2**	**$2,062,000**	**$82,480**

Source: National Climatic Data Center

TABLE E.7: HISTORICAL FLOOD EVENTS IN QUITMAN COUNTY

Location	Date	Type	Deaths/Injuries	Property Damage
Crowder				
None Reported	--	--	--	--
Falcon				
None Reported	--	--	--	--
Lambert				
None Reported	--	--	--	--
Marks				
MARKS	10/10/2002	Flash Flood	0/0	$10,000
MARKS	5/17/2003	Flash Flood	0/0	$50,000
Sledge				
SLEDGE	3/10/2016	Flood	0/2	$2,000,000
SLEDGE	6/10/2021	Flash Flood	0/0	$700,000
Unincorporated Area				
QUITMAN (ZONE)	12/12/2001	Flood	0/0	$1,000

[2] A 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 Climatic Data Center (NCDC) from 1996 through May 2021. It is likely that additional occurrences have occurred and have gone unreported. As additional local data becomes available, this hazard profile will be amended.

Location	Date	Type	Deaths/Injuries	Property Damage
DARLING	9/26/2002	Flash Flood	0/0	$1,000
NEELS FERRY	6/8/2021	Flash Flood	0/0	$0

Source: National Climatic Data Center

June 8, 2021 (Neels Ferry, Quitman County) – According to NCDC, the 24 hour rainfall total was more than 6 inches. Several low-lying roads were flooded in northwest Quitman County.
June 10, 2021 (Sledge) – According to the NCDC, heavy rain caused flash flooding across Quitman County. Twelve homes and one business, along with 36 roads were impacted.

HISTORICAL SUMMARY OF INSURED FLOOD LOSSES

The below information regarding repetitive loss and severe repetitive is the latest available data for this 2021 plan update due to directive regarding sharing NFIP information. According to FEMA flood insurance policy records as of June 2016, there have been 206 flood losses reported in Quitman County through the National Flood Insurance Program (NFIP) since 1978, totaling over $2.2 million in claims payments. A summary of these figures for the county is provided in **Table E.8**. 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 Quitman County were either uninsured, denied claims payment, or not reported.

TABLE E.8: SUMMARY OF INSURED FLOOD LOSSES IN QUITMAN COUNTY

Location	Number of Policies	Flood Losses	Claims Payments
Crowder	1	1	$11,457
Falcon	0	0	$0
Lambert	6	3	$15,595
Marks	26	51	$542,682
Sledge	14	4	$80,226
Unincorporated Area	92	147	$1,585,969
QUITMAN COUNTY TOTAL	**139**	**206**	**$2,235,929**

Source: National Flood Insurance Program

REPETITIVE LOSS PROPERTIES

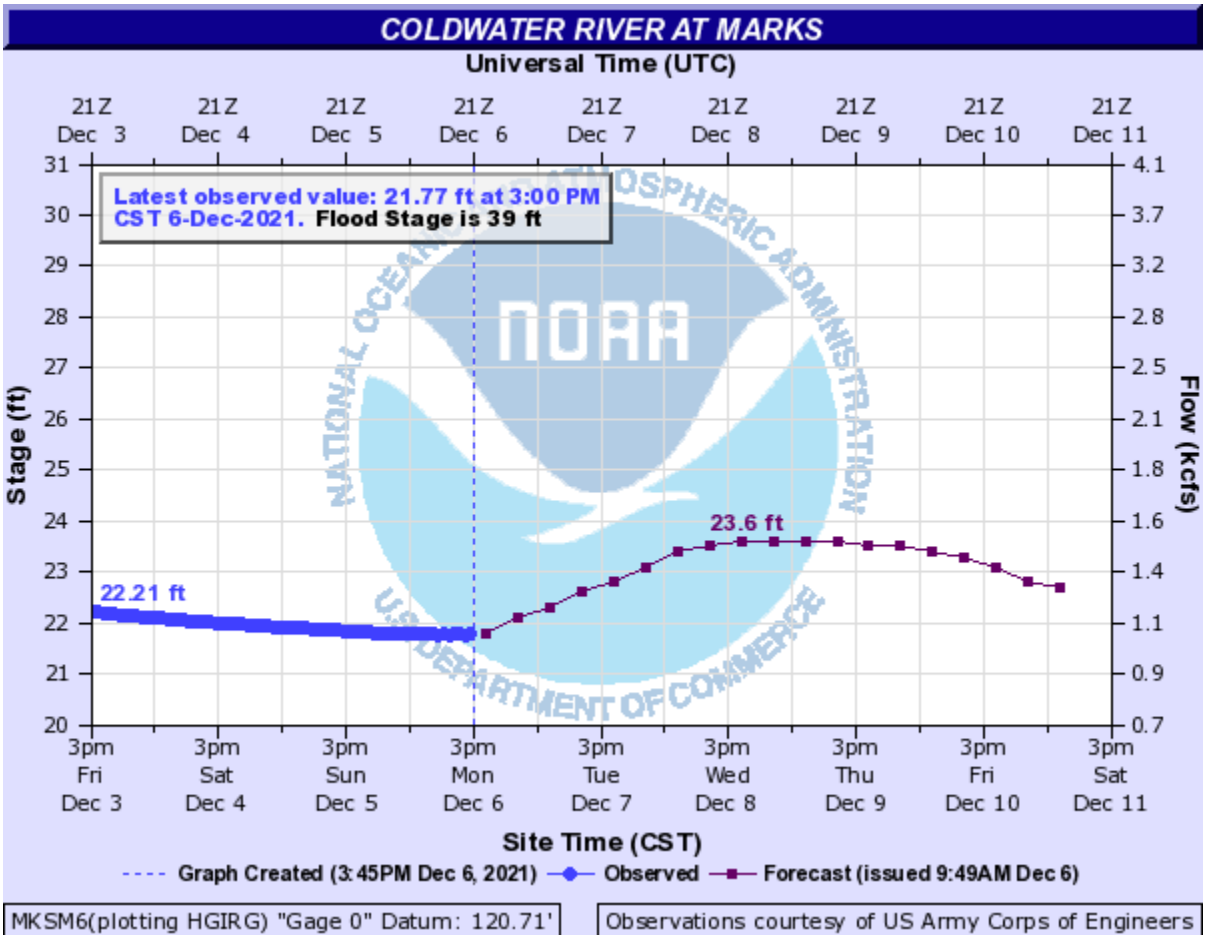
According to the Mississippi Emergency Management Agency, there are 13 non-mitigated repetitive loss properties located in Quitman County, which accounted for 40 losses and almost $440,000 in claims payments under the NFIP. The average claim amount for these properties is $10,997. All 13 properties are single family. Without mitigation, these properties will likely continue to experience flood losses. **Table E.9** presents detailed information on repetitive loss properties and NFIP claims and policies for Quitman County.

TABLE E.9: REPETITIVE LOSS PROPERTIES IN QUITMAN COUNTY

Location	Number of Properties	Types of Properties	Number of Losses	Building Payments	Content Payments	Total Payments	Average Payment
Crowder	0	--	0	$0	$0	$0	$0
Falcon	0	--	0	$0	$0	$0	$0

Location	Number of Properties	Types of Properties	Number of Losses	Building Payments	Content Payments	Total Payments	Average Payment
Lambert	1	1 single family	7	$25,823	$5,609	$31,433	$4,490
Marks	11	11 single family	31	$304,089	$99,219	$403,308	$13,010
Sledge	0	--	0	$0	$0	$0	$0
Unincorporated Area	1	1 single family	2	$3,229	$1,890	$5,120	$2,560
QUITMAN COUNTY TOTAL	**13**		**40**	**$333,141**	**$106,718**	**$439,861**	**$10,997**

*These communities do not participate in the National Flood Insurance Program. Therefore, no values are reported.
Source: National Flood Insurance Program



Source: National Weather Service

Flood statistics for Coldwater River, Marks, MS

Flood Categories (in feet)

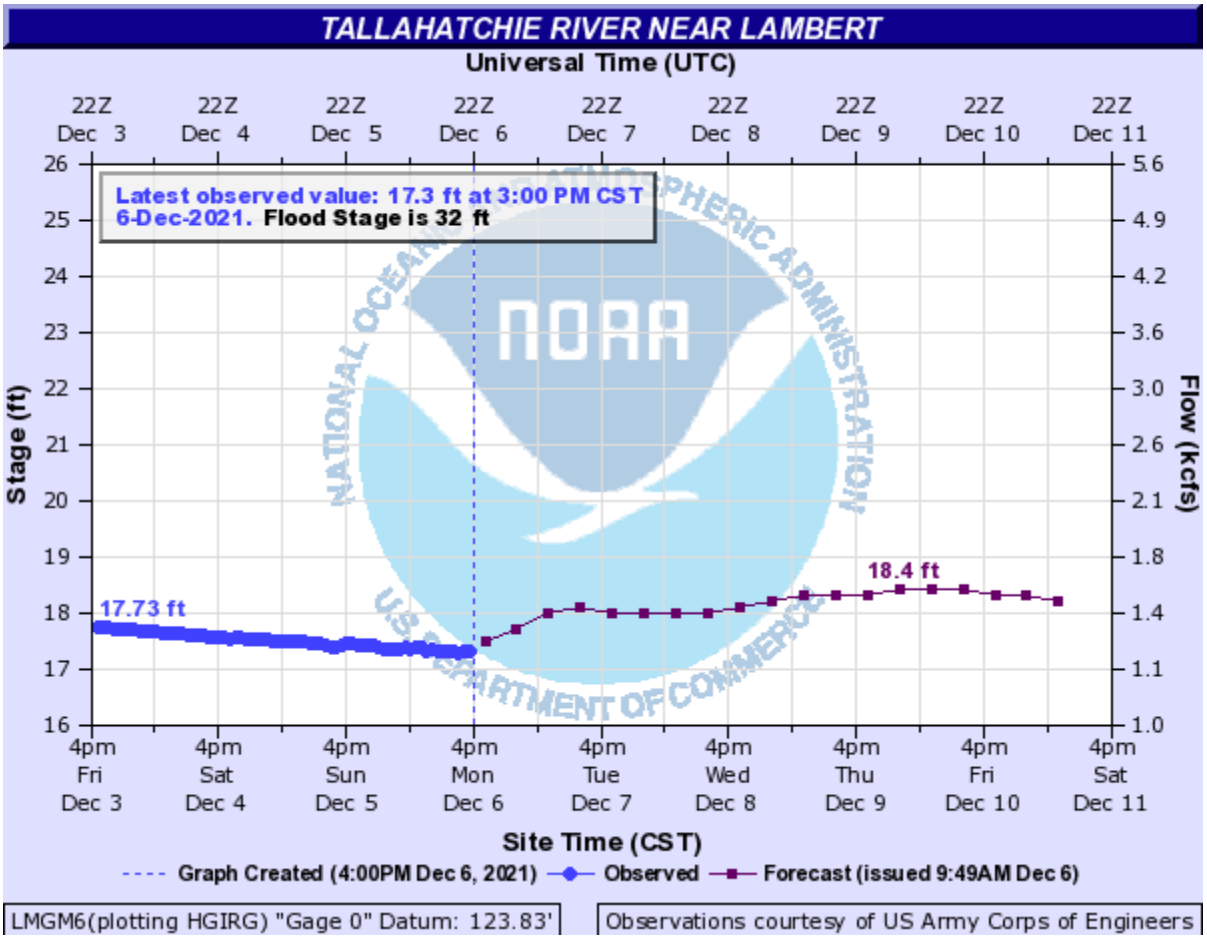
Major Flood Stage: 43

Moderate Flood Stage:	41
Flood Stage:	39
Action Stage:	35
Low Stage (in feet):	0

Historic Crests
(1) 42.08 ft on 03/16/2016
(2) 41.89 ft on 12/01/1991
(3) 41.29 ft on 12/25/2001
(4) 41.17 ft on 02/26/2019 **(P)**
(5) 40.50 ft on 12/26/2002

(P): Preliminary values subject to further review.

Recent Crests
(1) 41.17 ft on 02/26/2019 **(P)**
(2) 36.38 ft on 12/24/2017
(3) 42.08 ft on 03/16/2016
(4) 33.93 ft on 02/28/2014
(5) 38.83 ft on 05/21/2003



Source: National Weather Service

Flood Statistics for Tallahatchie River, Lambert, MS

Flood Categories (in feet)

Major Flood Stage:	37
Moderate Flood Stage:	35
Flood Stage:	32
Action Stage:	31
Low Stage (in feet):	0

Historic Crests
(1) 35.54 ft on 01/30/1937
(2) 34.00 ft on 05/11/1991
(3) 33.51 ft on 02/28/2019 **(P)**
(4) 32.95 ft on 12/27/2002
(5) 32.80 ft on 12/30/1982
Show More Historic Crests

(P): Preliminary values subject to further review.

Recent Crests
(1) 33.51 ft on 02/28/2019 **(P)**
(2) 28.21 ft on 12/25/2017
(3) 26.74 ft on 03/30/2014
(4) 32.95 ft on 12/27/2002
(5) 32.12 ft on 10/15/2002

Hydrology Report River Gauges with Flood Impacts Summary
Friday, April 2, 2021

Source: Mississippi Emergency Management Agency

• Coldwater River at Marks- Flood Stage 39'
Minor Flooding
Latest Level 39.36' - 24hr Change 0.27
@42 Numerous homes in Northern Quitman County are flooded.
@41.5 Much of northern Quitman county is flooded.
@41 Widespread flooding of residential areas and farmland is occurring in northern Quitman county. Numerous secondary roads are flooded.
@40 Extensive flooding is occurring around Marks and in northern Quitman County.
@39.5 Flooding is occurring around Marks and in low-lying farmland in Quitman County.
@39 Low-lying farmland is flooded in northern Quitman County.
@38 Low-lying agricultural land begins to flood

June 8, 2021 – According to Mississippi Emergency Management Agency, Quitman County had 12 homes, 36 roads, and 1 business to be impacted by flooding. Significant flash flooding affected North

Mississippi. Counties reported 551 homes impacted, 17 businesses, and 286 public roads and buildings were impacted by this event.

PROBABILITY OF FUTURE OCCURRENCES

Flood events will remain a threat in Quitman County, and the probability of future occurrences will remain highly likely (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).

It can be inferred from the floodplain location maps, previous occurrences, and repetitive loss properties that risk varies throughout the county. 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.

FIRE-RELATED HAZARDS

E.2.4 Drought

LOCATION AND SPATIAL EXTENT

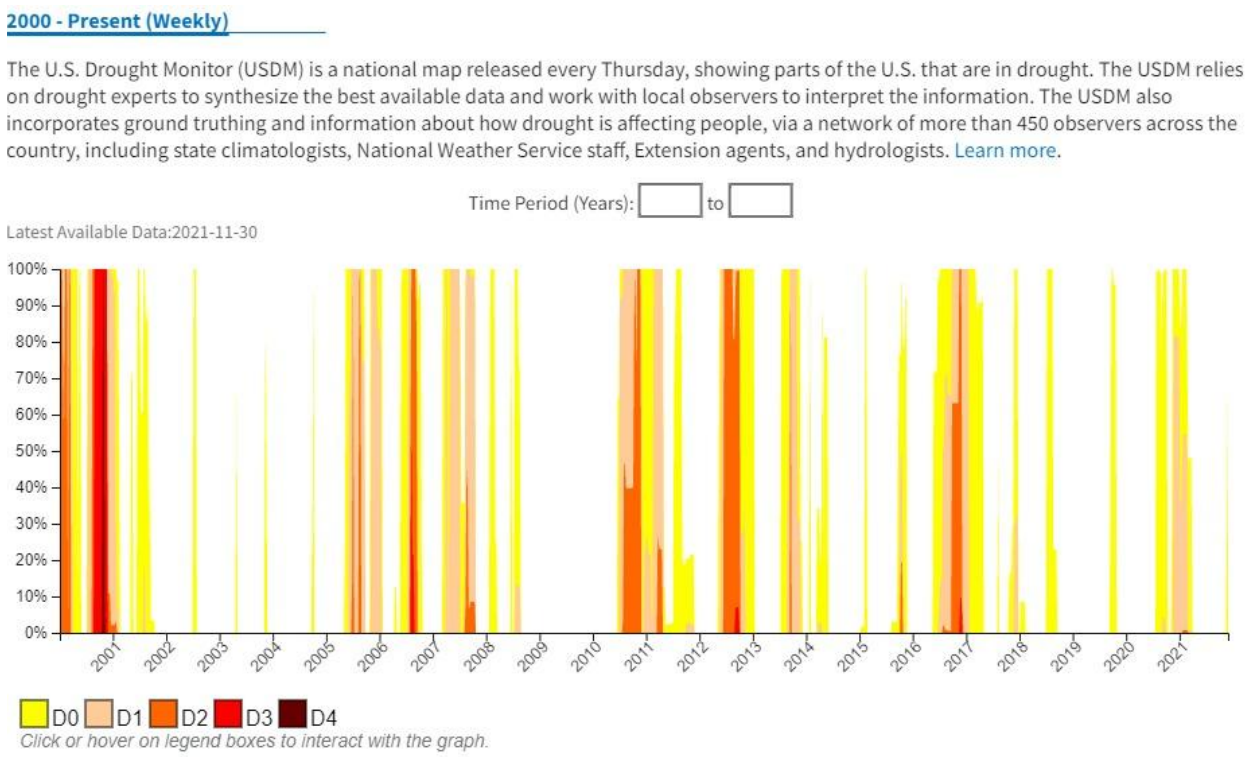
Drought typically covers a large area and cannot be confined to any geographic or political boundaries. District 1 Regional Hazard Mitigation Council determined that all jurisdictions in Quitman County could be uniformly exposed to drought, making the spatial extent potentially widespread. It is also notable that drought conditions typically do not cause significant damage to the built environment but may exacerbate wildfire conditions.

HISTORICAL OCCURRENCES

According to the U.S. Drought Monitor, Quitman County had drought levels of Severe or worse in 10 of the last 22 years (January 2000-June 2021). **Table E.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 E.10: HISTORICAL DROUGHT OCCURRENCES IN QUITMAN COUNTY

Abnormally Dry (D0) Moderate Drought (D1) Severe Drought (D2) Extreme Drought (D3) Exceptional Drought (D4)



Source: United States Drought Monitor (through June 2021)

Some additional anecdotal information was provided from the National Climatic Data Center on droughts in Quitman 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 2010 to Spring 2011 – Below normal rainfall from June 2010 until April 2011 resulted in drought across Northwest Mississippi. The biggest impact of the drought was on agriculture as many crops suffered due to the lack of rainfall. Many pastures were in poor condition forcing farmers to feed livestock with baled hay. Hydrological concerns started to become an issue by the end of September into March as many

lake and river levels dropped. Lack of moisture in the ground also caused several pipes to burst in the region. Burn bans were issued for most of North Mississippi.

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.

September 2013 – A prolonged dry spell during the latter part of the summer produced severe drought conditions across portions of Northwest Mississippi by the beginning of September. However, drought conditions improved by the latter part of the month as several periods of rain occurred from passing cold fronts. Little damage occurred to crops as crops were being harvested at the time. Cattle possibly had a hard time finding adequate water sources as rivers and lakes were at low levels.

Fall 2015 – Abnormally dry conditions during the latter part of the summer into the early part of fall led to moderate drought conditions over portions of Northwest Mississippi during October and November. The drought had little impact with agriculture as the dry weather allowed crops to be harvested and winter wheat to be planted. However, the dry conditions did elevate the risk of wildfires. River and lake levels were also at low levels.

Summer to Fall 2016 – Moderate to severe drought experienced in the MEMA District 1 Region.

HISTORICAL DROUGHT OCCURRENCES IN QUITMAN COUNTY (2010 – 2021)

Location	Date	Type	Magnitude	Death	Injury	Property Damage	Crop Damage
QUITMAN (ZONE)	8/3/2010	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	9/1/2010	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	10/1/2010	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	11/1/2010	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	3/22/2011	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	4/1/2011	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	6/19/2012	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	7/1/2012	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	8/1/2012	Drought		0	0	0.00K	0.00K

QUITMAN (ZONE)	9/1/2012	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	10/1/2012	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	9/17/2016	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	9/27/2016	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	10/1/2016	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	11/1/2016	Drought		0	0	0.00K	0.00K
QUITMAN (ZONE)	12/1/2016	Drought		0	0	0.00K	0.00K

Source: NOAA

PROBABILITY OF FUTURE OCCURRENCES

Based on historical occurrence information, it is assumed that Quitman County has a probability level of likely (between 10 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.

E.2.5 Lightning

LOCATION AND SPATIAL EXTENT

Lightning occurs randomly, therefore it is impossible to predict where and with what frequency it will strike. District 1 Regional Hazard Mitigation Council determined that all jurisdictions in Quitman County could be equally impacted by lightning.

HISTORICAL OCCURRENCES

According to the National Climatic Data Center, there have been no recorded lightning events in Quitman County since 1996 (**Table E.11**).[4] Detailed information on historical lightning events can be found in **Table E.12**.

It is certain that lightning 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.

[4] These lightning events are only inclusive of those reported by the National Climatic Data Center (NCDC) from 1996 through May 2021. It is certain that additional lightning events have occurred in Quitman County. As additional local data becomes available, this hazard profile will be amended.

TABLE E.11: SUMMARY OF LIGHTNING OCCURRENCES IN QUITMAN COUNTY

Location	Number of Occurrences	Deaths/Injuries	Property Damage (2021)	Annualized Property Losses
Crowder	0	0/0	$0	$0
Falcon	0	0/0	$0	$0
Lambert	0	0/0	$0	$0
Marks	0	0/0	$0	$0
Sledge	0	0/0	$0	$0
Unincorporated Area	0	0/0	$0	$0
QUITMAN COUNTY TOTAL	**0**	**0/0**	**$0**	**$0**

Source: National Climatic Data Center

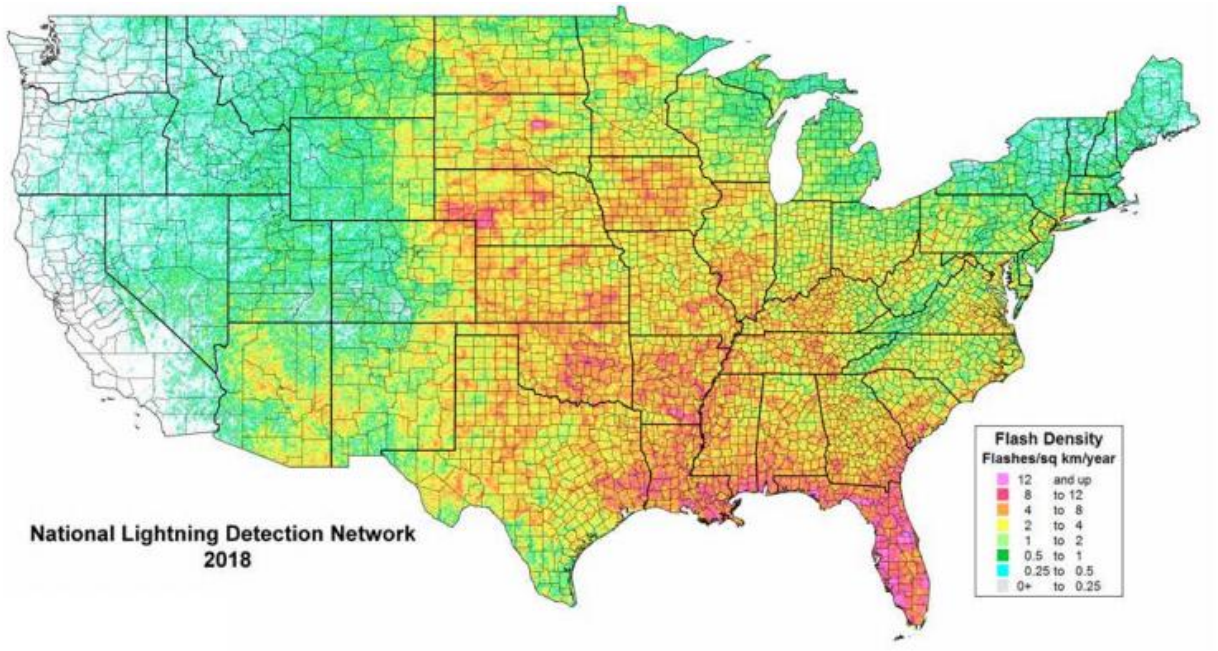
TABLE E.12: HISTORICAL LIGHTNING OCCURRENCES IN QUITMAN COUNTY

Location	Date	Deaths / Injuries	Property Damage*	Details
Crowder				
None Reported	--	--	--	--
Falcon				
None Reported	--	--	--	--
Lambert				
None Reported	--	--	--	--
Marks				
None Reported	--	--	--	--
Sledge				
None Reported	--	--	--	--
Unincorporated Area				
None Reported	--	--	--	--

Source: National Climatic Data Center

PROBABILITY OF FUTURE OCCURRENCES

Although there were no historical lightning events reported in Quitman County via NCDC 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), Quitman County is located in an area of country that experienced an average of 4 to 12 lightning flashes per square kilometer per year between 2005 and 2018. Therefore, the probability of future events is highly likely (100 percent annual probability). It can be expected that future lightning events will continue to threaten life and cause minor property damages throughout the county.



