

CHAPTER I. INTRODUCTION TO THE PLANNING PROCESS

Table 1.1 provides a brief description of each chapter section and a summary of the changes made.

Table 1.1

Chapter I. Section	Updates to Section
I. Purpose and need of the plan, authority & statement of problem	Updated text of this section.
II. Local methodology, brief description of plan update process, Participants in update process	Updated the participants, planning process and how data collection was performed
III. Description of how each section of the original plan was reviewed and analyzed and whether it was revised	Since there have been numerous changes to the GEMA-PDM planning template since the 2013 approval all sections of the original plan were analyzed and revised.
IV. Organization of the plan	Organized updated by GEMA local planning template Local Hazard Mitigation
V. Local Hazard, Risk, and Vulnerability (HRV) summary, local mitigation goals and objectives	Reviewed all information and revised all content as needed
VI. Multi-Jurisdictional special considerations (HRV, goals, special needs)	Reviewed and updated information concerning multijurisdictional concerns.
VII. Adoption, implementation, monitoring and evaluation	This was evaluated. Additional text was added to clearly delineate the task of implementation and monitoring.
VIII. Community Data (demographics, census, commerce, history, etc.)	Updated demographic and added additional information by jurisdiction.

SECTION I. PURPOSE AND NEED OF THE PLAN, AUTHORITY, AND STATEMENT OF PROBLEM

The Warren County 2023 Plan Update is a review and improvement of our Multi-Hazard Pre-Disaster Mitigation Plan Update approved on October 7, 2013. The plan fulfills the requirements of the Federal Disaster Mitigation Act of 2000 (DMA2K). The Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA) administer the Act. The act provides federal assistance to state and local emergency management and other disaster response organizations in an effort to reduce damage from disasters. The plan has involved many community partners including elected officials along with city and county, fire, emergency management, and law enforcement personnel. The plan’s goal is to identify natural disasters that threaten our community and develop strategies to lessen the impact of hazard events.

The 2018 update is written to comply with Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act Title 44 CFR as amended by Section 102 of the Disaster Mitigation Act of 2000. The act gives state and local governments the framework to evaluate and

mitigate all hazards as a condition of receiving federal disaster funds. The 2018 update covers all of Warren County to include the Town of Camak and the Cities of Norwood and Warrenton. The plan will identify all natural disasters that threaten the lives and properties of our community. The scope of the update includes both short and long-term mitigation strategies, implementation policies and possible sources of project funding. It also identifies mitigation strategies implemented since the 2013 plan update.

The plan also contains the following information on:

- The vision of mitigation in our community.
- The profile of Warren County, its geography, history, physical features, and other community indicators.
- The planning process and the involvement of all municipal, state, and federal governments, the public, industry, and other community players.
- Warren County's past and predicted exposure to natural hazards and the potential risks that include the impacts on critical infrastructure with anticipated losses was documented.
- An overview of Warren County's capabilities to implement hazard mitigation goals and objectives, and policies that will effectively mitigate risks to our community.
- Procedures for maintaining an effective, long range hazard mitigation plan and strategy to implement.
- An assessment of Warren County's current policies, goals and regulations that pertain to hazard mitigation.
- Documentation of the planning process.
- Update hazard events that occurred since 2018;
- Update critical facilities that have been added since 2018;
- To document current mitigation strategies that have been implemented since 2018; and
- Examine and update mitigation strategy goals, objectives, and action steps.

The update is the product of the combined efforts of Warren County, Camak, Norwood, and Warrenton. Realizing that identifying the community's risks and working collectively toward the prevention of disasters is in the county's best interest, the Warren County Emergency Management Agency (EMA) took the lead role in the update. Under the agency's leadership, there has been an endorsement and a commitment by Warren County, Camak, Norwood, and Warrenton.

Continued mitigation planning is imperative to lessen the impacts of disasters throughout the county. This plan serves as an excellent method to organize and document current and ongoing mitigation strategies; however, the implementation of the plan and its components is vital to achieve a community that is resistant to the impact of a disaster. It is the objective that implementation of this plan will result in a reduction in loss of life and property, thus allowing the county to prosper with minimal disruption of services.