E.2.6 Wildfire

LOCATION AND SPATIAL EXTENT

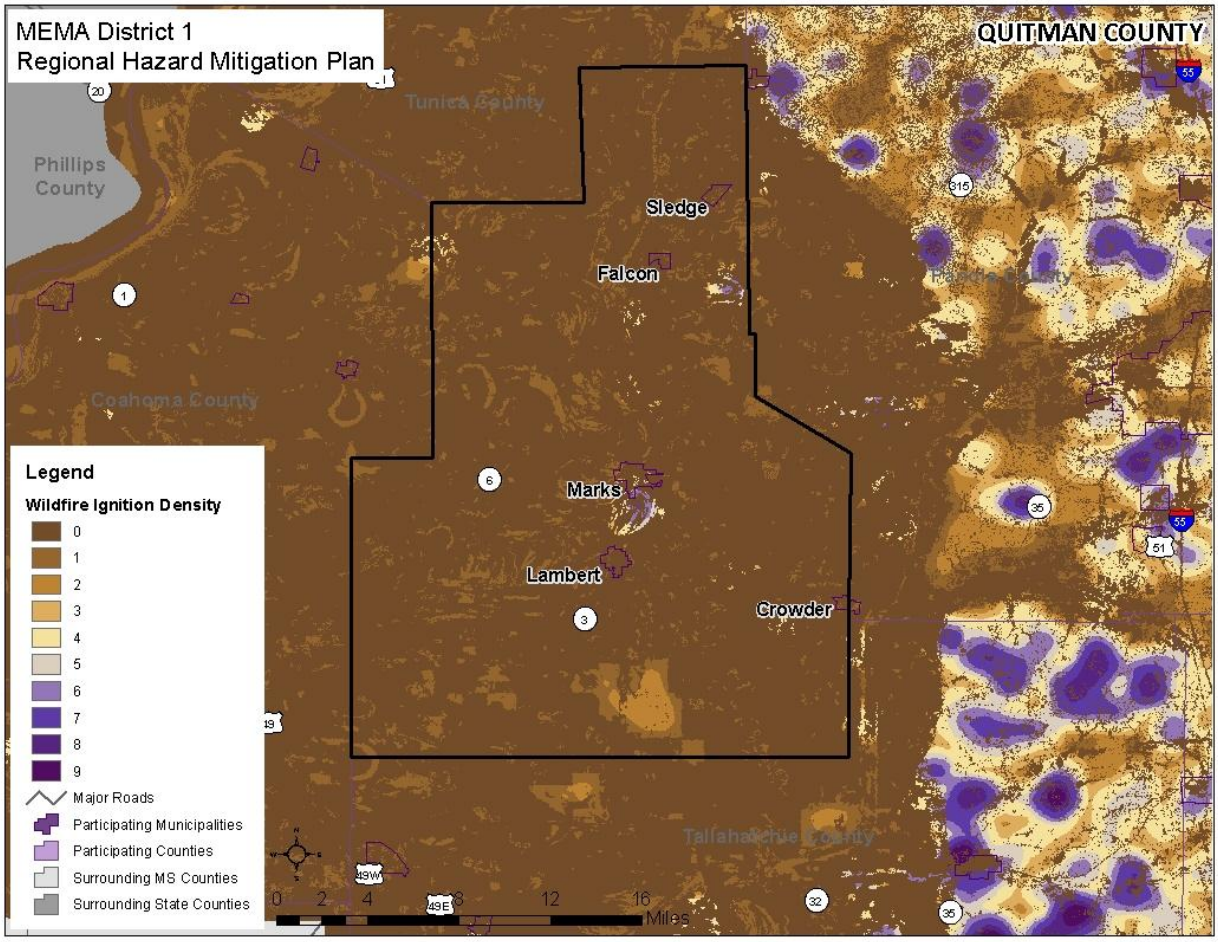
The entire county is at risk to a wildfire occurrence. However, several factors such as drought conditions or high levels of fuel on the forest floor, may make a wildfire more likely. Wildfire is a spatial hazard, and jurisdiction specific information is required for location and extent; however, the Mississippi Forestry Commission only provides county-level data, so there is no data on each jurisdiction in Quitman County. 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 E.19 shows the Wildfire Ignition Density in Quitman 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.[5]

[5] Southern Wildfire Risk Assessment, 2014.

FIGURE E.19: WILDFIRE IGNITION DENSITY IN QUITMAN COUNTY



Source: Southern Wildfire Risk Assessment

Based on data from the Mississippi Forestry Commission from 2012 to 2021, Quitman County experienced an average of 2.6 wildfires annually which burned a combined 75.1 acres per year. The data indicate that these fires averaged about 28.9 acres per fire. **Table E.13** provides a summary of wildfire occurrences in Quitman County and **Table E.14** lists the number of reported wildfire occurrences in the county between the years 2012 and 2021.

TABLE E.13: SUMMARY TABLE OF ANNUAL WILDFIRE OCCURRENCES (2012 -2021)*

	Quitman County
Average Number of Fires per year	2.6
Average Number of Acres Burned per year	75.1
Average Number of Acres Burned per fire	28.9

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

TABLE E.14: HISTORICAL WILDFIRE OCCURRENCES IN QUITMAN COUNTY

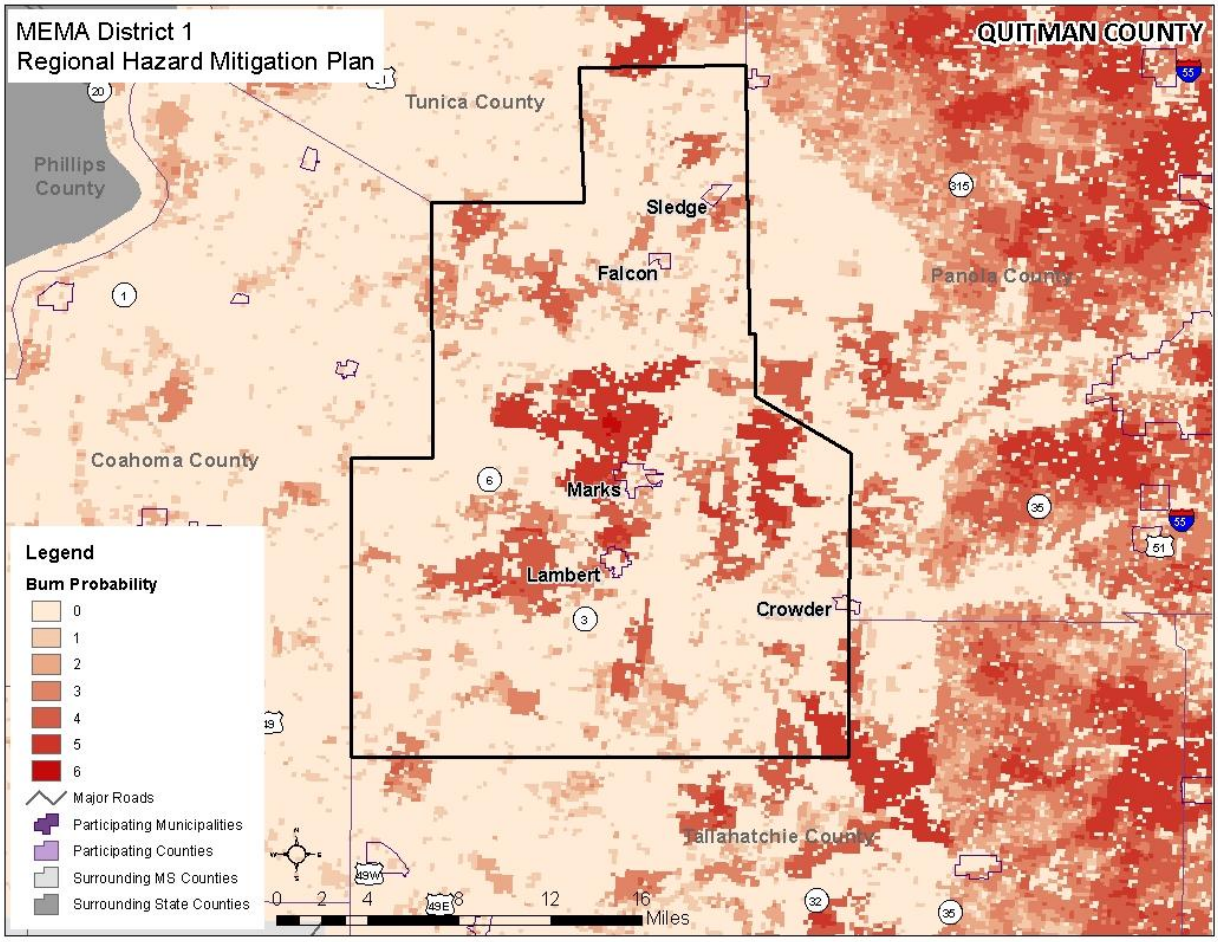
Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Quitman County										
Number of Fires	6	5	0	0	11	1	none	3	none	none
Number of Acres Burned	97	223	0	0	314	5	none	112	none	none

Source: Mississippi Forestry Commission

PROBABILITY OF FUTURE OCCURRENCES

Wildfire events will be an ongoing occurrence in Quitman County. **Figure E.20** 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 Quitman County for future wildfire events is highly likely (100 percent annual probability).

FIGURE E.20: BURN PROBABILITY IN QUITMAN COUNTY



Source: Southern Wildfire Risk Assessment

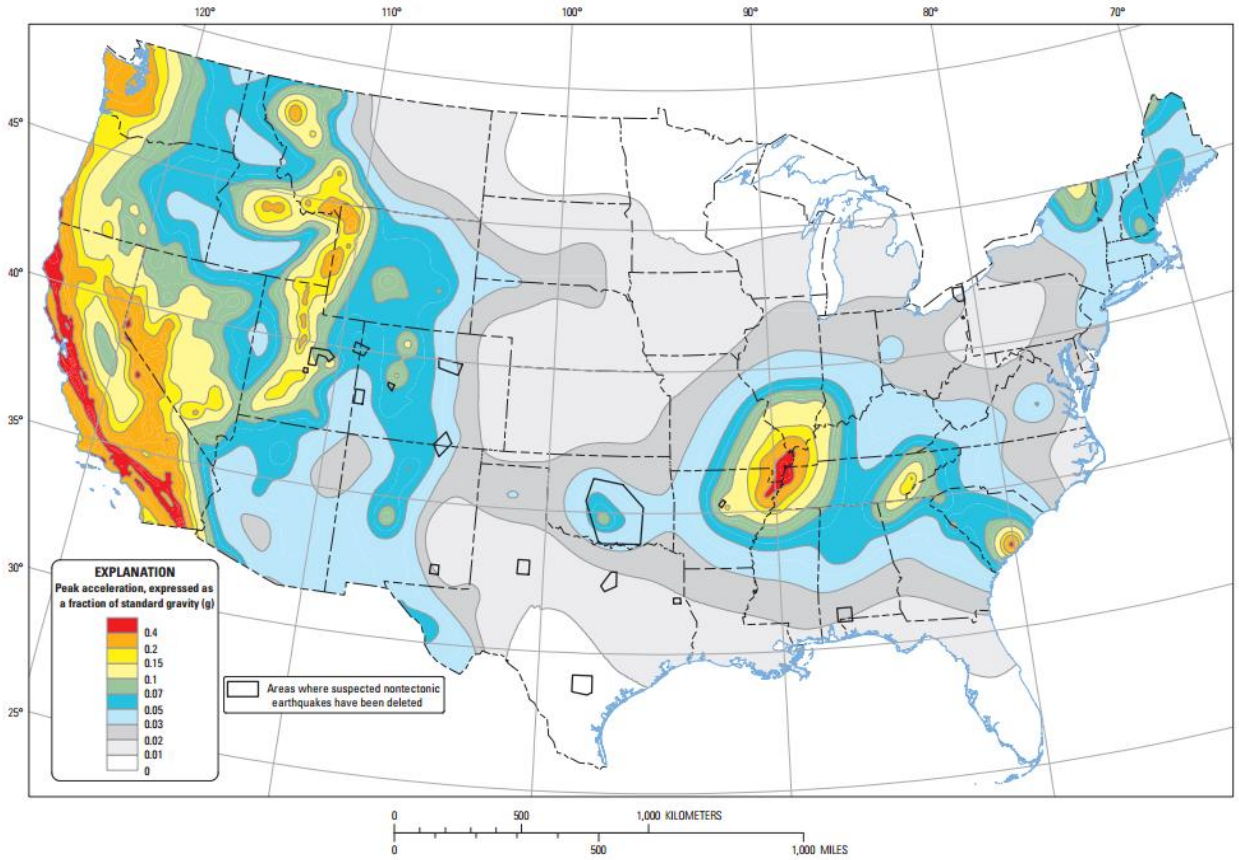
GEOLOGIC HAZARDS

E.2.7 Earthquake

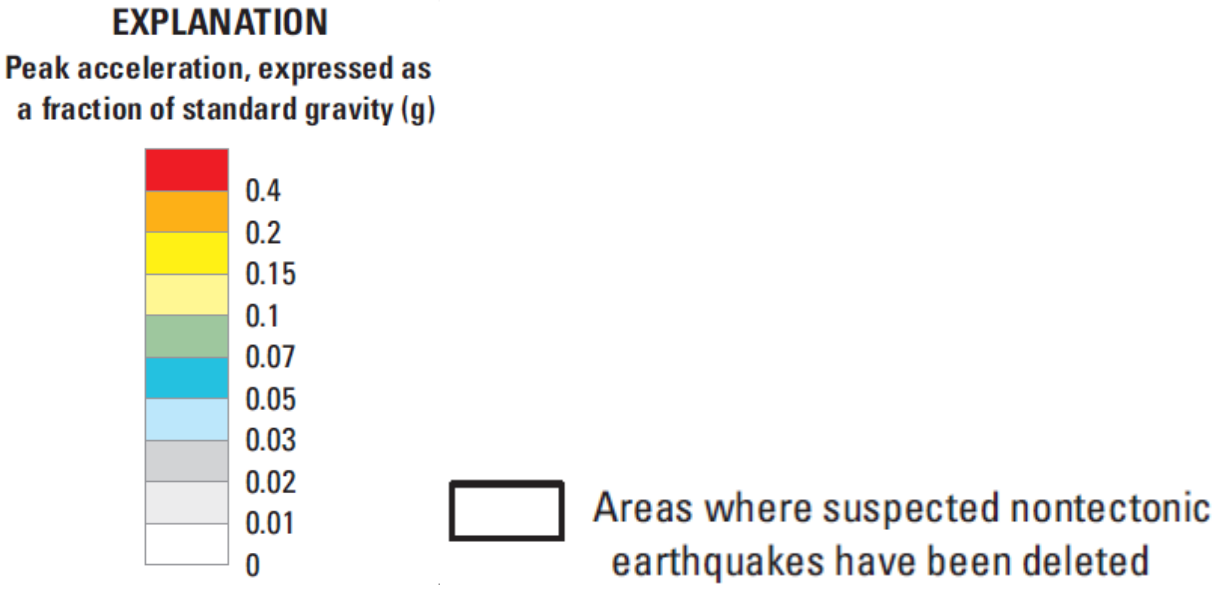
LOCATION AND SPATIAL EXTENT

Figure E.21 shows the intensity level associated with Quitman 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, Quitman County lies within an approximate zone of level "0.07" to "0.15" ground acceleration. This indicates that the county exists within an area of moderate to high seismic risk. All jurisdiction in Quitman County could be equally impacted by earthquakes; however, jurisdiction specific information is provided for location and extent when available.

FIGURE E.21: 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

It should also be noted that the State of Mississippi Hazard Mitigation Plan identifies certain areas of concern for liquefaction and lists the counties and corresponding zones within those counties that have the highest liquefaction potential. The zones of high risk for Quitman County can be found in **Table E.15.**

TABLE E.15: HIGH LIQUEFACTION HAZARD FOR QUITMAN COUNTY

County	Seismic Source*	Geographic Area of Concern	Liquefaction Potential by Seismic Zone
Quitman County	NMSZ, WRFZ	Mississippi River Floodplain, , Coldwater River Floodplain Tallahatchie River Floodplain, Yocona River Floodplain	Very High, Very High

*NMSZ = New Madrid Seismic Zone; WRFZ = White River Fault Zone
Source: State of Mississippi Standard Mitigation Plan (2018 Update)/USGS

HISTORICAL OCCURRENCES

At least nine earthquakes are known to have affected Quitman County since 1967. The strongest of these measured a V on the Modified Mercalli Intensity (MMI) scale. **Table E.16** provides a summary of earthquake events reported by the National Geophysical Data Center between 1638 and 1985. **Table E.17** presents a detailed occurrence of each event including the date, distance for the epicenter, magnitude and Modified Mercalli Intensity (if known). [6]

TABLE E.16: SUMMARY OF SEISMIC ACTIVITY IN QUITMAN COUNTY

Location	Number of Occurrences	Greatest MMI Reported	Greatest Richter Scale Reported
Crowder	1	IV	4.9
Falcon	0	--	--
Lambert	2	IV	4.9
Marks	3	V	5.3
Sledge	1	II	5.0
Unincorporated Area	2	V	4.9
QUITMAN COUNTY TOTAL	**9**	**V (slightly strong)**	**5.3**

Source: National Geophysical Data Center

TABLE E.17: SIGNIFICANT SEISMIC EVENTS IN QUITMAN COUNTY (1638 -1985)

Location	Date	Epicentral Distance	Magnitude	MMI
Crowder				
Crowder	3/25/1976	159.0 km	4.9	IV
Falcon				
None Reported	--	--	--	--

[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.

Location	Date	Epicentral Distance	Magnitude	MMI
Lambert				
Lambert	11/17/1970	192.0 km	3.6	IV
Lambert	3/25/1976	155.0 km	4.9	IV
Marks				
Marks	6/4/1967	93.0 km	3.8	IV
Marks	11/9/1968	445.0 km	5.3	IV
Marks	3/25/1976	149.0 km	4.9	V
Sledge				
Sledge	3/25/1976	131.0 km	5.0	II
Unincorporated Area				
Belen	3/25/1976	147.0 km	4.9	V
Darling	3/25/1976	138.0 km	4.9	V

Source: National Geophysical Data Center

Earthquakes Affecting Quitman County, MS 1985 - 2020

Date	Origin	Magnitude	Maximum Intensity	Intensities Reported in MS	Jurisdiction
8/1/1988	New Madrid Seismic zone	2.1	Not felt	Not felt	Quitman County

Source: State of Mississippi Hazard Mitigation Plan 2018/MDEQ/USGS

PROBABILITY OF FUTURE OCCURRENCES

The probability of significant, damaging earthquake events affecting Quitman County is unlikely. However, it is certainly possible that future earthquakes resulting in light or moderate perceived shaking and damages will affect the county much more frequently. The annual probability level for the county is estimated to be between 10 and 100 percent (likely).

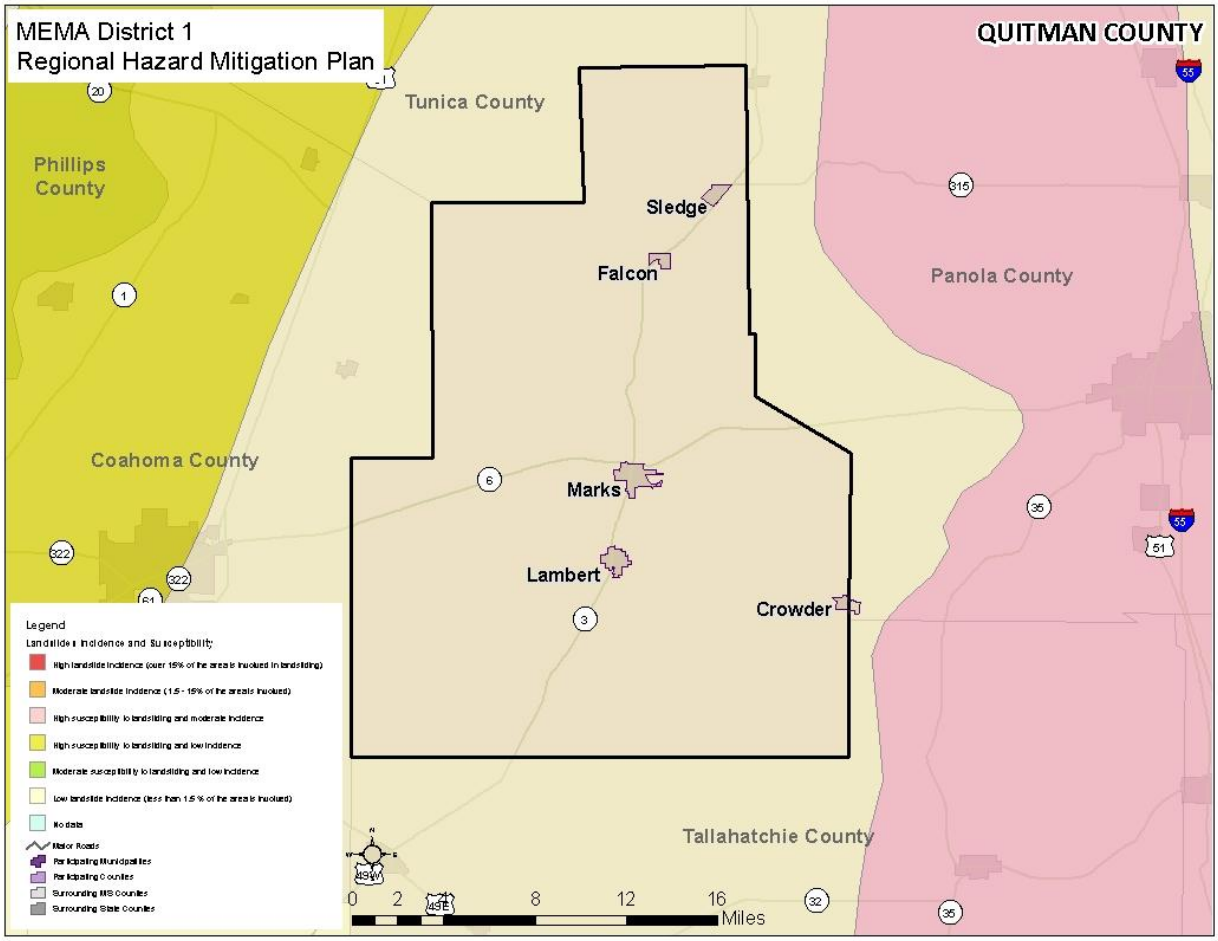
E.2.8 Landslide

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 Quitman County, though the risk is relatively low.

According to **Figure E.22** below, the entire county falls under a low incidence area, indicating that in these zones less than 1.5 percent of the area is involved in landsliding.

FIGURE E.22: LANDSLIDE SUSCEPTIBILITY AND INCIDENCE MAP OF QUITMAN COUNTY



Source: United States Geological Survey

HISTORICAL OCCURRENCES

There is no extensive history of landslides in Quitman 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 possible (between 1 and 10 percent annual probability). The USGS data indicates that all areas in Quitman 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 Quitman County have greater risk than others given factors such as steepness on slope and modification of slopes.

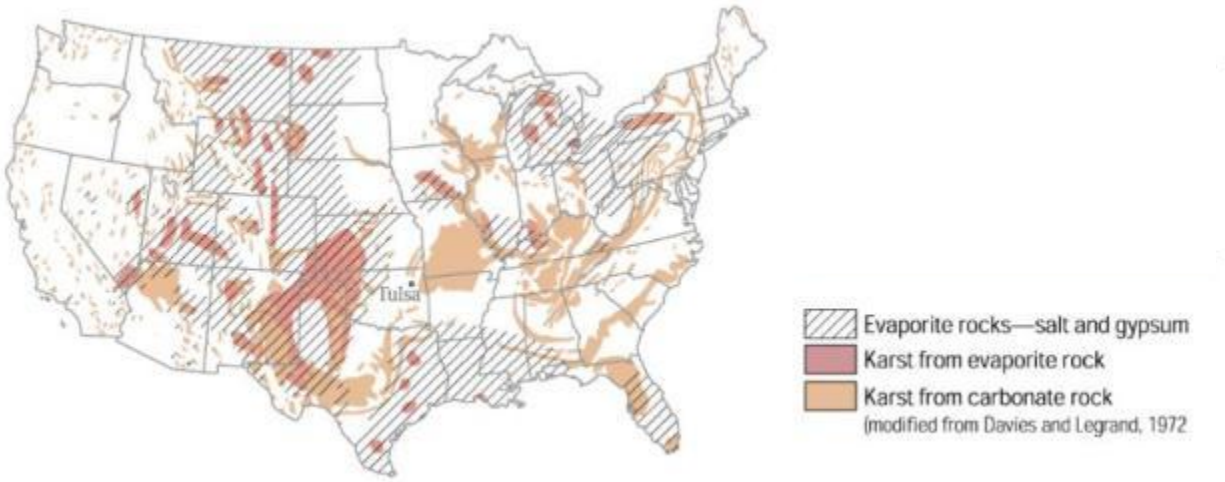
E.2.9 Land Subsidence/Sinkhole

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 E.23 shows the location of rock types associated with subsidence in the United States. It indicates that there may be areas in Quitman County underlain with soil and rock types that are susceptible to land subsidence, but overall the northwest part of the state is not underlain by these soil/rock types.

FIGURE E.23: MAP OF ROCK TYPES ASSOCIATED WITH SUBSIDENCE IN THE UNITED STATES



Source: United States Geological Survey

HISTORICAL OCCURRENCES

Although there is no extensive recorded history of land subsidence in Quitman 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.

PROBABILITY OF FUTURE OCCURRENCES

The probability of future land subsidence events in the county is possible (between 1 and 10 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

E.2.10 Extreme Heat

LOCATION AND SPATIAL EXTENT

Heat waves typically impact a large area and cannot be confined to any geographic or political boundaries. Therefore, Quitman County and all the jurisdictions in the entire county are considered to be equally susceptible to extreme heat.

HISTORICAL OCCURRENCES

The National Climatic Data Center was used to determine historical heat wave occurrences in the county.

August 2007 – During the first half of August, a heat wave took hold of the region and brought some of the warmest temperatures since the summer of 2000. This heat wave began around August 5th and lasted until the 16th. Between August 10th and 15th, the entire area reached 100 degrees or higher. Twenty three record highs were also set during this time. As the temperature soared each day, high relative humidity resulted in heat index values between 105 and 112 degrees.

June 2010 – A prolonged heat wave occurred during the middle to latter part of June across the Mid-South as a strong upper ridge of high pressure moved over the region. Temperatures rose into the mid to upper 90s during the afternoon hours. The combination of highs in the mid to upper 90s and high humidity produced heat indices between 100 and 110 degrees. Overnight lows in the 70s to around 80 degrees provided little relief.

July to August 2010 – High pressure was firmly entrenched across the southeast and allowed temperatures to soar into the triple digits across much of the region numerous times during the months of July and August. Additionally, relatively high humidity levels made conditions even more oppressive, with heat index readings surpassing 110 degrees in many areas.

July to August 2011 – A strong upper ridge of high pressure moved over the Mid-South during the middle part of July. As a result, high temperatures ranged in the mid-90s to low 100s. Dew points ranged from the lower to upper 70s. The combination of the hot and humid conditions allowed heat indices to reach between 105 and 118 degrees during the afternoon hours.

July 2012 – An upper ridge of high pressure moved back over the Mid-South during the middle part of July. Temperatures rose into low 100s during the afternoon hours of July 19th-July 20th, 2012. The combination of heat and humidity produced heat indices above 110 degrees.

August 2021 – Excessive Heat Warning issued for Coahoma, Quitman, and Tallahatchie by the National Weather Service. Dangerously hot conditions with heat index values of 108 to 113 degrees are expected.

A search of NOAA NCEI from 2010 to 2021 is shown is the below table for excessive heat in the QUITMAN (ZONE). No death, injury, property, or crop damage was reported.

SUMMARY OF EXCESSIVE HEAT OCCURRENCES IN QUITMAN COUNTY

Location	Date	Type	Magnitude	Deaths	Injury	Property Damage	Crop Damage
QUITMAN (ZONE)	8/1/2010	Excessive Heat	110 and 115 H.I.	0	0	$0	$0
QUITMAN (ZONE)	8/13/2021	Excessive Heat	110 AND 120 H.I.	0	0	$0	$0
QUITMAN (ZONE)	8/19/2010	Excessive Heat	110 and 115 H.I.	0	0	$0	$0
QUITMAN (ZONE)	7/10/2011	Excessive Heat	105 and 118 H.I.	0	0	$0	$0
QUITMAN (ZONE)	8/3/2011	Excessive Heat	110 and 120 H.I.	0	0	$0	$0
QUITMAN (ZONE)	8/7/2011	Excessive Heat	110 and 120 H.I.	0	0	$0	$0
QUITMAN (ZONE)	7/20/2012	Excessive Heat	Above 110 degrees H.I.	0	0	$0	$0
QUITMAN (ZONE)	8/4/2016	Excessive Heat	110 or greater H.I.	0	0	$0	$0
QUITMAN (ZONE)	8/5/2016	Excessive Heat	110 or greater H.I.	0	0	$0	$0
QUITMAN (ZONE)	7/20/2018	Excessive Heat	Above 110 degrees H.I.	0	0	$0	$0
QUITMAN (ZONE)	8/12/2019	Excessive Heat	Above 110 degrees H.I.	0	0	$0	$0
Totals:				0	0	$0	$0

Source: NOAA NCEI

PROBABILITY OF FUTURE OCCURRENCES

Based on historical occurrence information, it is assumed that all of Quitman County has a probability level of likely (between 10 and 100 percent annual probability) for future heat wave events.

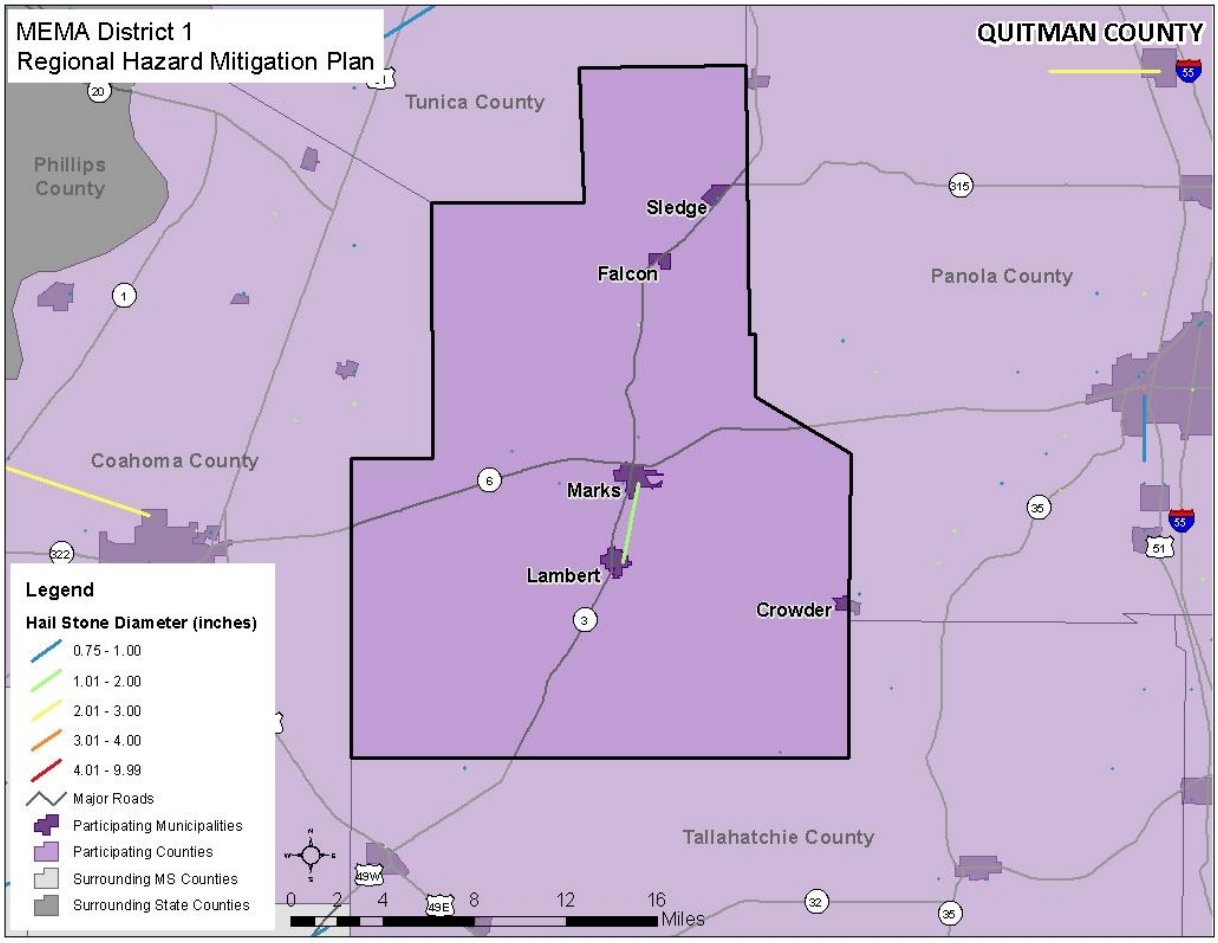
E.2.11 Hailstorm

LOCATION AND SPATIAL EXTENT

Hailstorms frequently accompany thunderstorms, so their locations and spatial extents coincide. It is assumed that Quitman 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. With that in mind, **Figure E.24**

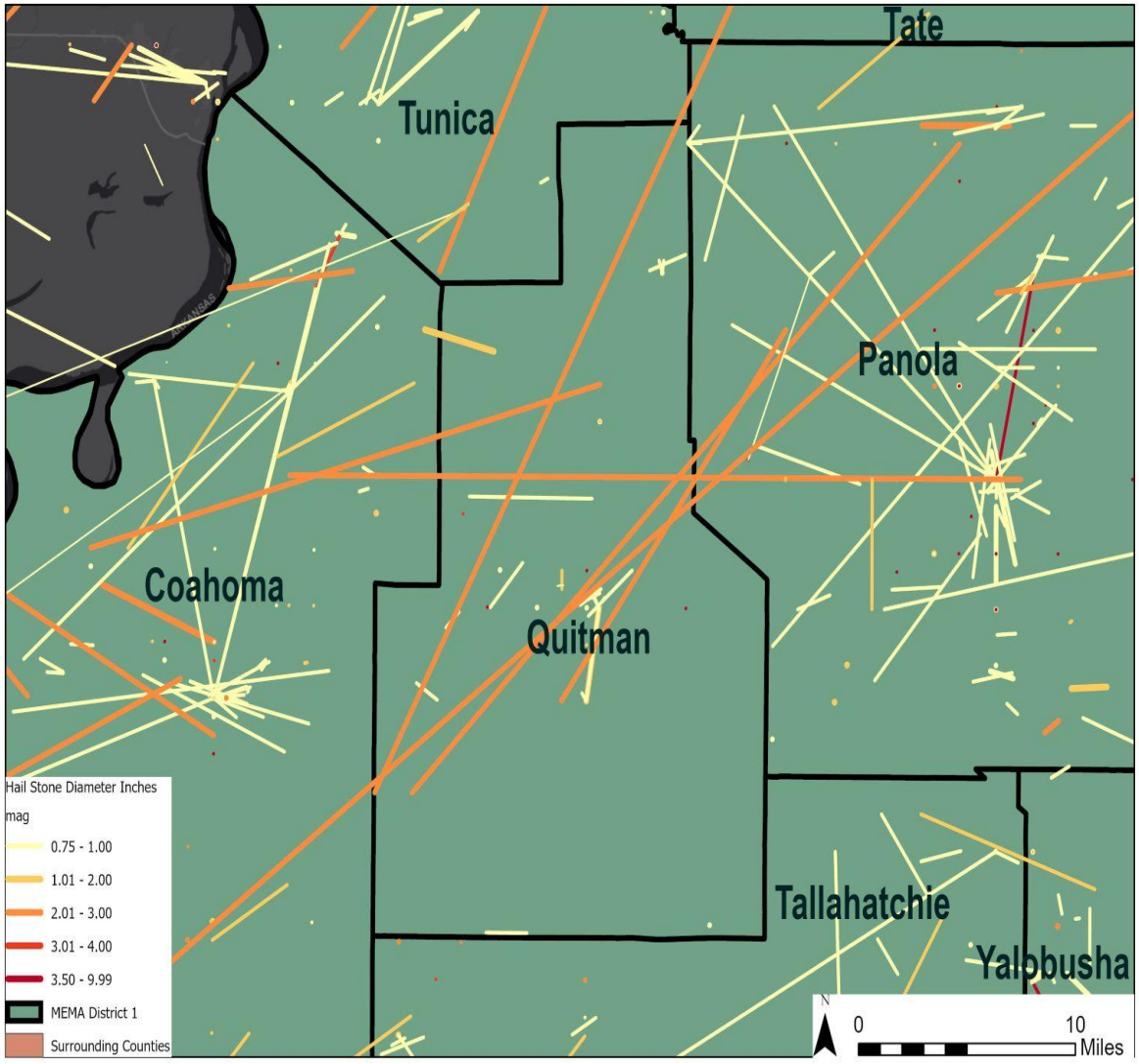
shows the location of hail events that have impacted the county between 1955 and 2015. **Figure E.24.1** shows the location of hail events that have impacted the county between 1955 and 2021.

FIGURE E.24: HAILSTORM TRACKS IN QUITMAN COUNTY



Source: National Weather Service Storm Prediction Center

FIGURE E.24.1: HAILSTORM TRACKS IN QUITMAN COUNTY



Source: National Weather Service Storm Prediction Center

HISTORICAL OCCURRENCES

According to the National Climatic Data Center, 19 recorded hailstorm events have affected Quitman County since 1971.[7] **Table E.18** is a summary of the hail events in Quitman County. **Table E.19** provides detailed information about each event that occurred in the county. In all, hail occurrences resulted in

[7] These hail events are only inclusive of those reported by the National Climatic Data Center (NCDC) from 1955 through May 2021. It is likely that additional hail events have affected Quitman County. As additional local data becomes available, this hazard profile will be amended.

approximately $15,000 in property damages. Hail ranged in diameter from 0.75 inches to 1.75 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 Climatic Data Center. Therefore, it is likely that damages are greater than the reported value.

TABLE E.18: SUMMARY OF HAIL OCCURRENCES IN QUITMAN COUNTY

Location	Number of Occurrences	Deaths/Injuries	Property Damage (2021)	Annualized Property Losses
Crowder	1	0/0	$10	$0.40
Falcon	0	0/0	$0	$0
Lambert	1	0/0	$0	$0
Marks	7	0/0	$11,020	$440.80
Sledge	2	0/0	$1,050	$42
Unincorporated Area	8	0/0	$3,070	$122.80
QUITMAN COUNTY TOTAL	**19**	**0/0**	**$15,150**	**$606**

Source: National Climatic Data Center

TABLE E.19: HISTORICAL HAIL OCCURRENCES IN QUITMAN COUNTY

Location	Date	Magnitude	Deaths/Injuries	Property Damage
Crowder				
CROWDER	3/31/2001	0.75 in.	0/0	$14
Falcon				
None Reported	--	--	--	--
Lambert				
LAMBERT	4/27/2014	1.75 in.	0/0	$0
Marks				
Marks	6/2/1995	1.75 in.	0/0	$7,882
MARKS	4/8/1998	1.00 in.	0/0	$295
MARKS	5/27/2001	0.75 in.	0/0	$14
MARKS	4/20/2006	0.88 in.	0/0	$2,979
MARKS	4/20/2006	0.75 in.	0/0	$1,192
MARKS	4/21/2006	0.75 in.	0/0	$1,192
MARKS	5/10/2008	0.88 in.	0/0	$1,674
Sledge				
SLEDGE	3/6/1996	0.75 in.	0/0	$77
SLEDGE	4/13/2007	1.00 in.	0/0	$1,159
Unincorporated Area				
QUITMAN CO.	6/18/1971	0.75 in.	0/0	$0
QUITMAN CO.	3/30/1989	0.75 in.	0/0	$0
Belen	6/9/1994	0.75 in.	0/0	$0
Darling	6/2/1995	0.75 in.	0/0	$158
DARLING	3/6/1996	0.75 in.	0/0	$77
BELEN	3/22/2005	1.00 in.	0/0	$123
DARLING	4/22/2008	1.25 in.	0/0	$3,347
BIRDIE	8/20/2018	1.25 in.	0/0	$0

Location	Date	Magnitude	Deaths/Injuries	Property Damage

Source: National Climatic Data Center

PROBABILITY OF FUTURE OCCURRENCES

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 Quitman 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.

E.2.12 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 Quitman County. All areas in Quitman County are equally susceptible to hurricane and tropical storms.

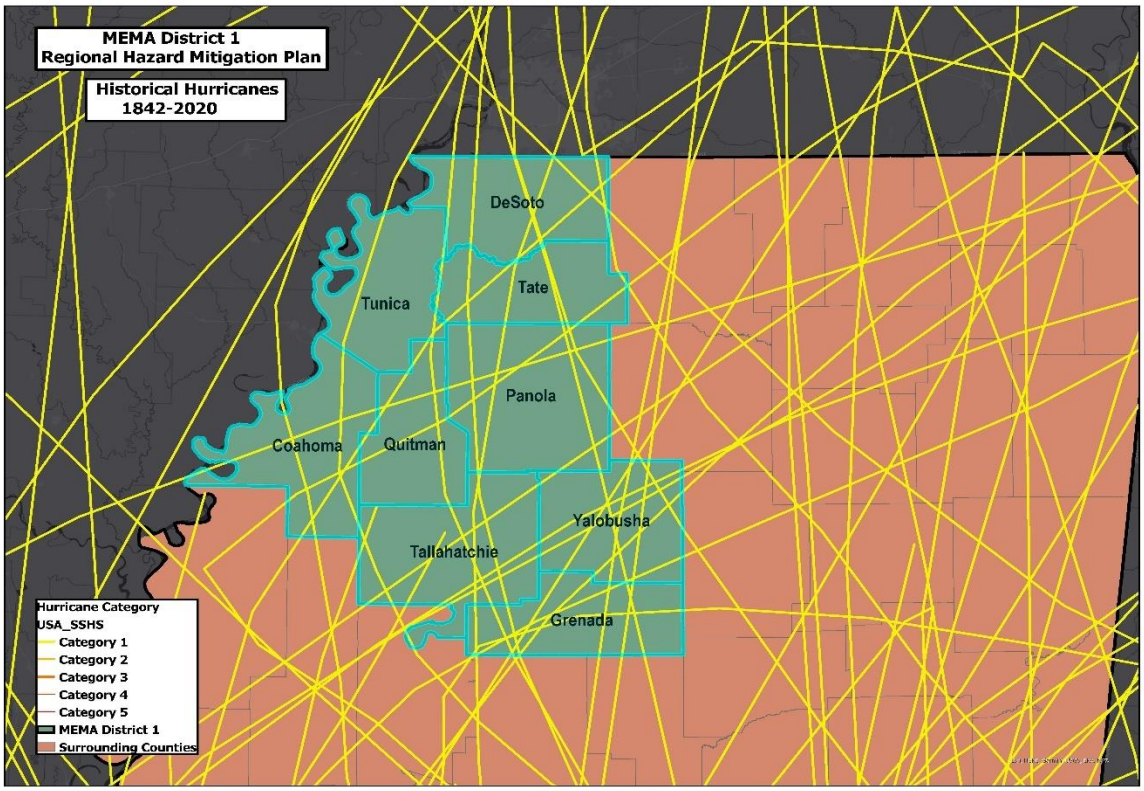
HISTORICAL OCCURRENCES

According to the National Hurricane Center's historical storm track records, 39 hurricane or tropical storm/depression tracks have passed within 75 miles of the MEMA District 1 Region since 1860.[8] This includes: 1 Category 1 hurricane, 17 tropical storms, and 21 tropical depressions.

A total of 20 tracks passed directly through the region as shown in **Figure E.25**. These events were all tropical storm or tropical depression strength at the time they traversed the region. **Table E.20** provides the date of occurrence, name (if applicable), maximum wind speed (as recorded within 75 miles of the MEMA District 1 Region) and category of the storm based on the Saffir-Simpson Scale for each event.

[8] 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 E.25: HISTORICAL HURRICANE STORM TRACKS WITHIN 75 MILES OF THE MEMA DISTRICT 1 REGION



Source: National Oceanic and Atmospheric Administration; National Hurricane Center

TABLE E.20: HISTORICAL STORM TRACKS WITHIN 75 MILES OF THE MEMA 1 DISTRICT REGION (1850–2021)

Date of Occurrence	Storm Name	Maximum Wind Speed (knots)	Storm Category
10/3/1860	UNNAMED	50	Tropical Storm
9/17/1862	NOT NAMED	--	Tropical Depression
10/7/1879	NOT NAMED	--	Tropical Depression
8/29/1881	UNNAMED	40	Tropical Storm
8/20/1888	UNNAMED	60	Tropical Storm
8/28/1890	UNNAMED	35	Tropical Storm
7/7/1891	UNNAMED	35	Tropical Storm
9/21/1898	UNNAMED	30	Tropical Depression
8/16/1901	UNNAMED	35	Tropical Storm
9/28/1906	UNNAMED	50	Tropical Storm
8/3/1908	UNNAMED	25	Tropical Depression
9/21/1909	UNNAMED	55	Tropical Storm
7/7/1916	UNNAMED	40	Tropical Storm
10/16/1923	UNNAMED	45	Tropical Storm

Date of Occurrence	Storm Name	Maximum Wind Speed (knots)	Storm Category
10/18/1923	UNNAMED	40	Tropical Storm
7/30/1926	UNNAMED	25	Tropical Depression
9/2/1932	UNNAMED	40	Tropical Storm
9/20/1932	UNNAMED	40	Tropical Storm
7/27/1933	UNNAMED	30	Tropical Depression
6/17/1934	UNNAMED	45	Tropical Storm
9/1/1937	UNNAMED	25	Tropical Depression
6/17/1939	UNNAMED	25	Tropical Depression
9/5/1948	UNNAMED	30	Tropical Depression
9/5/1949	UNNAMED	30	Tropical Depression
9/9/1950	EASY	20	Tropical Depression
6/28/1957	AUDREY	40	Tropical Storm
9/11/1965	BETSY	30	Tropical Depression
8/18/1969	CAMILLE	75	Category 1
7/12/1979	BOB	30	Tropical Depression
8/16/1985	DANNY	30	Tropical Depression
8/4/1995	ERIN	20	Tropical Depression
8/7/2001	BARRY	15	Tropical Depression
10/4/2002	LILI	30	Tropical Depression
7/11/2005	DENNIS	25	Tropical Depression
8/29/2005	KATRINA	50	Tropical Storm
8/30/2012	ISAAC	35	Tropical Storm
9/1/2017	HARVEY	30	Tropical Depression
10/26/19	OLGA	45	Tropical Depression
10/11/20	DELTA	25	Tropical Depression

Source: National Hurricane Center

Federal records indicate that one disaster declaration was made in 2005 (Hurricane Katrina) in Quitman County.[9] 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. However, the National Climatic Data Center did not report any hurricane or tropical storm events in Quitman County since 1996, and no anecdotes of storms that have impacted the county are available (**Table E.21**).

TABLE E.21: HISTORICAL HURRICANE/TROPICAL STORM OCCURRENCES IN QUITMAN COUNTY

Date of Occurrence	Storm Name	Deaths/Injuries	Property Damage (2021)	Annualized Property Losses
None Reported	--	--	--	--

Source: National Climatic Data Center

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

PROBABILITY OF FUTURE OCCURRENCES

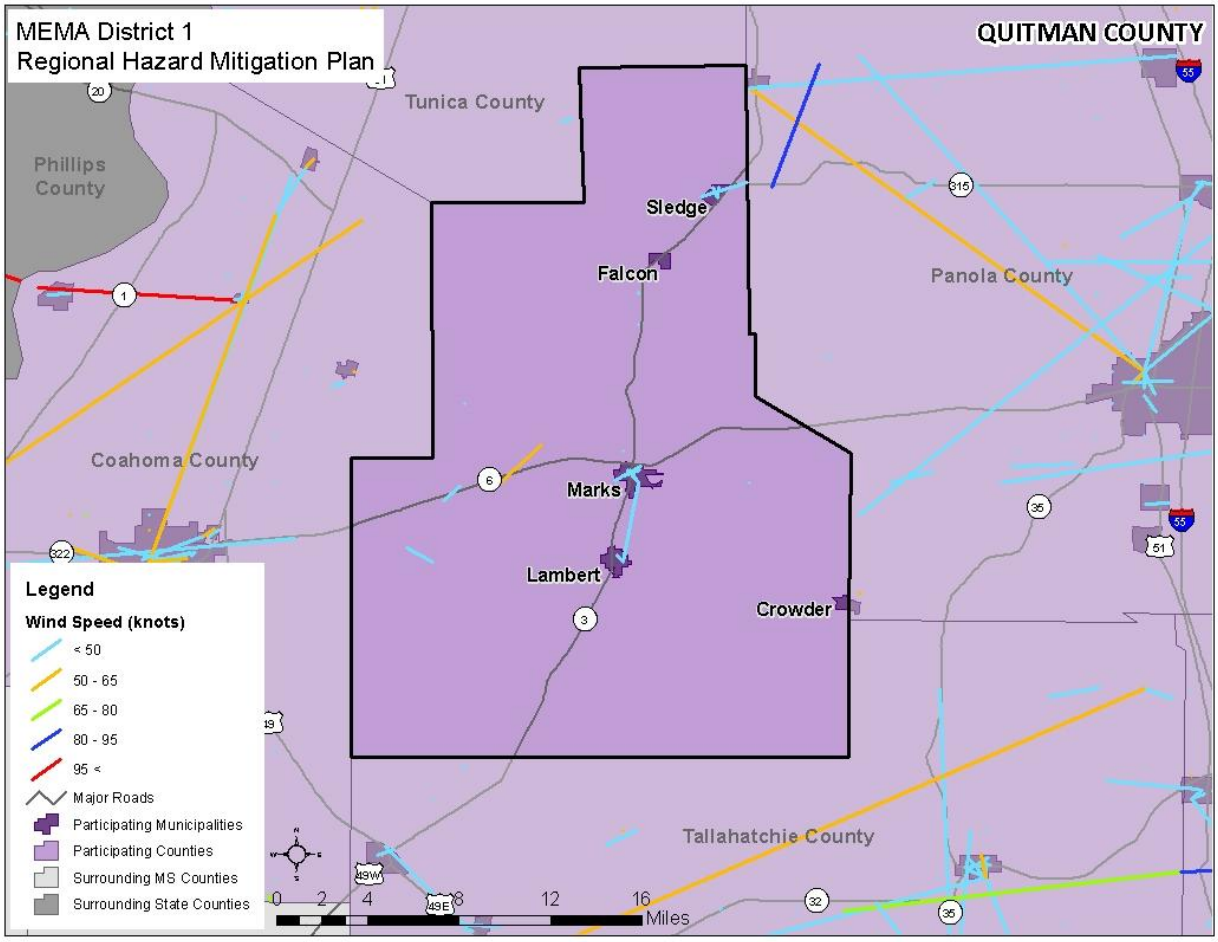
Given the inland location of the county, it is more likely to be affected by remnants of hurricane and tropical storm systems (as opposed to a major hurricane) which may result in flooding or high winds. The probability of being impacted is less than coastal areas, but still remains a real threat to Quitman County due to induced events like flooding. Based on historical evidence, the probability level of future occurrence is possible (between 1 and 10 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.

E.2.13 Severe Thunderstorm/High Wind

LOCATION AND SPATIAL EXTENT

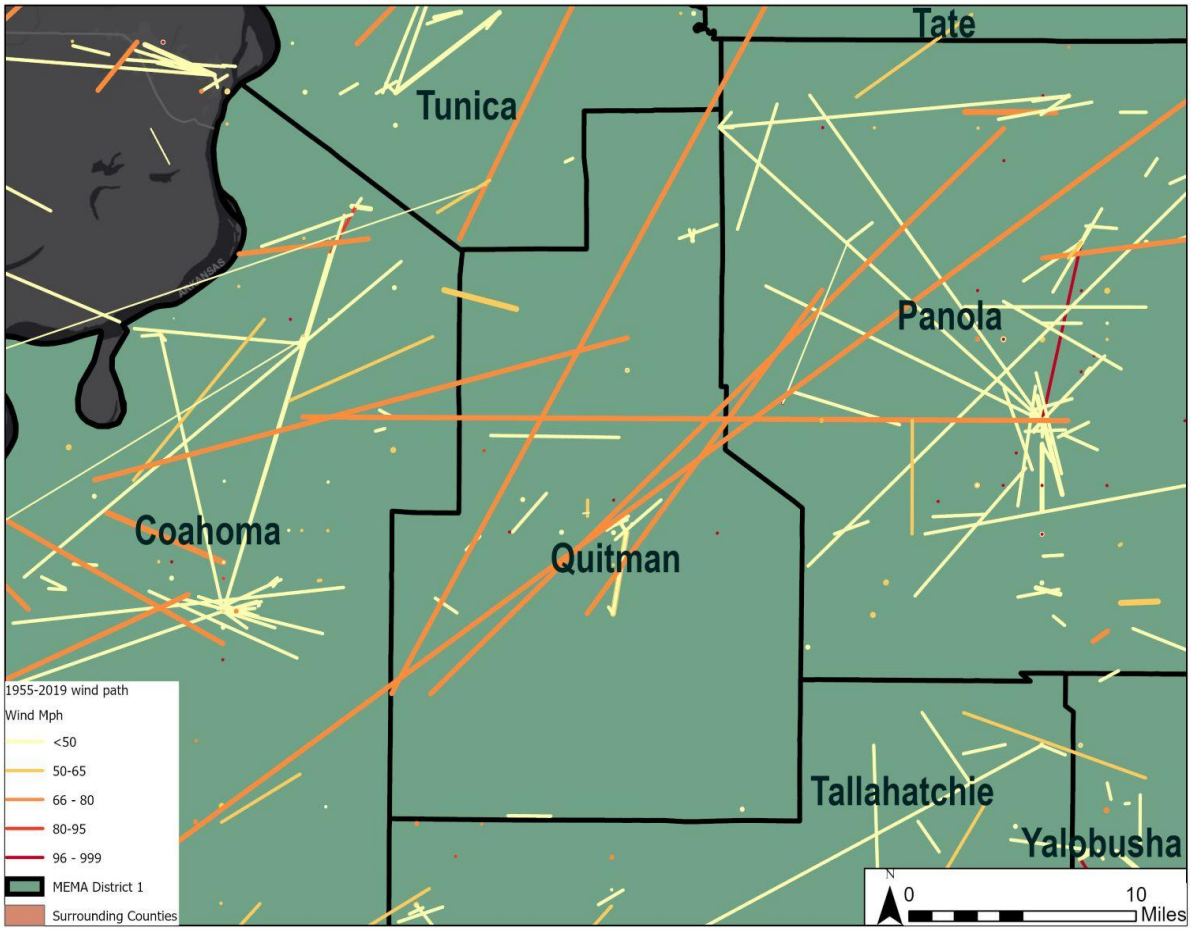
A thunderstorm event is an atmospheric hazard, and thus has no geographic boundaries. It is typically a widespread event that can occur in all regions of the United States. However, thunderstorms are most common in the central and southern states because atmospheric conditions in those regions are favorable for generating these powerful storms. It is assumed that all jurisdictions in Quitman County have uniform exposure to an event and the spatial extent of an impact could be large. With that in mind, **Figure E.26** shows the location of wind events that have impacted the county between 1955 and 2015. **Figure E.26.1** shows the location of wind events that have impacted the county between 1955 and 2021.

FIGURE E.26: SEVERE THUNDERSTORM TRACKS IN QUITMAN COUNTY



Source: National Weather Service Storm Prediction Center

FIGURE E.26.1: SEVERE THUNDERSTORM TRACKS IN QUITMAN COUNTY



Source: National Weather Service Storm Prediction Center

HISTORICAL OCCURRENCES

Severe storms were at least partially responsible for eleven disaster declarations in Quitman County in 1990, twice in 1991, twice in 2001, 2011, twice in 2016, 2019, twice in 2020, .[10] According to NCDC, there have been 36 reported thunderstorm and high wind events since 1971 in Quitman County.[11] These events caused more than $442,000 in damages. **Table E.22** summarizes this information. **Table E.23** presents

[10] A complete listing of historical disaster declarations can be found in Section 4: *Hazard Identification*.
[11] These thunderstorm events are only inclusive of those reported by the National Climatic Data Center (NCDC) from 1955 through May 2021 and these high wind events are only inclusive of those reported by NCDC from 1996 through May 2021. It is likely that additional thunderstorm and high wind events have occurred in Quitman County. As additional local data becomes available, this hazard profile will be amended.

detailed thunderstorm and high wind event reports including date, magnitude, and associated damages for each event.

TABLE E.22: SUMMARY OF THUNDERSTORM/HIGH WIND OCCURRENCES IN QUITMAN COUNTY

Location	Number of Occurrences	Deaths/Injuries	Property Damage (2021)	Annualized Property Losses
Crowder	1	0/0	$20,000	$800
Falcon	0	0/0	$0	$0
Lambert	2	0/0	$21,000	$840
Marks	10	0/0	$30,500	$1,220
Sledge	4	0/0	$11,000	$440
Unincorporated Area	19	0/0	$180,100	$7,204
QUITMAN COUNTY TOTAL	**36**	**0/0**	**$442,700**	**$10,504**

Source: National Climatic Data Center

TABLE E.23: HISTORICAL THUNDERSTORM/HIGH WIND OCCURRENCES IN QUITMAN COUNTY

Location	Date	Type	Magnitude†	Deaths/Injuries	Property Damage
Crowder					
CROWDER	3/9/2006	Thunderstorm Wind	55 kts. EG	0/0	$23,833
Falcon					
None Reported	--	--	--	--	--
Lambert					
LAMBERT	5/2/2008	Thunderstorm Wind	50 kts. EG	0/0	$22,316
LAMBERT	6/1/2008	Thunderstorm Wind	50 kts. EG	0/0	$1,116
Marks					
Marks	6/29/1994	Thunderstorm Wind	0 kts.	0/0	$811
MARKS	11/21/2007	Thunderstorm Wind	52 kts. EG	0/0	$0
MARKS	2/5/2008	Thunderstorm Wind	50 kts. EG	0/0	$2,232
MARKS	6/1/2008	Thunderstorm Wind	50 kts. EG	0/0	$8,926
MARKS	5/6/2009	Thunderstorm Wind	50 kts. EG	0/0	$0
MARKS	6/12/2009	Thunderstorm Wind	50 kts. EG	0/0	$0
MARKS	4/4/2011	Thunderstorm Wind	50 kts. EG	0/0	$0
MARKS	1/29/2013	Thunderstorm Wind	50 kts. EG	0/0	$0
MARKS	4/27/2014	Thunderstorm Wind	50 kts. EG	0/0	$0
MARKS	11/5/2018	Thunderstorm Wind	50 kts EG	0/0	$20,000
MARKS	6/7/2021	Thunderstorm Wind	50 kts. EG	0/0	$0
Sledge					
SLEDGE	5/17/2003	Thunderstorm Wind	50 kts. EG	0/0	$13,056
SLEDGE	6/1/2008	Thunderstorm Wind	50 kts. EG	0/0	$1,116
SLEDGE	8/5/2010	Thunderstorm Wind	50 kts. EG	0/0	$0
SLEDGE	12/21/2013	Thunderstorm Wind	50 kts. EG	0/0	$0
Unincorporated Area					
QUITMAN CO.	6/27/1971	Thunderstorm Wind	0 kts.	0/0	$0
QUITMAN CO.	6/4/1973	Thunderstorm Wind	0 kts.	0/0	$0

Location	Date	Type	Magnitude†	Deaths/Injuries	Property Damage
QUITMAN CO.	3/12/1975	Thunderstorm Wind	0 kts.	0/0	$0
QUITMAN CO.	9/12/1982	Thunderstorm Wind	0 kts.	0/0	$0
QUITMAN CO.	7/20/1986	Thunderstorm Wind	0 kts.	0/0	$0
QUITMAN CO.	5/22/1988	Thunderstorm Wind	0 kts.	0/0	$0
QUITMAN CO.	12/27/1988	Thunderstorm Wind	0 kts.	0/0	$0
QUITMAN CO.	7/15/1989	Thunderstorm Wind	0 kts.	0/0	$0
QUITMAN CO.	3/22/1991	Thunderstorm Wind	0 kts.	0/0	$0
DARLING	3/6/1996	Thunderstorm Wind	--	0/0	$153
COUNTYWIDE	6/5/1998	Thunderstorm Wind	--	0/0	$36,846
QUITMAN (ZONE)	9/26/2002	High Wind	35 kts. E	0/0	$6,677
COUNTYWIDE	5/10/2006	Thunderstorm Wind	50 kts. EG	0/0	$11,916
QUITMAN (ZONE)	1/29/2008	High Wind	50 kts. EG	0/0	$11,158
BELEN	3/25/2009	Thunderstorm Wind	65 kts. EG	0/0	$2,240
SABINO	4/24/2010	Thunderstorm Wind	50 kts. EG	0/0	$0
BELEN	4/19/2015	Thunderstorm Wind	50 kts. EG	0/0	$3,041
SABINO	1/11/2020	Thunderstorm Wind	50 kts. EG	0/0	$0
YARBROUGH	1/11/2020	Thunderstorm Wind	70 kts. EG	0/0	$100,000
BOBO	1/11/2020	Thunderstorm Wind	78 kts. EG	0/0	$30,000
BOBO	1/11/2020	Thunderstorm Wind	56 kts. EG	0/0	$10,000

†E = estimated; EG = estimated gust; ES = estimated sustained; MG = measured gust; MS = measured sustained
Source: National Climatic Data Center

PROBABILITY OF FUTURE OCCURRENCES

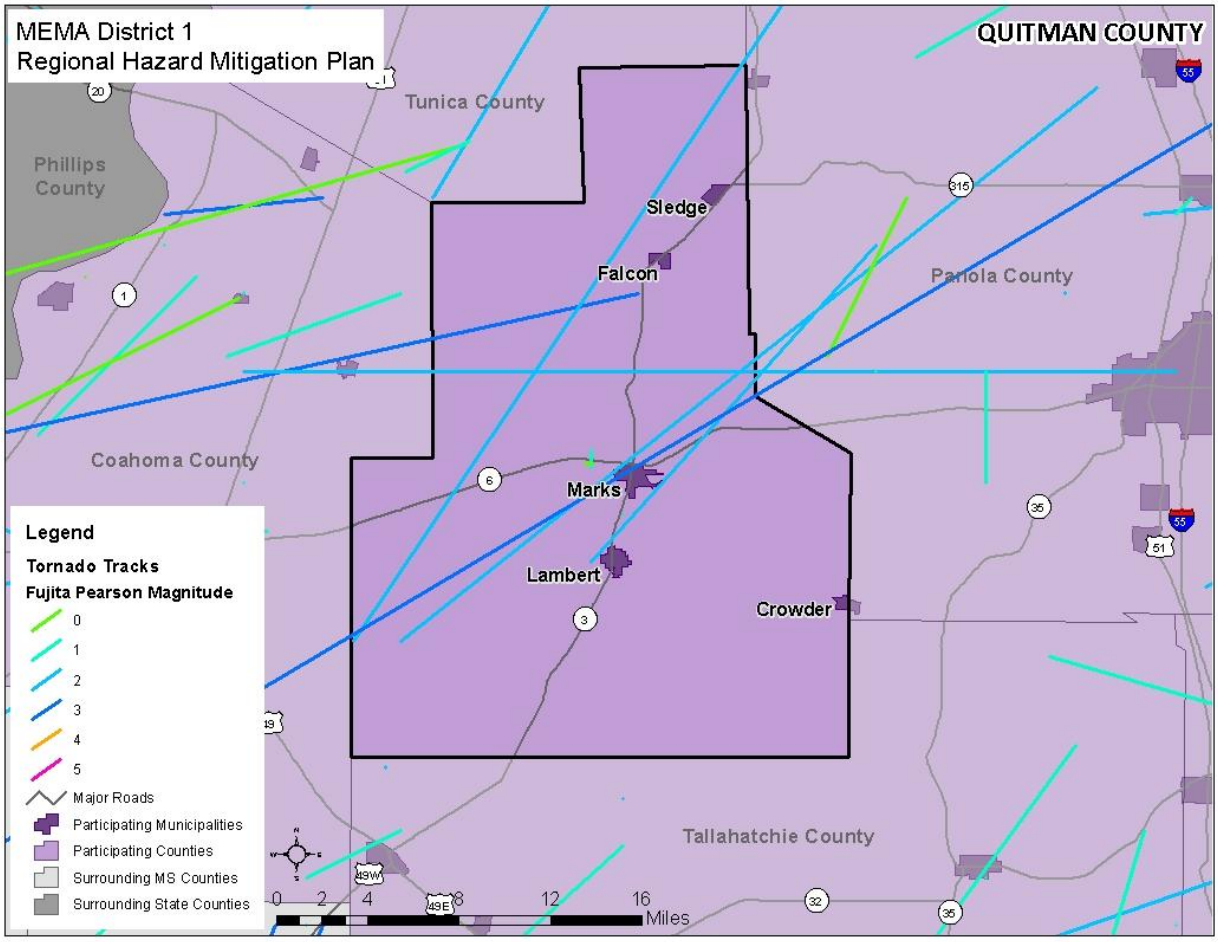
Given the high number of previous events, it is certain that thunderstorm events, including straight-line wind events, will occur in the future. This results in a probability level of highly likely (100 percent annual probability) for the entire county.

E.2.14 Tornado

LOCATION AND SPATIAL EXTENT

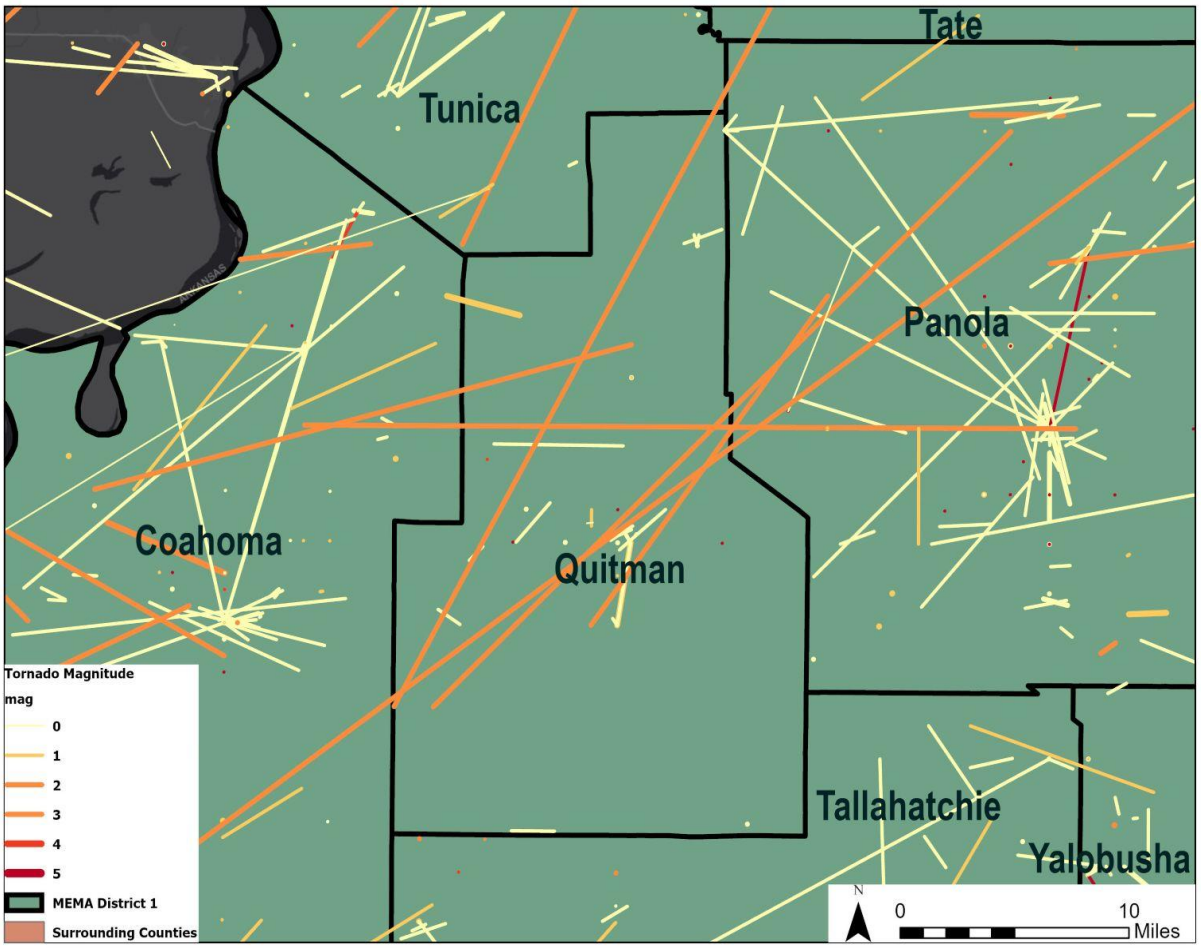
Tornadoes occur throughout the state of Mississippi, and thus in Quitman County. Tornadoes typically impact a relatively small area, but damage may be extensive. Event locations are completely random and it is not possible to predict specific areas that are more susceptible to tornado strikes over time. Therefore, all jurisdictions in Quitman County are uniformly exposed to this hazard. With that in mind, **Figure E.27** shows tornado track data for many of the major tornado events that have impacted the county between 1950 and 2015. **Figure E.27.1** shows tornado track data for many of the major tornado events that have impacted the county between 1950 and 2021. 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 E.27: HISTORICAL TORNADO TRACKS IN QUITMAN COUNTY



Source: National Weather Service Storm Prediction Center

FIGURE E.27.1: HISTORICAL TORNADO TRACKS IN QUITMAN COUNTY



Source: National Weather Service Storm Prediction Center

HISTORICAL OCCURRENCES

Tornadoes were at least partially responsible for seven disaster declarations in Quitman County in 1973, 1990, 1991, twice in 2001, 2011, 2016, 2019, and twice in 2020.[12] According to the National Climatic Data Center, there have been a total of 12 recorded tornado events in Quitman County since 1955 (**Table E.24**), resulting in almost $31,209,000 in property damages.[13] In addition, 2 fatalities and 23 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. Detailed information on historic tornado events can be found in **Table E.25**.

[12] A complete listing of historical disaster declarations can be found in Section 4: *Hazard Identification*.
[13] These tornado events are only inclusive of those reported by the National Climatic Data Center (NCDC) from 1950 through May 2021. It is likely that additional tornadoes have occurred in Quitman County. As additional local data becomes available, this hazard profile will be amended.

TABLE E.24: SUMMARY OF TORNADO OCCURRENCES IN QUITMAN COUNTY

Location	Number of Occurrences	Deaths/Injuries	Property Damage (2021)	Annualized Property Losses
Crowder	0	0/0	$0	$0
Falcon	0	0/0	$0	$0
Lambert	0	0/0	$0	$0
Marks	0	0/0	$0	$0
Sledge	0	0/0	$0	$0
Unincorporated Area	12	2/23	$31,209,000	$
QUITMAN COUNTY TOTAL	**12**	**2/23**	**$31,209,000**	**$1,248,360**

Source: National Climatic Data Center

TABLE E.25: HISTORICAL TORNADO IMPACTS IN QUITMAN COUNTY

Location	Date	Magnitude	Deaths/ Injuries	Property Damage	Details
Crowder					
None Reported	--	--	--	--	--
Falcon					
None Reported	--	--	--	--	--
Lambert					
None Reported	--	--	--	--	--
Marks					
None Reported	--	--	--	--	--
Sledge					
None Reported	--	--	--	--	--
Unincorporated Area					
QUITMAN CO.	6/22/1955	F2	0/0	$224,101	--
QUITMAN CO.	11/14/1958	F2	0/0	$207,817	--
QUITMAN CO.	11/19/1964	F2	0/0	$193,739	--
QUITMAN CO.	5/27/1965	F1	0/0	$190,663	Small tornado started SW of Lambert and moved NE into town, caused extensive damage to roofs and trees; no hail reported.
QUITMAN CO.	4/24/1976	F3	0/0	$1,055,518	--
QUITMAN CO.	5/12/1978	F2	0/0	$92,115,031	--

Location	Date	Magnitude	Deaths/ Injuries	Property Damage	Details
SABINO	11/24/2001	F2	2/16	$6,782,496	The tornado touched down in the western part of the county near Walnut and tracked northeast eventually crossing into Panola County. Two women were killed when the tornado destroyed their homes. Numerous buildings were destroyed in the county. A cotton plant was damaged just west of the town of Belen. Over 100 homes were damaged or destroyed.
BIRDIE	5/10/2008	EF1	0/0	$27,895	A tornado touched down briefly in West Marks damaging several homes and a metal building.
BIRDIE	1/22/2012	EF0	0/0	$52,318	The tornado touched down just west of Marks and moved northeast. About 7 homes were damaged. The damage included blown off shingles, minor roofing material, a garage door blown out and numerous windows broken.
SABINO	12/23/2015	EF3	0/7	$743,969	The tornado moved from Coahoma County into Quitman County and temporarily weakened. The tornado damaged nearly 20 homes to the west and southwest of Marks. The tornado then tracked into Panola County.
DARLING	8/9/2019	EF0	0/0	$0	An EF0 has the lowest rating, with speeds reaching 65-85 mph., which is considered weak. The highest is EF5, reaching speeds over 200 mph. No tornado should ever be taken lightly.
BOBO	1/11/2020	EF1	0/0	$50,000	The tornado touched down near the intersection of Eason /Road and Jamison Road, causing significant damage to two mobiles homes. The tornado continued northeast, damaging several homes along Waldrup Road in western Panola County. The tornado dissipated east of Nash Road after crossing Highway 278.

Source: National Climatic Data Center

PROBABILITY OF FUTURE OCCURRENCES

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

E.2.15 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.

Quitman County is not accustomed to severe winter weather conditions and seldom receives severe winter weather, even during the winter months. Events tend to be mild in nature; however, this creates a situation where 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 Quitman County in 1994.[14] According to the National Climatic Data Center, there have been a total of 20 recorded winter storm events in Quitman County since 1996 (**Table E.26**).[15] These events resulted in almost $21,000 in damages. Detailed information on the recorded winter storm events can be found in **Table E.27**.

TABLE E.26: SUMMARY OF WINTER STORM EVENTS IN QUITMAN COUNTY

Location	Number of Occurrences	Deaths/Injuries	Property Damage (2021)	Annualized Property Losses
Quitman County	20	0/0	$21,000	$840

Source: National Climatic Data Center

TABLE E.27: HISTORICAL WINTER STORM IMPACTS IN QUITMAN COUNTY

Location	Date	Type	Deaths/Injuries	Property Damage
Crowder				
None Reported	--	--	--	--
Falcon				
None Reported	--	--	--	--
Lambert				
None Reported	--	--	--	--
Marks				
None Reported	--	--	--	--
Sledge				
None Reported	--	--	--	--
Unincorporated Area				
QUITMAN (ZONE)	2/1/1996	Winter Storm	0/0	$30,623
QUITMAN (ZONE)	1/15/1998	Winter Storm	0/0	$0
QUITMAN (ZONE)	12/22/1998	Ice Storm	0/0	$14,738
QUITMAN (ZONE)	1/27/2000	Heavy Snow	0/0	$0
QUITMAN (ZONE)	2/18/2006	Winter Storm	0/0	$1,192
QUITMAN (ZONE)	2/1/2007	Winter Weather	0/0	$0
QUITMAN (ZONE)	1/25/2008	Winter Weather	0/0	$0
QUITMAN (ZONE)	3/1/2009	Winter Storm	0/0	$0
QUITMAN (ZONE)	1/29/2010	Winter Weather	0/0	$0
QUITMAN (ZONE)	1/9/2011	Winter Storm	0/0	$0

[14] A complete listing of historical disaster declarations can be found in Section 4: *Hazard Identification*.
[15] These ice and winter storm events are only inclusive of those reported by the National Climatic Data Center (NCDC) from 1996 through May 2021. It is likely that additional winter storm conditions have affected Quitman County.

Location	Date	Type	Deaths/Injuries	Property Damage
QUITMAN (ZONE)	2/9/2011	Winter Storm	0/0	$0
QUITMAN (ZONE)	1/14/2013	Winter Weather	0/0	$0
QUITMAN (ZONE)	12/7/2013	Winter Weather	0/0	$0
QUITMAN (ZONE)	2/20/2015	Winter Weather	0/0	$0
QUITMAN (ZONE)	2/25/2015	Winter Storm	0/0	$0
QUITMAN (ZONE)	3/4/2015	Winter Storm	0/0	$0
QUITMAN (ZONE)	1/22/2016	Winter Weather	0/0	$0
QUITMAN (ZONE)	1/12/2018	Winter Weather	0/0	$0
QUITMAN (ZONE)	1/16/2018	Winter Weather	0/0	$0
QUITMAN (ZONE)	1/27/2000	Heavy Snow	0/0	$0
QUITMAN (ZONE)	1/11/2021	Winter Weather	0/0	$0
QUITMAN (ZONE)	2/11/2021	Winter Weather	0/0	$0
QUITMAN (ZONE)	2/17/2021	Heavy Snow	0/0	$0

Source: National Climatic Data Center

There have been several severe winter weather events in Quitman 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. [16]

January 2018

Snow and ice covering parts of Mississippi causing dangerous road conditions and closed government offices and schools. MDOT reported ice on roads and bridges in multiple counties in north and central Mississippi. Ice was reported in the following District 1 counties: Coahoma, Desoto, Panola, Quitman Tallahatchie, Tate, and Tunica. Snow began falling in the Delta around 4 a.m. and slowly spread south and east. A swath of 1-3" of snow occurred along and northwest of a line from Tensas Parish to Grenada.

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.

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

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.

February 2021
According to Mississippi Emergency Management Agency, the state experienced multiple rounds of winter weather the week of February 11-19, 2021 causing an estimated $25 million worth of damage to public infrastructure. Quitman County was eligible to apply for federal public assistance. Grenada County reported 2.5 inches of snow on February 15 and also on February 17, 2021.

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 catch fire or an accumulation of toxic fumes.

PROBABILITY OF FUTURE OCCURRENCES

Winter storm events will continue to occur in Quitman County. Based on historical information, the probability is likely (between 10 and 100 percent annual probability).

E.2.16 CORONAVIRUS (COVID-19)

A Major Disaster Declaration was declared on April 5, 2020 for the State of Mississippi. On April 1, 2020, Governor Tate Reeves issued a statewide stay-at-home order to take effect on April 3, and remain in effect until April 20, 2020, in an effort to slow the spread of the COVID-19. At the time of the announcement, there were 1,073 cases and 22 deaths statewide. As of October 12, 2019, the statewide positive cases total 496,851 and 9,900 deaths. New cases reported for October 12, 2021 were 719.

Cumulative of COVID-19 Cases and Deaths in Quitman County as of Oct. 12, 2021

County	Total Cases	Total Deaths
Quitman	1057	27

Source: Mississippi State Department of Health

The Mississippi Department of Health posts COVID-19 Guidance and Prevention for Individuals and the Community on their website. Various methods to contain the spread can "flatten the curve" of the outbreak to reduce the number of patients that would threaten to overwhelm health and medical resources. Current containment measures focus on preventing illness by "social distancing" that prevents close contact from individual-to-individual, thereby reducing the potential for infection through respiratory droplets produced when an infected person coughs or sneezes.

Avoid close contact with people who are sick

Cover your cough or sneeze with a tissue, then throw the tissue in the trash

Avoid touching your eyes, nose, and mouth

Clean and disinfect frequently touched objects and surfaces

Stay home when you are sick, except to get medical care

Washing your hands often with soap and water for at least 20 seconds

Utilize PPE and hand sanitizer

Free COVID-19 testing and local testing providers and vaccinations are available from MSDH sites around the state, and from local pharmacies and healthcare providers.

E.2.17 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

Table E.28 describes the extent of each natural hazard identified for Quitman County. The extent of a hazard is defined as its severity or magnitude, as it relates to the planning area.

TABLE E.28: EXTENT OF QUITMAN COUNTY HAZARDS

Flood-related Hazards	
Dam and Levee Failure	Dam Failure extent is defined using the Mississippi Department of Environmental Quality criteria (Table 5.3). No dams are classified as high-hazard in Quitman County.
Erosion	The extent of erosion can be defined by the measurable rate of erosion that occurs. There are no erosion rate records located in Quitman County. Some areas of minimal erosion have been identified by local coordinators, but no major areas of severe erosion were noted.

Flood	Flood extent can be measured by the amount of land and property in the floodplain as well as flood height and velocity. 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 Tallahatchie River near Lambert on January 30, 1937. Water reached a discharge of 32,800 cubic feet per second. The highest stream gage height was also on the Tallahatchie River near Lambert with a height that was recorded at 35.50 feet on January 30, 1937.
Fire-related Hazards	
Drought	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. Quitman County has received this ranking once over the 22-year reporting period.
Lightning	According to the Vaisala's flash density map (Figure 5.8), Quitman County is located in an area that experiences 4 to 12 lightning flashes per square kilometer per year. It should be noted that future lightning occurrences may exceed these figures.
Wildfire	Wildfire data was provided by the Mississippi Forestry Commission and is reported annually by county from 2012-2021. The greatest number of fires to occur in Quitman County in any year was 11 in 2016. The greatest number of acres to burn in the county in a single year occurred in 2016 when 314 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 (Table 5.15), the Modified Mercalli Intensity (MMI) scale (Table 5.16), and the distance of the epicenter from Quitman County. According to data provided by the National Geophysical Data Center, the greatest earthquake to impact the county had a MMI of IV (moderate) and Richter Scale magnitude of 5.3 (reported on November 9, 1968). The epicenter of this earthquake was located 445.0 km away.
Landslide	As noted above in the landslide profile, there is no extensive history of landslides in Quitman 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 Quitman 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	
Extreme Heat	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 Quitman County. However, the highest recorded temperature in Tunica (north of the county) was 106°F in 2000.

Hailstorm	Hail extent can be defined by the size of the hail stone. The largest hail stone reported in Quitman County was 1.75 inches (last reported on April 27, 2014). It should be noted that future events may exceed this.
Hurricane and Tropical Storm	Hurricane extent is defined by the Saffir-Simpson Scale which classifies hurricanes into Category 1 through Category 5 (Table 5.23). The greatest classification of hurricane to traverse directly through Quitman County was an Unnamed 1888 Storm which carried tropical force winds of 60 knots upon arrival in the county.
Severe Thunderstorm/ High Wind	Thunderstorm extent is defined by the number of thunder events and wind speeds reported. According to a 61-year history from the National Climatic Data Center, the strongest recorded wind event in Quitman County was reported on March 25, 2009 at 65 knots (approximately 75 mph). It should be noted that future events may exceed these historical occurrences.
Tornado	Tornado hazard extent is measured by tornado occurrences in the US provided by FEMA (Figure 5.21) as well as the Fujita/Enhanced Fujita Scale (Tables 5.28 and 5.29). The greatest magnitude reported in Quitman County was an F3 (reported on April 24, 1976).
Winter Storm and Freeze	The extent of winter storms can be measured by the amount of snowfall received (in inches). The greatest snowfall reported in Olive Branch (northeast of the county) was 14.3 inches in 1963. NOAA NCEI reported that Mississippi 1-Day snowfall extreme for March 22, 1968 was 14.0" occurring in Sledge.

PRIORITY RISK INDEX RESULTS

In order to draw some meaningful planning conclusions on hazard risk for Quitman 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 5.18.2.

Table E.29 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 E.29: SUMMARY OF PRI RESULTS FOR QUITMAN COUNTY

Hazard	Category/Degree of Risk					
	Probability	Impact	Spatial Extent	Warning Time	Duration	PRI Score
Flood-related Hazards						
Dam Failure and Levee Failure	Unlikely	Critical	Large	Less than 6 hours	Less than 6 hours	**2.5**
Erosion	Likely	Minor	Small	More than 24 hours	More than 1 week	**2.1**
Flood	Highly Likely	Critical	Moderate	6 to 12 hours	Less than 24 hours	**3.2**
Fire-related Hazards						
Drought	Likely	Limited	Large	More than 24 hours	More than 1 week	**2.8**
Lightning	Highly Likely	Limited	Small	6 to 12 hours	Less than 6 hours	**2.6**
Wildfire	Highly Likely	Minor	Small	Less than 6 hours	Less than 1 week	**2.6**
Geologic Hazards						
Earthquake	Likely	Critical	Large	Less than 6 hours	Less than 6 hours	**3.1**
Landslide	Possible	Minor	Small	Less than 6 hours	Less than 24 hours	**1.9**
Land Subsidence/Sinkhole	Possible	Minor	Small	Less than 6 hours	Less than 24 hours	**1.9**
Wind-related Hazards						
Extreme Heat	Likely	Minor	Large	More than 24 hours	More than 1 week	**2.5**
Hailstorm	Highly Likely	Limited	Moderate	6 to 12 hours	Less than 6 hours	**2.8**
Hurricane and Tropical Storm	Possible	Limited	Large	More than 24 hours	Less than 24 hours	**2.3**
Severe Thunderstorm/High Wind	Highly Likely	Critical	Moderate	6 to 12 hours	Less than 6 hours	**3.1**
Tornado	Highly Likely	Catastrophic	Small	Less than 6 hours	Less than 6 hours	**3.3**
Winter Storm and Freeze	Likely	Limited	Moderate	More than 24 hours	Less than 1 week	**2.5**

E.2.17 Final Determinations on Hazard Risk

The conclusions drawn from the hazard profiling process for Quitman 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 E.30**). 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 Quitman 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 E.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 E.30.1** summarizes the vulnerability of each jurisdiction to each hazard. Some hazards did not have a rating in the National Risk Index; therefore, **Table E.30.1** includes community and Mitigation Council feedback as well as NCDC data. Quantitative data does not always provide a total picture of hazard impacts, so results were presented to the District 1 Regional Mitigation Council for feedback on how each hazard affects their jurisdictions.

TABLE E.30: CONCLUSIONS ON HAZARD RISK FOR QUITMAN COUNTY

HIGH RISK	Tornado Flood Severe Thunderstorm/High Wind Earthquake
MODERATE RISK	Hailstorm Drought Lightning Wildfire Dam and Levee Failure Extreme Heat Winter Storm and Freeze
LOW RISK	Hurricane and Tropical Storm Erosion Landslide Land Subsidence/Sinkhole

TABLE E.30.1: SUMMARY OF HAZARD RANKING

Hazard	Crowder	Falcon	Lambert	Marks	Sledge
Flood-related Hazards					
Dam and Levee Failure	Low	Low	Low	Low	Low
Erosion	Low	Low	Low	Low	Low
Flood (Riverine)	Relatively Moderate	Relatively High	Relatively Moderate	Relatively Moderate	Relatively Moderate
Fire-related Hazards					
Drought	No Rating	Relatively Moderate	No Rating	No Rating	No Rating
Lightning	Relatively High	Relatively High	Relatively High	Relatively Moderate	Relatively Moderate
Wildfire	Very Low	Very Low	Very Low	No Rating	Very Low
Geologic Hazards					
Earthquake	Relatively Moderate	Relatively Moderate	Relatively Moderate	Relatively Moderate	Relatively Moderate
Landslide	Relatively Low	Very Low	Relatively Low	No Rating	Relatively Low

Hazard	Crowder	Falcon	Lambert	Marks	Sledge
Land Subsidence/Sinkhole	Low	Low	Low	Low	Low
Wind-related Hazards					
Extreme Heat	Very High	Very High	Very High	Relatively High	Relatively High
Hailstorm	Relatively Low	Relatively Moderate	Relatively Low	Relatively Low	Relatively Low
Hurricane & Tropical Storm	Very Low	Relatively Moderate	Very Low	Very Low	Very Low
Severe Thunderstorm/High Wind	Relatively High	Relatively High	Relatively High	Relatively Moderate	Relatively Moderate
Tornado	Very High	Very High	Very High	Relatively High	Relatively High
Winter Storm & Freeze	Relatively Low	Relatively Low	Relatively Low	Relatively Low	Relatively Low

TABLE E.30.1: SUMMARY OF HAZARD RANKING (CONT.)

Hazard	Unincorporated, Quitman County
Flood-related Hazards	
Dam and Levee Failure	Low
Erosion	Low
Flood (Riverine)	Relatively Moderate
Fire-related Hazards	
Drought	No Rating
Lightning	Relatively Moderate
Wildfire	No Rating
Geologic Hazards	
Earthquake	Relatively Moderate
Landslide	No Rating
Land Subsidence/Sinkhole	Low
Wind-related Hazards	
Extreme Heat	Relatively High
Hailstorm	Relatively Low
Hurricane & Tropical Storm	Very Low

Hazard	Unincorporated, Quitman County
Severe Thunderstorm/High Wind	Relatively Moderate
Tornado	Relatively High
Winter Storm & Freeze	Relatively Low

Source: National Risk Index, Mitigation Council

E.3 QUITMAN COUNTY VULNERABILITY ASSESSMENT

This subsection identifies and quantifies the vulnerability of Quitman 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 amounts 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*.

E.3.1 Asset Inventory

Table E.31 lists the estimated number of improved properties and the total value of improvements for Quitman County and its participating jurisdictions (study area of vulnerability assessment). Because digital parcel data was not available for most communities, data obtained from Hazus-MH 3.1 inventory was utilized to complete the analysis.

TABLE E.31: IMPROVED PROPERTY IN QUITMAN COUNTY

Location	Counts of Improved Property	Total Value of Improvements
Crowder	365	$49,246,000
Falcon	61	$7,583,000
Lambert	628	$90,657,000
Marks	1,010	$235,212,000
Sledge	210	$36,427,000
Unincorporated Area	1,287	$203,857,000
QUITMAN COUNTY TOTAL	**3,561**	**$622,982,000**

Source: Hazus-MH 3.1

Table E.32 lists the fire stations, police stations, medical care facilities, emergency operations centers (EOCs), schools, shelters, government buildings, water/utility infrastructure, and other facilities located in Quitman County according to Hazus-MH Version 3.1 data that was reviewed and updated by local officials.

In addition, **Figure E.28** shows the locations of critical facilities in Quitman County. **Table E.43**, 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 which was updated, as best as possible, with local knowledge.

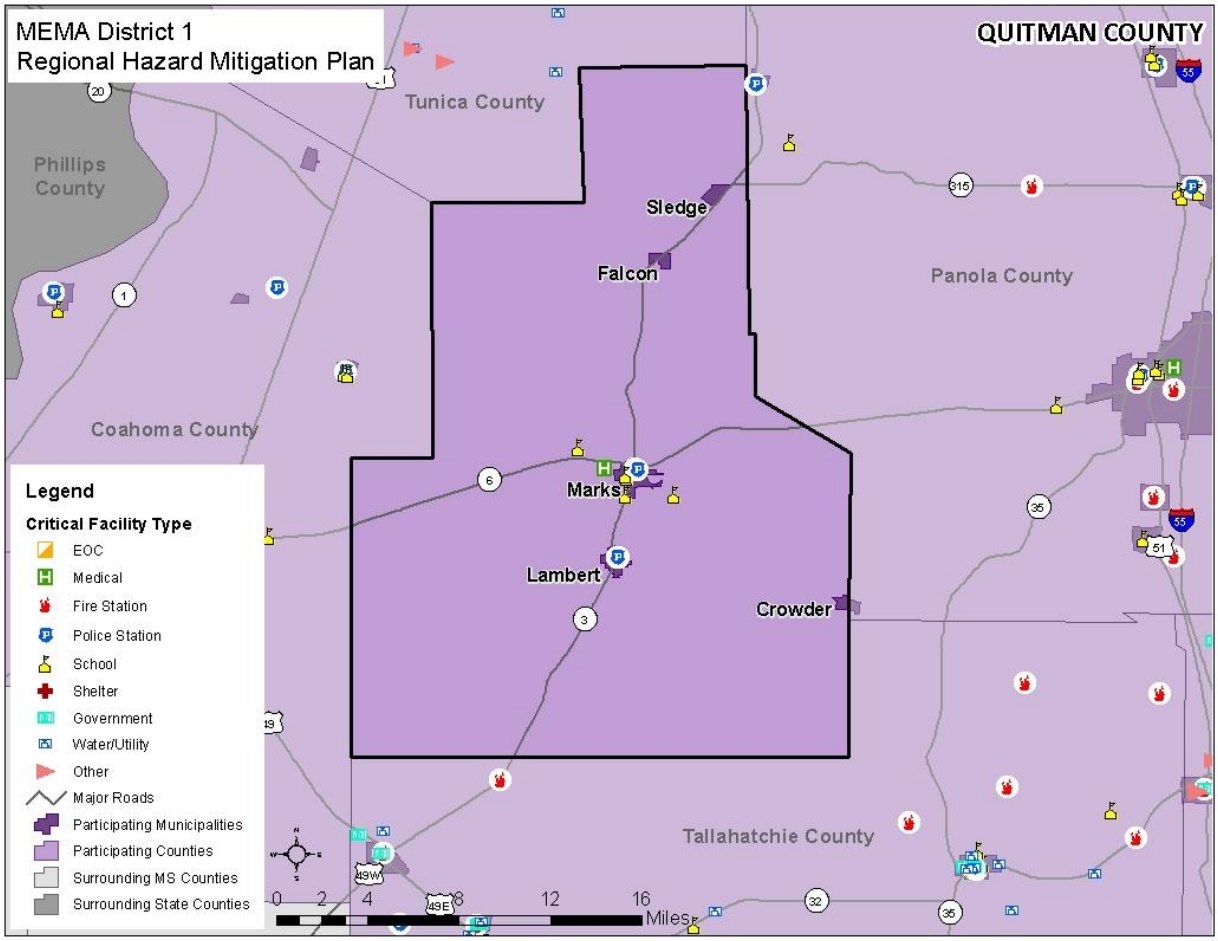
TABLE E.32: CRITICAL FACILITY INVENTORY IN QUITMAN COUNTY

Location	Fire Stations	Police Stations	Medical Care	EOC	Schools	Gov't*	Water/ Utility*	Shelter*	Other*
Crowder	1	0	0	0	0	0	0	0	0
Falcon	0	0	0	0	0	0	0	0	0
Lambert	2	1	0	0	1	0	0	0	0
Marks	0	3	1	2	4	4	5	0	0
Sledge	1	0	0	0	0	0	2	0	0
Unincorporated Area	0	0	0	0	0	0	5	0	0
QUITMAN COUNTY TOTAL	**4**	**4**	**1**	**2**	**5**	**4**	**12**	**0**	**0**

*All counties were not able to attain information on these facility types, however, this should not imply that these counties do not have any of these types of facilities. Instead, it should be noted that as this information is collected, it will be incorporated in future updates of the plan.

Source: Hazus-MH 3.1, Local Officials

FIGURE E.28: CRITICAL FACILITY LOCATIONS IN QUITMAN COUNTY



Source: Hazus-MH 3.1, Local Officials

E.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 Quitman County that are potentially at risk to these hazards.

Table E.33 lists the population by jurisdiction according to U.S. Census 2020 population estimates. The total population in Quitman County according to Census data was 6,176 persons. Additional population estimates are presented above in Section E.1.

TABLE E.33: TOTAL POPULATION IN QUITMAN COUNTY

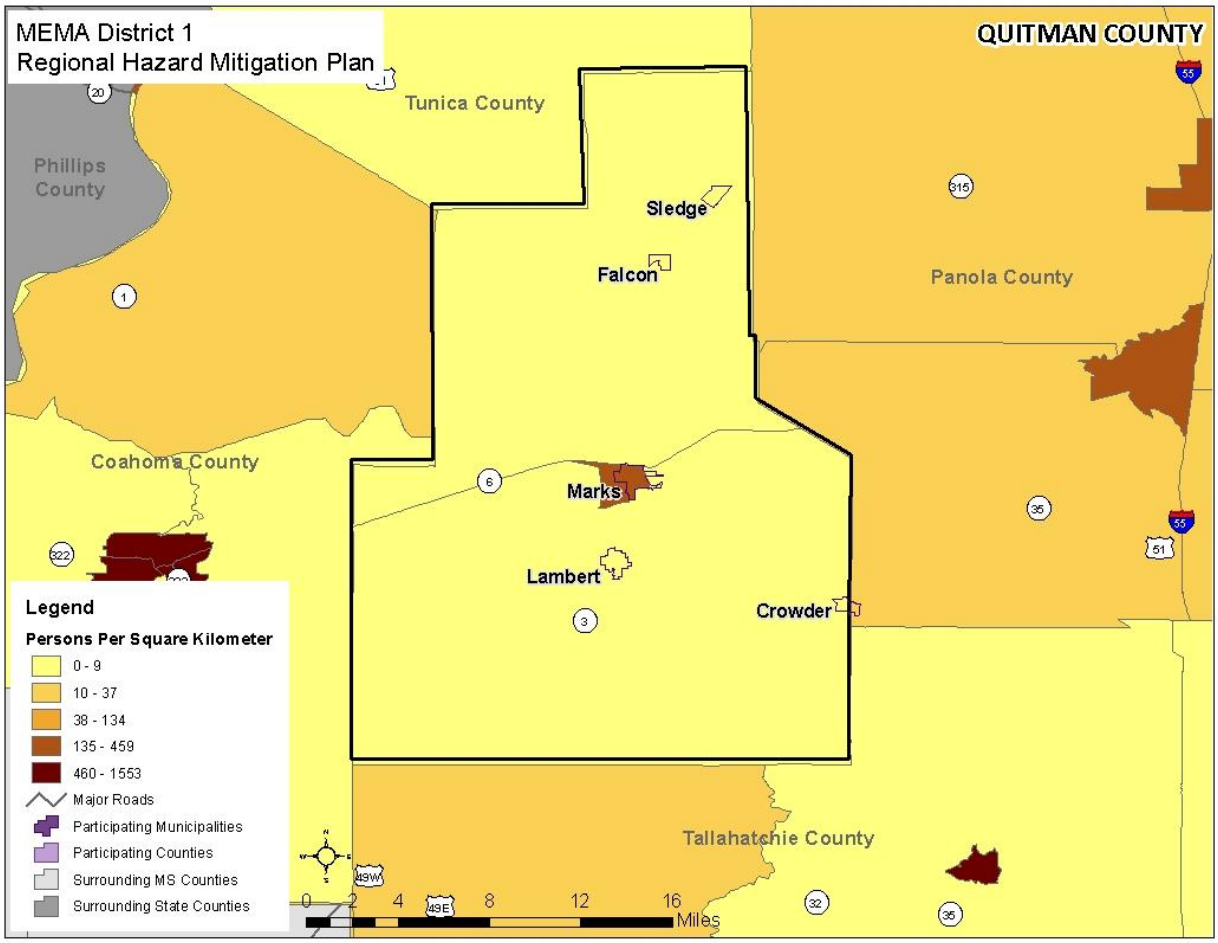
Location	Total 2010 Population
Crowder	573
Falcon	143
Lambert	1,343
Marks	1,419
Sledge	476

Location	Total 2010 Population
Unincorporated Area	2,222
QUITMAN COUNTY TOTAL	**6,176**

Source: United States Census Bureau, 2010 Census

In addition, **Figure E.29** illustrates the population density per square kilometer by census tract as it was reported by the U.S. Census Bureau in 2010. As can be seen in the figure, the population is spread out with concentrations in municipal areas such as Marks.

FIGURE E.29: POPULATION DENSITY IN QUITMAN COUNTY



Source: United States Census Bureau, 2010 Census

E.3.3 Development Trends and Changes in Vulnerability

Since the previous regional hazard mitigation plan was approved, Quitman County has experienced limited growth and development. **Table E.34** shows the number of building units constructed since 2014 according to the U.S. Census American Community Survey.

TABLE E.34: BUILDING COUNTS FOR QUITMAN COUNTY

Jurisdiction	Total Housing Units (2014)	Total Housing (2019)	% Building Stock Built
Crowder	336	331	-2.0%
Falcon	102	65	-57.0%
Lambert	579	584	1.0%
Marks	756	810	7.0%
Sledge	204	234	13.0%
Unincorporated Area	1,620	1,557	-4.0%
QUITMAN COUNTY TOTAL	**3,597**	**3,581**	**-004%**

Source: United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Table E.35 and **Table E.35.1** shows population growth estimates for the county from 2010 to 2014 and 2015 to 2019 based on the U.S. Census American Community Survey.

TABLE E.35: POPULATION GROWTH FOR QUITMAN COUNTY

Jurisdiction	Population Estimates (as of July 1)					% Change 2010-2014
	2010	2011	2012	2013	2014	
Crowder	559	544	525	605	570	1.97%
Falcon	238	304	326	325	303	27.31%
Lambert	1,615	1,506	1,415	1,153	1,132	-29.91%
Marks	2,325	2,010	1,967	1,820	1,755	-24.52%
Sledge	601	564	544	507	482	-19.80%
Unincorporated Area	3,213	3,450	3,394	3,618	3,660	13.91%
QUITMAN COUNTY TOTAL	**8,551**	**8,378**	**8,171**	**8,028**	**7,902**	**-7.59%**

Source: United States Census Bureau, 2006-2010, 2007-2011, 2008-2012, 2009-2013, and 2010-2014 American Community Survey 5-Year Estimates

Based on the data above, there has been a low rate of residential development since 2014 and, a low rate of population growth in the county since 2010. Several municipalities experienced population declines. However, it is notable that the Town of Sledge has experienced a slightly 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, there was a substantial rate of population growth in the Town of Falcon, and a significant reduction in population in the Town of Lambert, City of Marks, and Town of Sledge from 2010 to 2014. As a result, there was a number of people exposed to the identified hazards in some areas while there are fewer in other areas. Therefore, development and population growth impacted the county's vulnerability, and there has been a slight increase in the overall vulnerability as well as a significant increase in certain areas and communities.

TABLE E.35.1: POPULATION GROWTH FOR QUITMAN COUNTY

Jurisdiction	Population Estimates					% Change 2015-2019
	2015	2016	2017	2018	2019	
Crowder	701	756	670	747	837	19.40%
Falcon	192	142	137	146	161	-16.15%
Lambert	1,302	1,249	983	1,282	1,296	-0.46%
Marks	1,630	1,591	1,637	1,741	1,754	7.61%
Sledge	476	501	461	400	457	-3.99%
Unincorporated Area	3,310	3,129	3,320	2,739	2,287	-28.75%
QUITMAN COUNTY TOTAL	**7,511**	**7,368**	**7,208**	**7,055**	**6,792**	**-9.57%**

Source: 2015-2019 American Community Survey 5-Year Estimates

Based on the 2019 housing totals and 2015-2019 ACS Survey 5-year Estimates, there has been a low rate of residential development and population growth in the county since 2015. Several municipalities have actually experienced population declines. However, it is notable that the Town of Sledge has experienced a slightly 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, there was a substantial rate of population growth in the Town of Crowder, and a significant reduction in population in the Town of Falcon and Unincorporated Areas. As a result, there are now greater numbers of people exposed to the identified hazards in some areas while there are fewer in other areas. Therefore, development and population growth have impacted the county's vulnerability since the previous local hazard mitigation plan was approved and there has been a slight increase in the overall vulnerability as well as a significant increase in certain areas and communities.

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, landside susceptibility areas, or high wildfire risk areas. With the adoption and enforcement of general development plans, land use plans, ordinances, building codes, and floodplain management requirements, Quitman County jurisdictions seek to not have developments in hazard prone areas that increase or decrease vulnerability of each jurisdiction. Since the previous plan, the jurisdictions are not aware of any development that have occurred in hazard prone areas and increased or decreased vulnerability.

E.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 Quitman County, are presented here. All other hazards are assumed to impact the entire planning region (drought, extreme heat, hailstorm, lightning, severe thunderstorm/high wind, tornado, and winter storm) or, due to lack of data, analysis would not lead to credible results (dam and levee failure, erosion, and land subsidence/sinkhole). The total county exposure, and thus risk to these hazards, was presented in **Table E.30**.

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

The annualized loss estimate for all hazards is presented near the end of this subsection in **Table E.41.**

FLOOD

Historical evidence indicates that Quitman County is susceptible to flood events. A total of 5 flood events have been reported by the National Climatic Data Center resulting in $2.1 million in property damage and two injuries. On an annualized level, these damages amounted to $82,480 for Quitman County.

In order to assess flood risk, a GIS-based analysis was used to estimate exposure to flood events using Digital Flood Insurance Rate Map (DFIRM) data in combination with improved property records for the county. The determination of value at-risk (exposure) was calculated using GIS analysis by summing the values for improved properties that were located within an identified floodplain. Due to a lack of digital parcel data in most counties, it was determined that an analysis using the inventory from Hazus-MH 3.1 would be used, though it should be noted that the data will merely be an estimation and may not reflect actual counts or values located in the floodplain. Indeed, in almost all cases, this analysis likely overestimates the amount of property at risk. **Table E.36** presents the potential at-risk property. Both the number of parcels and the approximate value are presented.

TABLE E.36: ESTIMATED EXPOSURE OF PROPERTY TO THE FLOOD HAZARD[17]

Location	1.0-percent ACF	
	Approx. Number of Improvements	Approx. Improved Value
Crowder*	--	--
Falcon*	--	--
Lambert*	--	--
Marks*	--	--
Sledge*	--	--
Unincorporated Area*	--	--
QUITMAN COUNTY* TOTAL	--	--

*Digital Flood Maps were not available, so this analysis could not be carried out.
Source: Federal Emergency Management Agency DFIRM and Hazus MH 3.1

Social Vulnerability

According to the National Risk Index social groups in the Quitman County census tract have a relatively moderate susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S. Social groups also had a slight higher susceptibility to the adverse impacts of natural hazards compared to the rest of the State.

Critical Facilities

A list of specific critical facilities and their associated risk can be found in **Table E.43** at the end of this subsection.

[17] As noted in Section 6.4, no building-specific data, such as building footprints, was available to determine buildings at risk. As a result of this data limitation, at-risk census block building counts and values of the structures were used.

A flood has the potential to impact many existing and future buildings, facilities, and populations in Quitman 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 may be considered during future plan updates. Furthermore, areas subject to repetitive flooding should be analyzed for potential mitigation actions.

LANDSLIDE

Steeper topography in some areas of Quitman County makes the planning area susceptible to landslides. Although no major landslide incidents have been reported in the county, it should be noted that United States Geological Survey information on historic events is not well-documented so the data may be incomplete. There may be additional historical landslide occurrences that were not reported.

In order to complete the vulnerability assessment for landslides in Quitman County, GIS analysis was used. The potential dollar value of exposed property can be determined using the USGS Landslide Susceptibility Index (detailed in Section 5: *Hazard Profiles*), census block data from Hazus or county-level tax parcel data, and GIS analysis. **Table E.37** presents the potential at-risk property where available. Only a portion of the region is identified as being in a moderate incidence/high susceptibility or low incidence/high susceptibility area by the USGS landslide data. These incidence levels were used to identify areas of concern for the analysis below.

TABLE E.37: TOTAL POTENTIAL AT-RISK PARCELS FOR THE LANDSLIDE HAZARD

Location	Low Incidence/ High Susceptibility Area		Moderate Incidence/ High Susceptibility Area	
	Approx. Number of Improvements	Approx. Improved Value	Approx. Number of Improvements	Approx. Improved Value
Crowder	0	$0	0	$0
Falcon	0	$0	0	$0
Lambert	0	$0	0	$0
Marks	0	$0	0	$0
Sledge	0	$0	0	$0
Unincorporated Area	0	$0	0	$0
QUITMAN COUNTY TOTAL	**0**	**$0**	**0**	**$0**

Source: United States Geological Survey and Hazus-MH 3.1

Social Vulnerability

Given low incidence across the entire county, it is assumed that the total population is at relatively low risk.

Critical Facilities

No critical facilities in the county are located in a low incidence/high susceptibility area or the moderate incidence/high susceptibility area. A list of specific critical facilities and their associated risk can be found in **Table E.43** at the end of this subsection.

In conclusion, a landslide has the potential to impact all existing and future buildings, critical facilities, and populations in Quitman County. Specific vulnerabilities for Quitman County assets will be greatly dependent on their individual design and the mitigation measures in place where appropriate. Such site-specific vulnerability determinations are outside the scope of this assessment but will be considered during future plan updates if data becomes available.

WILDFIRE

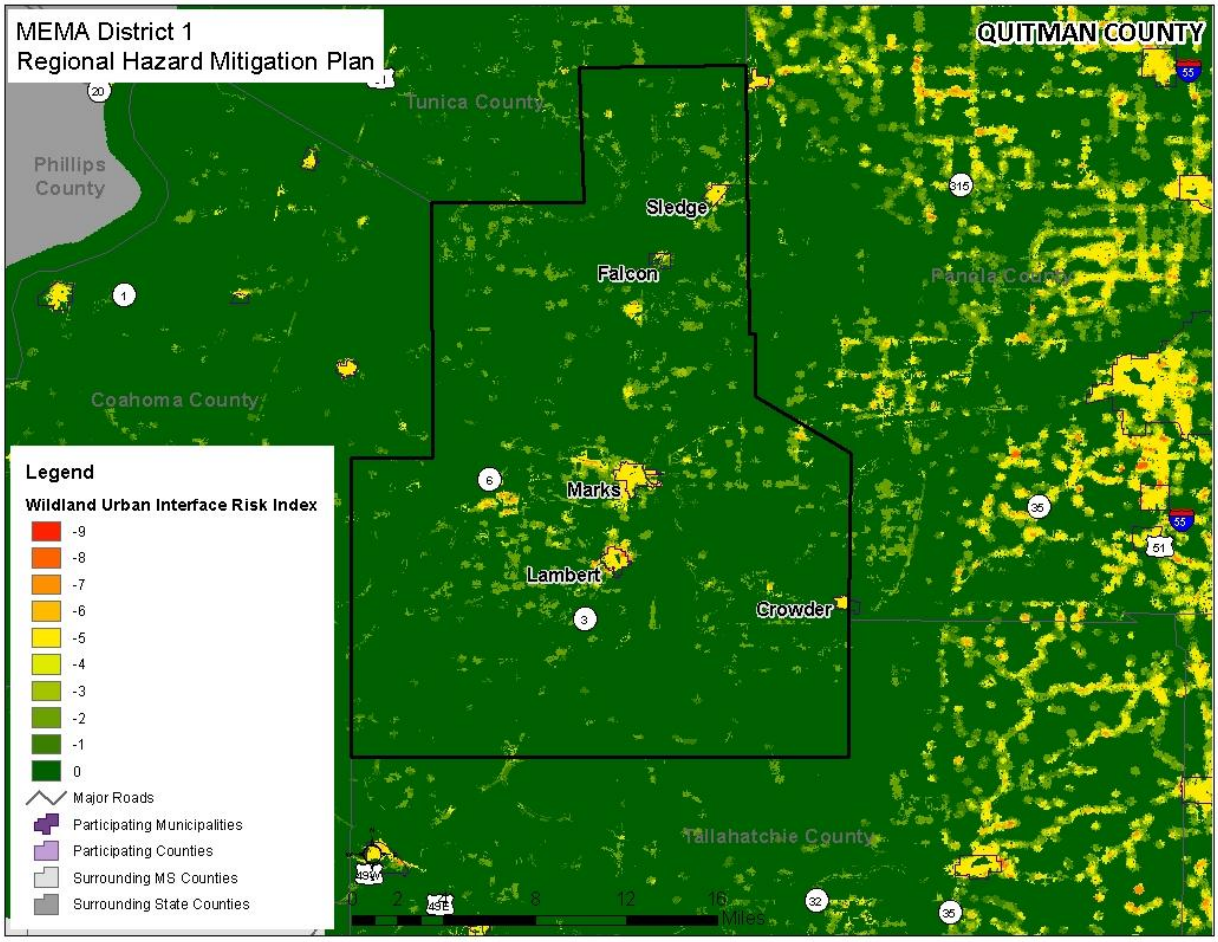
Although historical evidence indicates that Quitman County is susceptible to wildfire events, there are few reports which include information on historic dollar losses. Therefore, it is difficult to calculate a reliable annualized loss figure. Annualized loss is considered negligible though it should 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 3.1 for most counties 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 E.30 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 E.31** shows the areas of analysis where any grid cell is less than -5. Areas with a value below -5 were chosen to be displayed as areas of risk because this showed the upper echelon of the scale and the areas at highest risk.

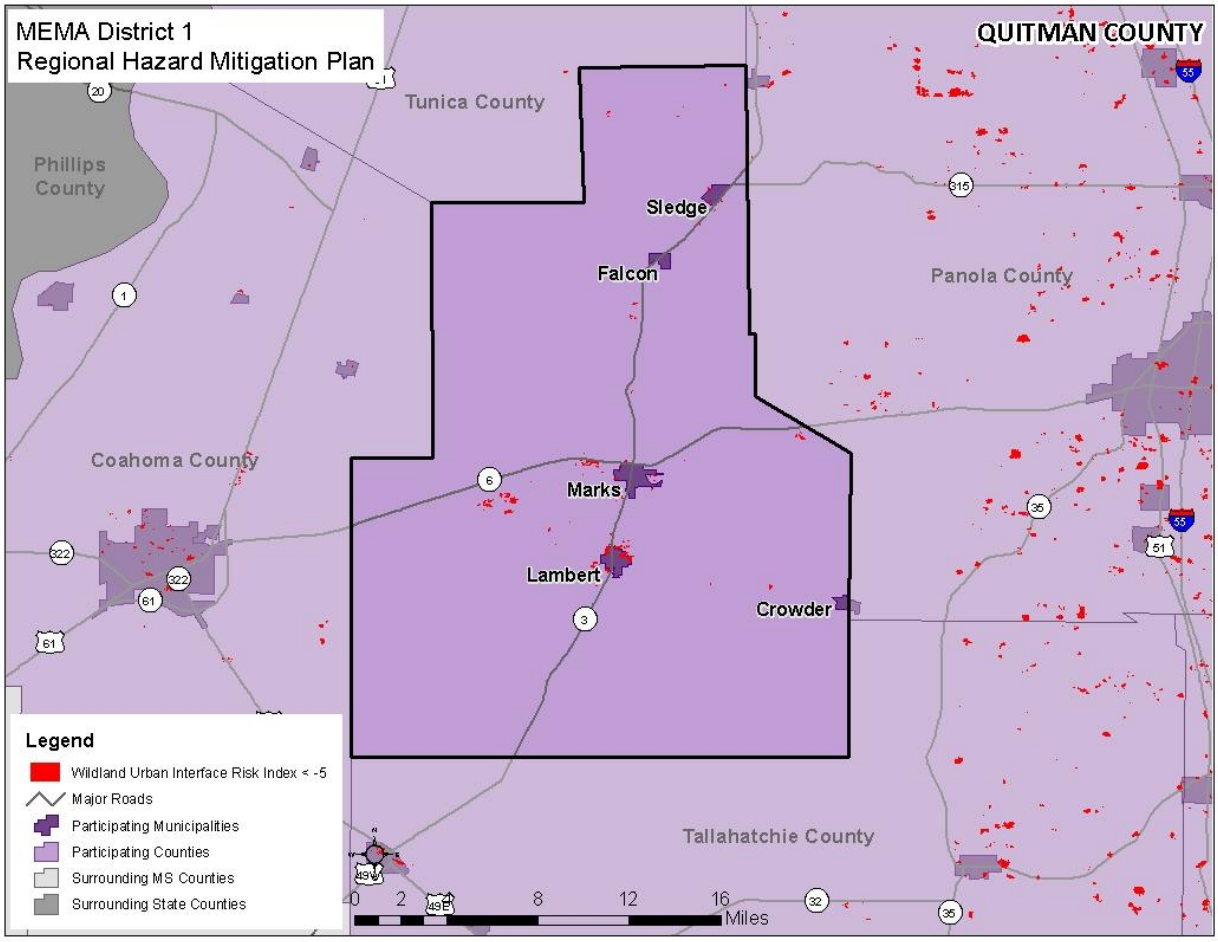
Table E.38 shows the results of the analysis.

FIGURE E.30: WUI RISK INDEX AREAS IN QUITMAN COUNTY



Source: Southern Wildfire Risk Assessment Data

FIGURE E.31: WILDFIRE RISK AREAS IN QUITMAN COUNTY



Source: Southern Wildfire Risk Assessment Data

TABLE E.38: EXPOSURE OF IMPROVED PROPERTY[18] TO WILDFIRE RISK AREAS

Location	Wildfire Risk	
	Approx. Number of Improvements	Approx. Improved Value
Crowder	0	$0
Falcon	1	$126,000
Lambert	242	$40,436,000
Marks	199	$36,114,000
Sledge	11	$2,749,000
Unincorporated Area	479	$92,995,000
QUITMAN COUNTY TOTAL	**932**	**$172,420,000**

Source: Southern Wildfire Risk Assessment and Hazus-MH 3.1

[18] Parcel/Building Footprint data was not available for Quitman County. Therefore, building counts and values were pulled from Hazus-MH at the census block level and approximate improved value was calculated.

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.

Critical Facilities
The critical facility analysis revealed that there are no critical facilities located in wildfire areas of concern. It should be noted that several factors could impact the spread of a wildfire putting all facilities at risk. A list of specific critical facilities and their associated risk can be found in **Table E.43** at the end of this subsection.

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

EARTHQUAKE

Data from the National Risk Index obtained from historical occurrences confirm, any significant earthquake activity in the area is likely to inflict moderate damage to the county. Estimated total annualized loss of $109,191 which includes buildings, contents, and inventory throughout the county.

The results of the analysis are generated at the census tract level and then aggregated to the county level. Since the scenario is annualized, no building counts are provided. Losses reported included losses due to structure failure, building loss, contents damage, and inventory loss. **Table E.39** summarizes the findings.

TABLE E.39 AVERAGE ANNUALIZED LOSS ESTIMATION FOR EARTHQUAKE

Location	Building Value	Population Equivalence	Population Fatalities	Agriculture Value	Total Annualized Loss
Quitman County	$88,892	$20,300	0.00	n/a	$109,191

Source: FEMA National Risk Index

Social Vulnerability
It can be assumed that all existing and future populations are at risk to the earthquake hazard.

Critical Facilities
The analysis did not indicate that any critical facilities would sustain measurable damage in an earthquake event. However, all critical facilities should be considered at-risk to minor to moderate damage should an event occur. A list of specific critical facilities and their associated risk can be found in **Table E.43** at the end of this subsection.

In conclusion, an earthquake has the potential to impact all existing and future buildings, facilities, and populations in Quitman County. Specific vulnerabilities for these assets will be greatly dependent on their individual design and the mitigation measures in place. Such site-specific vulnerability determinations are outside the scope of this assessment but may be considered during future plan updates. The scenario indicates that minimal to moderate damage is expected from an earthquake occurrence. While Quitman

County may not experience a catastrophic earthquake (the greatest on record is a magnitude V MMI), localized damage is possible with a moderate to larger scale occurrence.

HURRICANE AND TROPICAL STORM

Historical evidence indicates that Quitman 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 E.2.12. National Risk Index estimates a total annualized loss of $1,371 which includes buildings, contents, and inventory throughout the county.

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. Annualized losses for the Quitman County as shown below in **Table E.40.** Only losses to buildings, inventory, and contents are included in the results.

TABLE E.40: ANNUALIZED LOSS ESTIMATIONS FOR HURRICANE WIND HAZARD

Location	Building Value	Population Equivalence	Population Fatalities	Agriculture Value	Total Annualized Loss
Quitman County	$1,129	$34,895	0.00	$0	$1,371

Source: FEMA National Risk Index

Social Vulnerability
Given some equal susceptibility across the entire county, it is assumed that the total population, both current and future, is at risk to the hurricane and tropical storm hazard.

Critical Facilities
Given equal vulnerability across Quitman 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 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 in **Table E.43** 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 Quitman County.

CONCLUSIONS ON HAZARD VULNERABILITY

Table E.41 presents a summary of expected annualized loss for each hazard in Quitman County using data from The National Risk Index. 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, the expected 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 E.41: EXPECTED ANNUALIZED LOSS FOR QUITMAN COUNTY

Hazard	Quitman County
Flood-related Hazards	
Dam and Levee Failure	Negligible
Erosion	Negligible
Flood (Riverine)	$0.11M
Fire-related Hazards	
Drought	$0
Lightning	$23K
Wildfire	$38
Geologic Hazards	
Earthquake	$0.35M
Landslide	$0.43K
Land Subsidence/Sinkhole	Negligible
Wind-related Hazards	
Extreme Heat	$0.16M
Hailstorm	$4.5K
Hurricane & Tropical Storm	$4.3K
Severe Thunderstorm/High Wind	$43K
Tornado	$0.59M
Winter Storm & Freeze	$1.7K

Note: 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.

Table E.42 presents a summary of the expected annualized loss for each hazard for each jurisdiction in Quitman County.

TABLE E.42: EXPECTED ANNUALIZED LOSSES FOR JURISDICTIONS IN QUITMAN COUNTY

Hazard	Crowder	Falcon	Lambert	Marks	Sledge
Flood-related Hazards					
Dam and Levee Failure	Negligible	Negligible	Negligible	Negligible	Negligible
Erosion	Negligible	Negligible	Negligible	Negligible	Negligible
Flood (Riverine)	$52K	$22K	$52K	$39K	$22K
Fire-related Hazards					
Drought	$0	$0	$0	$0	$0
Lightning	$11K	$6.4K	$11K	$5.4K	$6.4K
Wildfire	$28	$11	$28	$0	$11
Geologic Hazards					
Earthquake	$0.15M	$89K	$0.15M	$0.11M	$89K
Landslide	$77	$0.36K	$77	$0	$0.36K
Land Subsidence/Sinkhole	Negligible	Negligible	Negligible	Negligible	Negligible
Wind-related Hazards					
Extreme Heat	$80K	$44K	$80K	$35K	$44K
Hailstorm	$1.9K	$1.1K	$1.9K	$1.6K	$1.1K
Hurricane & Tropical Storm	$1.9K	$1.0K	$1.9K	$1.4K	$1.0K
Severe Thunderstorm/High Wind	$20K	$11K	$20K	$12K	$11K
Tornado	$0.30M	$0.15M	$0.30M	$0.13M	$0.15M
Winter Storm & Freeze	2.33K	$1.31K	$2.33K	$1.39K	$1.31K

TABLE E.42: EXPECTED ANNUALIZED LOSSES FOR JURISDICTIONS IN QUITMAN COUNTY (CONT.)

Hazard	Unincorporated, Quitman County
Flood-related Hazards	
Dam and Levee Failure	Negligible
Erosion	Negligible
Flood (Riverine)	$39K
Fire-related Hazards	
Drought	$0
Lightning	$5.4K
Wildfire	$0
Geologic Hazards	
Earthquake	$0.11M
Landslide	$0
Land Subsidence/Sinkhole	Negligible
Wind-related Hazards	
Extreme Heat	$35K
Hailstorm	$1.6K
Hurricane & Tropical Storm	$1.4K
Severe Thunderstorm/High Wind	$12K
Tornado	$0.13M
Winter Storm & Freeze	$1.39K

Source: National Risk Index

NOTE: 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.

As noted previously, all existing and future buildings and populations (including critical facilities) are vulnerable to atmospheric hazards including drought, lightning, extreme heat, hailstorm, hurricane and tropical storm, severe thunderstorm/high wind, tornado, and winter storm and freeze. Some buildings may be more vulnerable to these hazards based on other factors such as construction and building type. **Table E.43** shows the critical facilities vulnerable to the hazards analyzed in this section. 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 E.43: AT-RISK CRITICAL FACILITIES IN QUITMAN COUNTY

		FLOOD-RELATED				FIRE-RELATED			GEOLOGIC				WIND-RELATED					
FACILITY NAME	FACILITY TYPE	Dam and Levee Failure[19]	Erosion	Flood – 100 yr	Flood – 500 yr	Drought	Lightning	Wildfire	Earthquake	Landslide – Mod/High	Landslide – Low/High	Land Subsidence/ Sinkhole	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Severe Thunderstorm/ High Wind	Tornado	Winter Storm and Freeze
Quitman County																		
Quitman County EOC	EOC	X	X			X	X		X			X	X	X	X	X	X	X
Quitman County Courthouse	Alternate EOC	X	X			X	X		X			X	X	X	X	X	X	X
Quitman County Sheriff Admin Bldg.	Police Station	X	X			X	X		X			X	X	X	X	X	X	X
Quitman County Economic Development Complex	Government	X	X			X	X		X			X	X	X	X	X	X	X
Quitman County Warehouse Facility	Government	X	X			X	X		X			X	X	X	X	X	X	X
Lambert Volunteer Fire Department	Fire Station	X	X			X	X		X			X	X	X	X	X	X	X
Quitman County Hospital & Home	Medical	X	X			X	X		X			X	X	X	X	X	X	X
Lambert Police Dept	Police Station	X	X			X	X		X			X	X	X	X	X	X	X
Quitman County Sheriff's Ofc	Police Station	X	X			X	X		X			X	X	X	X	X	X	X
Marks Chief Of Police	Police Station	X	X			X	X		X			X	X	X	X	X	X	X
Quitman County Elementary School	School	X	X			X	X		X			X	X	X	X	X	X	X
Delta Academy	School	X	X			X	X		X			X	X	X	X	X	X	X
Quitman Co Vocational Complex	School	X	X			X	X		X			X	X	X	X	X	X	X
M. S. Palmer High School	School	X	X			X	X		X			X	X	X	X	X	X	X
Quitman County Middle School	School	X	X			X	X		X			X	X	X	X	X	X	X
Big Field Water Assn. Inc.	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X

[19] 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.

		FLOOD-RELATED				FIRE-RELATED			GEOLOGIC				WIND-RELATED					
FACILITY NAME	FACILITY TYPE	Dam and Levee Failure[19]	Erosion	Flood – 100 yr	Flood – 500 yr	Drought	Lightning	Wildfire	Earthquake	Landslide – Mod/High	Landslide – Low/High	Land Subsidence/ Sinkhole	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Severe Thunderstorm/ High Wind	Tornado	Winter Storm and Freeze
Bigfield Water Association, Inc	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
Birdie Water Assn.	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
Darling Water Assn. Inc	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
Enon Locke Station & Curtis Wtr. Assn.	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
Moore Bayou Water Assn. Inc	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
Norfleet Utility Assn Inc.	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
So. Quitman Co. Utilities Assn. Inc.	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
South Lake Water Assn. Inc.	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
Town of Falcon	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
Tunica County Utility District	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X
West Lambert Water Assn. Inc.	Water Utilities	X	X			X	X		X			X	X	X	X	X	X	X

E.4 QUITMAN COUNTY CAPABILITY ASSESSMENT

This subsection discusses the capability of Quitman 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*.

E.4.1 Planning and Regulatory Capability

Table E.44 provides a summary of the relevant local plans, ordinances, policies, and programs already in place or under development and available to accomplish hazard mitigation for Quitman 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. A dagger (†) indicates that the given item is administered for that municipality by the county. Each of these local plans, ordinances, and programs should be considered available mechanisms for incorporating the requirements of the MEMA District 1 Regional Hazard Mitigation Plan.

TABLE E.44: RELEVANT PLANS, ORDINANCES, AND PROGRAMS

Planning Tool/Regulatory Tool	Hazard Mitigation Plan	Threat and Hazard Identification and Risk Assessment (THIRA)	Comprehensive Land Use Plan	Floodplain Management Plan/Flood Mitigation Plan	Open Space Management Plan (Parks & Rec/Greenway Plan	Stormwater Management Plan/Ordinance	Natural Resource Protection Plan	Flood Response Plan	Emergency Operations Plan	Emergency Management Accreditation Program (EMAP Accreditation)	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/ Reconstruction Plan/ Ordinance	Building Code	Fire Code	National Flood Insurance Program (NFIP)	NFIP Community Rating System (CRS Program)
QUITMAN COUNTY	✓														✓		✓	✓	✓					✓	
Crowder	†														†		✓							✓	
Falcon	†														†		✓							✓	
Lambert	†														†		†		†					✓	
Marks	†														†		†		†					✓	
Sledge	†														†		✓							✓	

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

EMERGENCY MANAGEMENT

Hazard Mitigation Plan
Quitman County has previously adopted District 1 Regional Hazard Mitigation Plan. The Town of Crowder, Town of Falcon, Town of Lambert, City of Marks, and Town of Sledge were also included in this plan.

GENERAL PLANNING

Zoning Ordinance
Quitman County is the only jurisdiction in the county that has adopted a zoning ordinance.

Subdivision Ordinance
Quitman County has adopted subdivision regulations. The county ordinance also includes the Town of Lambert and City of Marks.

FLOODPLAIN MANAGEMENT

Table E.45 provides NFIP policy and claim information for each participating jurisdiction in Quitman County.

TABLE E.45: 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
QUITMAN COUNTY†	09/04/85	05/04/21	92	$12,518,200	147	$1,585,969
Crowder	08/01/86	05/16/17(M)	1	$210,000	1	$11,457
Falcon	08/19/85	05/4/21	0	$0	0	$0
Lambert	09/04/85	5/16/17	6	$780,000	3	$15,595
Marks	09/04/85	5/16/17(M)	26	$3,312,600	51	$542,682
Sledge	09/04/85	5/4/21	14	$1,155,900	4	$80,226

†Includes unincorporated areas of county only
(M) – No Elevation Determined, All Zone A, C and X
(L) – Original FIRM by Letter – All Zone A, C and X
Source: NFIP Community Status information as of 10/26/2021; NFIP claims and policy information as of 6/30/2016 is the latest available data for this 2021 plan update due to directive regarding sharing NFIP information.

All jurisdictions listed above that are participants in the NFIP will continue to comply with all required provisions of the program and will work to adequately comply in the future utilizing a number of strategies. For example, the jurisdictions will coordinate with MEMA and FEMA to develop maps and regulations related to special flood hazard areas within their jurisdictional boundaries and, through a consistent monitoring process, will design and improve their floodplain management program in a way that reduces the risk of flooding to people and property.

Flood Damage Prevention Ordinance
All communities participating in the NFIP are required to adopt a local flood damage prevention ordinance. Quitman County, Town of Crowder, Town of Falcon, Town of Lambert, City of Marks, and Town of Sledge all participate in the NFIP and have adopted flood damage prevention regulations.

E.4.2 Administrative and Technical Capability

Table E.46 provides a summary of the capability assessment results for Quitman 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. A dagger (†) indicates a county-level staff member(s) provides the specified knowledge or skill to that municipality.

TABLE E.46: 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
QUITMAN COUNTY				✓	✓		✓	✓		
Crowder				†	✓		†	†		
Falcon				†	✓		†	†		
Lambert				†	†		†	†		
Marks				†	†		†	†		
Sledge				†	✓		†	†		

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.

E.4.3 Fiscal Capability

Table E.47 provides a summary of the results for Quitman County with regard to relevant fiscal resources. A checkmark (✓) indicates that the given fiscal resource has previously been used to implement hazard mitigation actions. A dagger (†) indicates that the given fiscal resource is locally available for hazard mitigation purposes (including match funds for state and federal mitigation grant funds).

TABLE E.47: 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: HMGP, PDM, HMA, NFIP, SBA, Homeland Security Grants, and other Federal sources, etc.
QUITMAN COUNTY		†								†
Crowder		†								†
Falcon		†								†
Lambert		†								†
Marks		†								†
Sledge		†								†

E.4.4 Political Capability

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

Table E.48 provides a summary of the results for Quitman County with regard to political capability. A checkmark (✓) indicates the expected degree of political support by local elected officials in terms of adopting/funding information.

TABLE E.48: LOCAL POLITICAL SUPPORT

Political Support	Limited	Moderate	High
QUITMAN COUNTY		✓	
Crowder		✓	
Falcon		✓	
Lambert		✓	
Marks		✓	
Sledge		✓	

E.4.5 Conclusions on Local Capability

Table E.49 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. This information was reviewed by all jurisdictions and each jurisdiction provided feedback on the information included in the capability assessment. Local government input was vital to identifying capabilities. According to the assessment, the average local capability score for the county and its jurisdictions is 16.5, which falls into the limited capability ranking.

TABLE E.49: CAPABILITY ASSESSMENT RESULTS

Jurisdiction	Overall Capability Score	Overall Capability Rating
QUITMAN COUNTY	21	Limited
Crowder	16	Limited
Falcon	16	Limited
Lambert	15	Limited
Marks	15	Limited
Sledge	16	Limited

E.5 QUITMAN COUNTY MITIGATION STRATEGY

This subsection provides the blueprint for Quitman County to follow in order to become less vulnerable to its identified hazards. It is based on general consensus of the District 1 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*.

E.5.1 Mitigation Goals

Quitman County reaffirmed the previous goals and agreed to adding objectives to this plan update in coordination with the other participating MEMA District 1 Region jurisdictions. The regional mitigation plan goals and objectives are presented in **Table E.50**.

TABLE E.50: MEMA DISTRICT 1 REGIONAL MITIGATION GOALS AND OBJECTIVES

	Goal
Goal #1	Promote the development, implementation, and maintenance of **local hazard mitigation plans** and encourage all sectors of the community to **work together to create a disaster resistant community**. Objectives: o Integrate the hazard mitigation needs into local land use planning. o Seek funding for hazard mitigation through programs, including the following, but not limited to: Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA), Building Resilient Infrastructure and Communities (BRIC), National Flood Insurance Program (NFIP), Community Development Block Grant (CDBG), and Disaster Mitigation Loan by Small Business Administration. o Provide technical assistance to communities that are considering participating in the National Flood Insurance Program. o Develop process to support update of the regional hazard mitigation plan.

	Goal
Goal #2	Reduce **risks and vulnerabilities of people and structures** in hazard prone areas. Objectives: o Advise the public of safety and health precautions to take against flooding and other hazards. o Identify and reduce the vulnerability of new and existing facilities and other infrastructure in hazard prone areas through the incorporation of appropriate hazard mitigation measures. o Assist local governments in identifying and reducing the vulnerability of people and structures in hazard prone areas through the support of Local Mitigation Strategy processes and prioritization and implementation of hazard mitigation projects. o Repair, removal, or structural/nonstructural rehabilitation of eligible infrastructure and systems. o Regulate building practices to reduce the vulnerability of structures through Mississippi building codes that focus on public safety and increases local enforcement powers. o Encourage communities to participate in the National Flood Insurance Program (NFIP) by promoting the benefits of the program and by providing technical assistance in meeting program requirements including the application process. o Encourage jurisdictions to adopt and enforce floodplain management requirements, including regulating all and substantially improved construction in Special Flood Hazard Areas (SFHAs). o Encourage floodplain identification and mapping, including any local requests for map updates and community assistance, if needed. o Promote and seek funding for State identified mitigation initiatives, such severe weather warning systems, saferooms, and storm shelters.
Goal #3	Promote **education, outreach, and development programs to improve the knowledge and awareness** among the citizens and industry about hazards they may face, their vulnerability to identified hazards, and hazard mitigation alternatives that can reduce their vulnerabilities. Objectives: o Identify public outreach and education programs with hazard identification, vulnerability assessments, preparedness, and hazard mitigation. o Identify and coordinate with potential partners for disaster and hazard mitigation information dissemination to the public and private sector.
Goal #4	Establish **priorities for reducing risks to the people and their property** with emphasis on **long-term maximum benefits to the public** rather than short-term benefit of special interests. Objectives: o Use existing planning processes, available scientific and engineering data, and resources in identifying mitigation opportunities. o Assess the vulnerability of facilities in hazard-prone areas. o Reduce potential damage to future buildings and infrastructure. o Encourage drainage system improvements that support mitigation opportunities that are compatible with maintaining function of natural system. o Promote land acquisition programs that support mitigation opportunities that are compatible with the protection of natural and cultural resources.

	Goal
Goal #5	Protect the **health and safety of residents** through pre- and post-hazard mitigation processes. Objectives: o Provide adequate early warning systems (if necessary) to notify the public of potential risks as well as provide emergency instructions to be followed before, during, and after a disaster. o Protect emergency response services and critical facilities functions during and immediately after a disaster. This includes reestablishing operations after a disaster. o Provide resources, equipment, and supplies necessary to meet victim's health and safety needs immediately following a disaster.
Goal #6	Have the **capability to initiate and sustain emergency response operations** during and after a disaster. Objectives: o Designated evacuation routes will be located, retrofitted, or modified to remain open before, during, and after a disaster. o Designated evacuation shelters will be retrofitted or relocated to ensure their operability during and after disaster events. o Ensure that emergency shelters can be accessed in a timely manner and that the needs of the public are met, in the event of a natural hazard.

E.5.2 Mitigation Action Plan

The mitigation actions proposed by Quitman County, Town of Crowder, Town of Falcon, Town of Lambert, City of Marks, and Town of Sledge are listed in the following individual Mitigation Action Plans.

Quitman County Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Prevention							
P-1	**Codes and Regulations:** • Adopt and implement uniform building codes, subdivision regulations, land use planning, and zoning ordinances that address new and existing building structures throughout the county. • Adopt and implement regulations and codes that address vulnerability to the hazards listed in the Hazard Mitigation Plan for existing critical infrastructure as defined in Action ES-3. • Adopt and implement regulations and codes for new infrastructure projects that address vulnerability to the hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will review existing codes and regulations for both existing buildings and infrastructure, and for new buildings and infrastructure, to determine what changes need to be made to bring local regulations into compliance.	All	High	Board of Supervisors/ Board of Alderman	Local	2027	This action is ongoing. The county began enforcing floodplain management as of November 2010, but progress remains slow due to a lack of funding to enforce. The county and municipalities would like to keep this action in the plan in order to continue trying to improve enforcement and make changes to codes as necessary.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
P-2	Ensure that existing drainage systems (i.e., pipes, culverts, channels) are adequate and functioning properly. **Ideas for Implementation:** Each participating jurisdiction will appoint personnel to check local drainage system conditions and take the necessary steps to bring inadequate systems into compliance. The cost involved to bring inadequate systems into compliance will vary from one place to the next.	Flood	High	County Administrator, Board of Supervisors/ Board of Aldermen	General Funds, CDBG, DRA	2027	This action is ongoing. The Quitman County Road Department and municipalities continually check and maintain existing drainage systems to prevent flooding.
P-3	**Floodplain Management:** • Encourage communities to participate or continue participating in the National Flood Insurance Program (NFIP). • Encourage jurisdictions to adopt and enforce floodplain management requirements, including regulating all substantially improved construction in Special Flood Hazard areas (SFHAs). **Ideas for Implementation:** Promote the benefits of the NFIP program and floodplain management, and provide technical assistance in meeting program requirements including the application process.	All	High	Board of Supervisors/ Board of Aldermen, Emergency Management	Local	2027	This action is ongoing. All communities in Quitman County are participants in the NFIP. This action will remain in the plan as communities will need to continue to implement floodplain management activities to maintain their participation in the NFIP.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Property Protection							
PP-1	**Storm Shelters/Safe Rooms:** The county and all municipalities would like to increase the number of shelters and safe rooms available to citizens in the event of severe weather events such as tornadoes, especially in areas of high or vulnerable population concentration. **Ideas for Implementation:** • Identify key locations for constructing storm shelters/safe rooms. • Apply for grant funding to support construction/implementation.	All severe weather events	High	Emergency Management	FEMA, MEMA, Local	2027	This action is ongoing pending availability of funds.
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1							
Emergency Services							
ES-1	Provide residents with adequate warning of potential floods and other meteorological events. **Ideas for Implementation:** Each participating jurisdiction will assess the condition of their current warning systems and upgrade where necessary.	All severe weather events	High	Emergency Management	General Funds, MEMA, State Homeland Security Program	2027	This action is ongoing. The county and all municipalities each have warning sirens in place. The Town of Sledge has a new state-of-the-art siren. Fire departments, public works employees, and law enforcement personnel are utilized to further notify citizens of potential flooding and other disasters. However, the county has determined that there will be a need to re-evaluate these systems and improve them in the future.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
ES-2	Strengthen emergency services preparedness and response ability by purchasing equipment (i.e., generators and other supplies) to be used at key critical facilities around the county. **Ideas for Implementation:** Each participating jurisdiction will inventory current emergency supplies and identify items needed to improve response ability.	All	High	Emergency Management	General Funds, MEMA, State Homeland Security Program, USDA Rural Dev.	2027	This action is ongoing due to the evolving nature of this type of equipment and the fact that many improvements can still be made to improve preparedness. Quitman County has purchased four (4) generators and is always in the process of trying to acquire more essential equipment for the county.
ES-3	Strengthen emergency services preparedness and response ability and strengthen hazard mitigation vulnerability assessment by mapping the locations of key government or public housing structures and buildings, especially vulnerable structures, critical infrastructure, and elderly and handicapped housing. Precise data will be gathered to identify weaknesses in preparedness for all hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will inventory its own structures, or may use the help of NDPDD, to map structures and assess their vulnerabilities. These data will be amended to the plan.	All	High	Emergency Management	General Funds	2027	This action is ongoing. Many critical facilities/infrastructure have been mapped, but there will be a need to constantly evaluate/update this data and it should be noted that not all vulnerable populations or facilities have been mapped.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Public Education and Awareness							
PEA-1	Provide education opportunities for local officials to make sure they are well trained regarding natural hazards and appropriate prevention and mitigation activities. **Ideas for Implementation:** Elected officials in each participating jurisdiction will attend an educational program or seminar designed to increase awareness of natural hazards and ways to minimize their impact on the county.	All	High	Emergency Management	General Funds, MEMA	2027	This action is ongoing. Education opportunities are provided for all local elected officials through local emergency management and state programs. County officials have attended NIMS classes and Floodplain Management classes.
PEA-2	Organize and conduct a public outreach program designed to make sure that residents and business owners are aware of the potential hazards associated with their environment and the ways they can protect themselves. **Ideas for Implementation:** Each participating jurisdiction will coordinate outreach events to educate the public of the risks of natural hazards and ways to reduce their vulnerability to such events.	All	High	Emergency Management	General Funds, MEMA	2027	This action is ongoing. Public outreach needs to continue and improve. Quitman County EMA provides programs and public outreach materials to all its citizens. Key players in the community also take part in periodic exercises to assure constant awareness.

Town of Crowder Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Prevention							
P-1	**Codes and Regulations:** • Adopt and implement uniform building codes, subdivision regulations, land use planning, and zoning ordinances that address new and existing building structures throughout the county. • Adopt and implement regulations and codes that address vulnerability to the hazards listed in Hazard Mitigation Plan for existing critical infrastructure as defined in Action ES-3. • Adopt and implement regulations and codes for new infrastructure projects that address vulnerability to the hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will review existing codes and regulations for both existing buildings and infrastructure, and for new buildings and infrastructure, to determine what changes need to be made to bring local regulations into compliance.	All	High	Board of Supervisors/ Board of Alderman	Local	2027	This action is ongoing. The county began enforcing floodplain management as of November 2010, but progress remains slow due to a lack of funding to enforce. The county and municipalities would like to keep this action in the plan in order to continue trying to improve enforcement and make changes to codes as necessary.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
P-2	Ensure that existing drainage systems (i.e., pipes, culverts, channels) are adequate and functioning properly. **Ideas for Implementation:** Each participating jurisdiction will appoint personnel to check local drainage system conditions and take the necessary steps to bring inadequate systems into compliance. The cost involved to bring inadequate systems into compliance will vary from one place to the next.	Flood	High	County Administrator, Board of Supervisors/ Board of Aldermen	General Funds, CDBG, DRA	2027	This action is ongoing. The Quitman County Road Department and municipalities continually check and maintain existing drainage systems to prevent flooding. This action will remain in the plan as it is anticipated that there will be future issues with drainage systems that will require repairs/action.
P-3	**Floodplain Management:** • Encourage communities to participate or continue participating in the National Flood Insurance Program (NFIP). • Encourage jurisdictions to adopt and enforce floodplain management requirements, including regulating all substantially improved construction in Special Flood Hazard areas (SFHAs). **Ideas for Implementation:** Promote the benefits of the NFIP program and floodplain management, and provide technical assistance in meeting program requirements including the application process.	All	High	Board of Supervisors/ Board of Aldermen, Emergency Management	Local	2027	This action is ongoing. All communities in Quitman County are participants in the NFIP. This action will remain in the plan as communities will need to continue to implement floodplain management activities to maintain their participation in the NFIP.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Property Protection							
PP-1	**Storm Shelters/Safe Rooms:** The county and all municipalities would like to increase the number of shelters and safe rooms available to citizens in the event of severe weather events such as tornadoes, especially in areas of high or vulnerable population concentration. **Ideas for Implementation:** • Identify key locations for constructing storm shelters/safe rooms. • Apply for grant funding to support construction/implementation.	All severe weather events	High	Emergency Management	FEMA, MEMA, Local	2027	This action is ongoing pending availability of funding.
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1							
Emergency Services							
ES-1	Provide residents with adequate warning of potential floods and other meteorological events. **Ideas for Implementation:** Each participating jurisdiction will assess the condition of their current warning systems and upgrade where necessary.	All severe weather events	High	Emergency Management	General Funds, MEMA, State Homeland Security Program	2027	This action is ongoing. The county and all municipalities each have warning sirens in place. The Town of Sledge has a new state-of-the-art siren. Fire departments, public works employees, and law enforcement personnel are utilized to further notify citizens of potential flooding and other disasters. However, the county has determined that there will be a need to re-evaluate these systems and improve them in the future.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
ES-2	Strengthen emergency services preparedness and response ability by purchasing equipment (i.e., generators and other supplies) to be used at key critical facilities around the county. **Ideas for Implementation:** Each participating jurisdiction will inventory current emergency supplies and identify items needed to improve response ability.	All	High	Emergency Management	General Funds, MEMA, State Homeland Security Program, USDA Rural Dev.	2027	Due to the evolving nature of this type of equipment and the fact that many improvements can still be made to improve preparedness, this action is ongoing. Quitman County has purchased four (4) generators and is always in the process of trying to acquire more essential equipment for the county.
ES-3	Strengthen emergency services preparedness and response ability and strengthen hazard mitigation vulnerability assessment by mapping the locations of key government or public housing structures and buildings, especially vulnerable structures, critical infrastructure, and elderly and handicapped housing. Precise data will be gathered to identify weaknesses in preparedness for all hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will inventory its own structures, or may use the help of NDPDD, to map structures and assess their vulnerabilities. These data will be amended to the plan.	All	High	Emergency Management	General Funds	2027	This action is ongoing. Many critical facilities/infrastructure have been mapped, but there will be a need to constantly evaluate/update this data and it should be noted that not all vulnerable populations or facilities have been mapped.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Public Education and Awareness							
PEA-1	Provide education opportunities for local officials to make sure they are well trained regarding natural hazards and appropriate prevention and mitigation activities. **Ideas for Implementation:** Elected officials in each participating jurisdiction will attend an educational program or seminar designed to increase awareness of natural hazards and ways to minimize their impact on the county.	All	High	Emergency Management	General Funds, MEMA	2027	This action is ongoing. Education opportunities are provided for all local elected officials through local emergency management and state programs. County officials have attended NIMS classes and Floodplain Management classes.
PEA-2	Organize and conduct a public outreach program designed to make sure that residents and business owners are aware of the potential hazards associated with their environment and the ways they can protect themselves. **Ideas for Implementation:** Each participating jurisdiction will coordinate outreach events to educate the public of the risks of natural hazards and ways to reduce their vulnerability to such events.	All	High	Emergency Management	General Funds, MEMA	2027	This action is ongoing. Quitman County EMA provides programs and public outreach materials to all its citizens. Key players in the community also take part in periodic exercises to assure constant awareness.

Town of Falcon Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Prevention							
P-1	**Codes and Regulations:** • Adopt and implement uniform building codes, subdivision regulations, land use planning, and zoning ordinances that address new and existing building structures throughout the county. • Adopt and implement regulations and codes that address vulnerability to the hazards listed in the Hazard Mitigation Plan for existing critical infrastructure as defined in Action ES-3. • Adopt and implement regulations and codes for new infrastructure projects that address vulnerability to the hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will review existing codes and regulations for both existing buildings and infrastructure, and for new buildings and infrastructure, to determine what changes need to be made to bring local regulations into compliance.	All	High	Board of Supervisors/ Board of Alderman	Local	2027	This action is ongoing. The county began enforcing floodplain management as of November 2010, but progress remains slow-going due to a lack of funding to enforce. The county and municipalities would like to keep this action in the plan in order to continue trying to improve enforcement and make changes to codes as necessary.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
P-2	Ensure that existing drainage systems (i.e., pipes, culverts, channels) are adequate and functioning properly. **Ideas for Implementation:** Each participating jurisdiction will appoint personnel to check local drainage system conditions and take the necessary steps to bring inadequate systems into compliance. The cost involved to bring inadequate systems into compliance will vary from one place to the next.	Flood	High	County Administrator, Board of Supervisors/ Board of Aldermen	General Funds, CDBG, DRA	2027	This action is ongoing. Quitman County Road Department and municipalities continually check and maintain existing drainage systems to prevent flooding. This action will remain in the plan as it is anticipated that there will be future issues with drainage systems that will require repairs/action.
P-3	**Floodplain Management:** • Encourage communities to participate or continue participating in the National Flood Insurance Program (NFIP). • Encourage jurisdictions to adopt and enforce floodplain management requirements, including regulating all substantially improved construction in Special Flood Hazard areas (SFHAs). **Ideas for Implementation:** Promote the benefits of the NFIP program and floodplain management, and provide technical assistance in meeting program requirements including the application process.	All	High	Board of Supervisors/ Board of Aldermen, Emergency Management	Local	2027	This action is ongoing. All communities in Quitman County are participants in the NFIP. This action will remain in the plan as communities will need to continue to implement floodplain management activities to maintain their participation in the NFIP.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Property Protection							
PP-1	**Storm Shelters/Safe Rooms:** The county and all municipalities would like to increase the number of shelters and safe rooms available to citizens in the event of severe weather events such as tornadoes, especially in areas of high or vulnerable population concentration. **Ideas for Implementation:** • Identify key locations for constructing storm shelters/safe rooms. • Apply for grant funding to support construction/implementation.	All severe weather events	High	Emergency Management	FEMA, MEMA, Local	2027	This action is ongoing pending availability of funding.
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1							
Emergency Services							
ES-1	Provide residents with adequate warning of potential floods and other meteorological events. **Ideas for Implementation:** Each participating jurisdiction will assess the condition of their current warning systems and upgrade where necessary.	All severe weather events	High	Emergency Management	General Funds, MEMA, State Homeland Security Program	2027	This action is ongoing. The county and all municipalities each have warning sirens in place. The Town of Sledge has a new state-of-the-art siren. Fire departments, public works employees, and law enforcement personnel are utilized to further notify citizens of potential flooding and other disasters. However, the county has determined that there will be a need to re-evaluate these systems and improve them in the future.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
ES-2	Strengthen emergency services preparedness and response ability by purchasing equipment (i.e., generators and other supplies) to be used at key critical facilities around the county. **Ideas for Implementation:** Each participating jurisdiction will inventory current emergency supplies and identify items needed to improve response ability.	All	High	Emergency Management	General Funds, MEMA, State Homeland Security Program, USDA Rural Dev.	2027	This action is ongoing due to the evolving nature of this type of equipment and the fact that many improvements can still be made to improve preparedness. Quitman County has purchased four (4) generators and is always in the process of trying to acquire more essential equipment for the county.
ES-3	Strengthen emergency services preparedness and response ability and strengthen hazard mitigation vulnerability assessment by mapping the locations of key government or public housing structures and buildings, especially vulnerable structures, critical infrastructure, and elderly and handicapped housing. Precise data will be gathered to identify weaknesses in preparedness for all hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will inventory its own structures, or may use the help of NDPDD, to map structures and assess their vulnerabilities. These data will be amended to the plan.	All	High	Emergency Management	General Funds	2027	This action is ongoing. Many critical facilities/infrastructure have been mapped, but there will be a need to constantly evaluate/update this data and it should be noted that not all vulnerable populations or facilities have been mapped.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Public Education and Awareness							
PEA-1	Provide education opportunities for local officials to make sure they are well trained regarding natural hazards and appropriate prevention and mitigation activities. **Ideas for Implementation:** Elected officials in each participating jurisdiction will attend an educational program or seminar designed to increase awareness of natural hazards and ways to minimize their impact on the county.	All	High	Emergency Management	General Funds, MEMA	2027	This action is ongoing. Education opportunities are provided for all local elected officials through local emergency management and state programs. County officials have attended NIMS classes and Floodplain Management classes. Due to the constant need for additional training, this action will remain in place to ensure local officials are up to date.
PEA-2	Organize and conduct a public outreach program designed to make sure that residents and business owners are aware of the potential hazards associated with their environment and the ways they can protect themselves. **Ideas for Implementation:** Each participating jurisdiction will coordinate outreach events to educate the public of the risks of natural hazards and ways to reduce their vulnerability to such events.	All	High	Emergency Management	General Funds, MEMA	2027	This action is ongoing. Quitman County EMA provides programs and public outreach materials to all its citizens. Key players in the community also take part in periodic exercises to assure constant awareness. This action will remain in the plan as public outreach needs to continue and improve as new outreach strategies are developed and employed to reach a broader audience.

Town of Lambert Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Prevention							
P-1	**Codes and Regulations:** • Adopt and implement uniform building codes, subdivision regulations, land use planning, and zoning ordinances that address new and existing building structures throughout the county. • Adopt and implement regulations and codes that address vulnerability to the hazards listed in the Hazard Mitigation Plan for existing critical infrastructure as defined in Action ES-3. • Adopt and implement regulations and codes for new infrastructure projects that address vulnerability to the hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will review existing codes and regulations for both existing buildings and infrastructure, and for new buildings and infrastructure, to determine what changes need to be made to bring local regulations into compliance.	All	High	Board of Supervisors/ Board of Alderman	Local	2027	This action is ongoing. The county began enforcing floodplain management as of November 2010, but progress remains slow-going due to a lack of funding to enforce. The county and municipalities would like to keep this action in the plan in order to continue trying to improve enforcement and make changes to codes as necessary.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
P-2	Ensure that existing drainage systems (i.e., pipes, culverts, channels) are adequate and functioning properly. **Ideas for Implementation:** Each participating jurisdiction will appoint personnel to check local drainage system conditions and take the necessary steps to bring inadequate systems into compliance. The cost involved to bring inadequate systems into compliance will vary from one place to the next.	Flood	High	County Administrator, Board of Supervisors/ Board of Aldermen	General Funds, CDBG, DRA	2027	This action is ongoing. Quitman County Road Department and municipalities continually check and maintain existing drainage systems to prevent flooding. This action will remain in the plan as it is anticipated that there will be future issues with drainage systems that will require repairs/action.
P-3	**Floodplain Management:** • Encourage communities to participate or continue participating in the National Flood Insurance Program (NFIP). • Encourage jurisdictions to adopt and enforce floodplain management requirements, including regulating all substantially improved construction in Special Flood Hazard areas (SFHAs). **Ideas for Implementation:** Promote the benefits of the NFIP program and floodplain management, and provide technical assistance in meeting program requirements including the application process.	All	High	Board of Supervisors/ Board of Aldermen, Emergency Management	Local	2027	This action is ongoing. All communities in Quitman County are participants in the NFIP. This action will remain in the plan as communities will need to continue to implement floodplain management activities to maintain their participation in the NFIP.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Property Protection							
PP-1	**Storm Shelters/Safe Rooms:** The county and all municipalities would like to increase the number of shelters and safe rooms available to citizens in the event of severe weather events such as tornadoes, especially in areas of high or vulnerable population concentration. **Ideas for Implementation:** • Identify key locations for constructing storm shelters/safe rooms. • Apply for grant funding to support construction/implementation.	All severe weather events	High	Emergency Management	FEMA, MEMA, Local	2027	This action is ongoing pending availability of funds.
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1							
Emergency Services							
ES-1	Provide residents with adequate warning of potential floods and other meteorological events. **Ideas for Implementation:** Each participating jurisdiction will assess the condition of their current warning systems and upgrade where necessary.	All severe weather events	High	Emergency Management	General Funds, MEMA, State Homeland Security Program	2027	This action is ongoing. The county and all municipalities each have warning sirens in place. The Town of Sledge has a new state-of-the-art siren. Fire departments, public works employees, and law enforcement personnel are utilized to further notify citizens of potential flooding and other disasters. However, the county has determined that there will be a need to re-evaluate these systems and improve them in the future.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
ES-2	Strengthen emergency services preparedness and response ability by purchasing equipment (i.e., generators and other supplies) to be used at key critical facilities around the county. **Ideas for Implementation:** Each participating jurisdiction will inventory current emergency supplies and identify items needed to improve response ability.	All	High	Emergency Management	General Funds, MEMA, State Homeland Security Program, USDA Rural Dev.	2027	This action is ongoing due to the evolving nature of this type of equipment and the fact that many improvements can still be made to improve preparedness. Quitman County has purchased four (4) generators and is always in the process of trying to acquire more essential equipment for the county.
ES-3	Strengthen emergency services preparedness and response ability and strengthen hazard mitigation vulnerability assessment by mapping the locations of key government or public housing structures and buildings, especially vulnerable structures, critical infrastructure, and elderly and handicapped housing. Precise data will be gathered to identify weaknesses in preparedness for all hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will inventory its own structures, or may use the help of NDPDD, to map structures and assess their vulnerabilities. These data will be amended to the plan.	All	High	Emergency Management	General Funds	2027	This action is ongoing. Many critical facilities/infrastructure have been mapped, but there will be a need to constantly evaluate/update this data and it should be noted that not all vulnerable populations or facilities have been mapped.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Public Education and Awareness							
PEA-1	Provide education opportunities for local officials to make sure they are well trained regarding natural hazards and appropriate prevention and mitigation activities. **Ideas for Implementation:** Elected officials in each participating jurisdiction will attend an educational program or seminar designed to increase awareness of natural hazards and ways to minimize their impact on the county.	All	High	Emergency Management	General Funds, MEMA	2027	This action is ongoing. Education opportunities are provided for all local elected officials through local emergency management and state programs. County officials have attended NIMS classes and Floodplain Management classes. Due to the constant need for additional training, this action will remain in place to ensure local officials are up to date.
PEA-2	Organize and conduct a public outreach program designed to make sure that residents and business owners are aware of the potential hazards associated with their environment and the ways they can protect themselves. **Ideas for Implementation:** Each participating jurisdiction will coordinate outreach events to educate the public of the risks of natural hazards and ways to reduce their vulnerability to such events.	All	High	Emergency Management	General Funds, MEMA	2027	This action is ongoing. Quitman County EMA provides programs and public outreach materials to all its citizens. Key players in the community also take part in periodic exercises to assure constant awareness. This action will remain in the plan as public outreach needs to continue and improve as new outreach strategies are developed and employed to reach a broader audience.

City of Marks Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Prevention							
P-1	**Codes and Regulations:** • Adopt and implement uniform building codes, subdivision regulations, land use planning, and zoning ordinances that address new and existing building structures throughout the county. • Adopt and implement regulations and codes that address vulnerability to the hazards listed in the Hazard Mitigation Plan for existing critical infrastructure as defined in Action ES-3. • Adopt and implement regulations and codes for new infrastructure projects that address vulnerability to the hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will review existing codes and regulations for both existing buildings and infrastructure, and for new buildings and infrastructure, to determine what changes need to be made to bring local regulations into compliance.	All	High	Board of Supervisors/ Board of Alderman	Local	2027	This action is ongoing. The county began enforcing floodplain management as of November 2010, but progress remains slow-going due to a lack of funding to enforce. The county and municipalities would like to keep this action in the plan in order to continue trying to improve enforcement and make changes to codes as necessary.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
P-2	Ensure that existing drainage systems (i.e., pipes, culverts, channels) are adequate and functioning properly. **Ideas for Implementation:** Each participating jurisdiction will appoint personnel to check local drainage system conditions and take the necessary steps to bring inadequate systems into compliance. The cost involved to bring inadequate systems into compliance will vary from one place to the next.	Flood	High	County Administrator, Board of Supervisors/ Board of Aldermen	General Funds, CDBG, DRA	2027	This action is ongoing. Quitman County Road Department and municipalities continually check and maintain existing drainage systems to prevent flooding. This action will remain in the plan as it is anticipated that there will be future issues with drainage systems that will require repairs/action.
P-3	**Floodplain Management:** • Encourage communities to participate or continue participating in the National Flood Insurance Program (NFIP). • Encourage jurisdictions to adopt and enforce floodplain management requirements, including regulating all substantially improved construction in Special Flood Hazard areas (SFHAs). **Ideas for Implementation:** Promote the benefits of the NFIP program and floodplain management, and provide technical assistance in meeting program requirements including the application process.	All	High	Board of Supervisors/ Board of Aldermen, Emergency Management	Local	2027	This action is ongoing. All communities in Quitman County are participants in the NFIP. This action will remain in the plan as communities will need to continue to implement floodplain management activities to maintain their participation in the NFIP.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Property Protection							
PP-1	**Storm Shelters/Safe Rooms:** The county and all municipalities would like to increase the number of shelters and safe rooms available to citizens in the event of severe weather events such as tornadoes, especially in areas of high or vulnerable population concentration. **Ideas for Implementation:** • Identify key locations for constructing storm shelters/safe rooms. • Apply for grant funding to support construction/implementation.	All severe weather events	High	Emergency Management	FEMA, MEMA, Local	2027	This action is ongoing pending availability of funding.
Natural Resource Protection							
NRP-1							
Structural Projects							
SP-1							
Emergency Services							
ES-1	Provide residents with adequate warning of potential floods and other meteorological events. **Ideas for Implementation:** Each participating jurisdiction will assess the condition of their current warning systems and upgrade where necessary.	All severe weather events	High	Emergency Management	General Funds, MEMA, State Homeland Security Program	2027	This action is ongoing. The county and all municipalities each have warning sirens in place. The Town of Sledge has a new state-of-the-art siren. Fire departments, public works employees, and law enforcement personnel are utilized to further notify citizens of potential flooding and other disasters. However, the county has determined that there will be a need to re-evaluate these systems and improve them in the future.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
ES-2	Strengthen emergency services preparedness and response ability by purchasing equipment (i.e., generators and other supplies) to be used at key critical facilities around the county. **Ideas for Implementation:** Each participating jurisdiction will inventory current emergency supplies and identify items needed to improve response ability.	All	High	Emergency Management	General Funds, MEMA, State Homeland Security Program, USDA Rural Dev.	2027	This action is ongoing due to the evolving nature of this type of equipment and the fact that many improvements can still be made to improve preparedness. Quitman County has purchased four (4) generators and is always in the process of trying to acquire more essential equipment for the county.
ES-3	Strengthen emergency services preparedness and response ability and strengthen hazard mitigation vulnerability assessment by mapping the locations of key government or public housing structures and buildings, especially vulnerable structures, critical infrastructure, and elderly and handicapped housing. Precise data will be gathered to identify weaknesses in preparedness for all hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will inventory its own structures, or may use the help of NDPDD, to map structures and assess their vulnerabilities. These data will be amended to the plan.	All	High	Emergency Management	General Funds	2027	This action is ongoing. Many critical facilities/infrastructure have been mapped, but there will be a need to constantly evaluate/update this data and it should be noted that not all vulnerable populations or facilities have been mapped.

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Town of Sledge Mitigation Action Plan

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
Prevention							
P-1	**Codes and Regulations:** • Adopt and implement uniform building codes, subdivision regulations, land use planning, and zoning ordinances that address new and existing building structures throughout the county. • Adopt and implement regulations and codes that address vulnerability to the hazards listed in the Hazard Mitigation Plan for existing critical infrastructure as defined in Action ES-3. • Adopt and implement regulations and codes for new infrastructure projects that address vulnerability to the hazards listed in the Hazard Mitigation Plan. **Ideas for Implementation:** Each participating jurisdiction will review existing codes and regulations for both existing buildings and infrastructure, and for new buildings and infrastructure, to determine what changes need to be made to bring local regulations into compliance.	All	High	Board of Supervisors/ Board of Alderman	Local	2027	This action is ongoing. The county began enforcing floodplain management as of November 2010, but progress remains slow-going due to a lack of funding to enforce. The county and municipalities would like to keep this action in the plan in order to continue trying to improve enforcement and make changes to codes as necessary.

Action #	Description	Hazard(s) Addressed	Relative Priority	Lead Agency/ Department	Potential Funding Sources	Implementation Schedule	Implementation Status (2021)
P-2	Ensure that existing drainage systems (i.e., pipes, culverts, channels) are adequate and functioning properly. **Ideas for Implementation:** Each participating jurisdiction will appoint personnel to check local drainage system conditions and take the necessary steps to bring inadequate systems into compliance. The cost involved to bring inadequate systems into compliance will vary from one place to the next.	Flood	High	County Administrator, Board of Supervisors/ Board of Aldermen	General Funds, CDBG, DRA	2027	This action is ongoing. Quitman County Road Department and municipalities continually check and maintain existing drainage systems to prevent flooding. This action will remain in the plan as it is anticipated that there will be future issues with drainage systems that will require repairs/action.
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