SECTION II. LOCAL METHODOLOGY, PLAN UPDATE PROCESS AND PARTICIPANTS

The Warren County Board of Commissioners contracted with the Central Savannah River Area Regional Commission (RC) to assist in the update to the 2013 plan update. The RC has assisted 14 counties in the completion and update of their Pre-Disaster Mitigation Plans. The RC is currently assisting 5 counties with their second update. The RC was tasked to review the current plan and to identify new information that needs to be incorporated into the update. The RC in conjunction with the EMA Director, supervised the project, organized the data, set meeting dates, documented in-kind services, and worked with GEMA to complete the update.

The EMA Director, Crystal Ladousier, assembled the Hazard Mitigation Planning Committee. Table 1.2 identifies the 2022 members:

Table 1.2

Name	Agency	Jurisdiction
Michelle Powers	Nurse Manager	Community Health
Margaret Pinion	Clerk	Town of Camak
Jacob Neville	Warren County EMA-EMS-FIRE	Warren County
Alen Troy	Mayor	Town of Camak
Christopher Harris	Superintendent	Warren County School System
Danny Williams	Street Superintendent	City of Warrenton
Rob Moore	Forester	Ga. Forestry Commission
Lonnie Drake	Mayor	City of Norwood
Patricia Allen	Director	Warren County Senior Center
Marc Peebles	Chief Ranger	Ga. Forestry Commission
Joe Peebles	Sheriff	Warren County
John Graham	Commission Chair	Warren County
Alex Lowe	Fire Chief	City of Warrenton
Felicia Grant	Director of Nursing	Warrenton Health & Rehab
Andy O’Byrne	Publisher/ Owner	The Warren County Leader
Larry Stewart	Road Supervisor	Warren County
Mary Ann Mosely	Clerk	City of Warrenton
Michael Thigpen	Code Enforcement	Warren County
James Yelton	Deputy EMA Director	Warren County
Pamela McCord	Clerk	City of Norwood
Pat Rogers	Water and Sewer Super.	Warrenton Water Dept.
Patricia Walker	Director	Warren County 911
Paul Lowe	Coroner	Warren County
Gwendolyn Tucker	Chairman	Warren County BOE
Ron Sellers	Police Chief	City of Warrenton
Olivette Long	Director	Warren County DFCS
Tiffany Lott	Dispatch Supervisor	Warren County Dispatch E 911
Crystal Ladousier	Director /Fire Chief	Warren County EMA-EMS-FIRE
Jonathan Doss	Warren County EMS	Warren County
Joy Langley	Director	Warren County Health Dept.

The 2023 committee was responsible for the organization, data collection and completion of the plan. It is the responsibility of the committee to include all pertinent departments within their respective governments and to request information needed for plan completion. The following agencies/departments/organizations provided specific information and support for the original plan and provided any new information for the update:

- Warren County Board of Education was responsible for providing structural replacement and content values for all schools as well as square footage and occupancy limits.
- Warrenton Police Department provided staff support to the PDM planning effort and were responsible for providing structural replacement and content values for all critical facilities located in their respective cities as well as square footage and occupancy limits.
- Warren County Sheriff's Office provided staff support to the PDM planning effort.
- Warren County Health Department identified vulnerable populations. They also provided replacement value estimates for their properties.
- All Fire Departments provided staff support to the PDM planning effort and assisted with identifying occupancy limits for some of the critical structures and replacement value estimates.
- Officials and Staff from Warren County, Camak, Norwood, and Warrenton provided information relative to their jurisdiction and provided replacement value estimates for their critical facilities.
- Georgia Forestry Commission provided data on wildfire events and assisted with the formulation of mitigation measures.
- Warren County Chamber of Commerce assisted in identifying major businesses.
- Warren County Code Enforcement Officer provided information about county government buildings including their respective replacement and content values and square footages.
- Warren County Tax Assessor's Office provided most of the aggregate values for the critical structures. The valuations were converted to full values since the values are calculated at 40%. This information, combined with demographic data, is located on GEMA Worksheet #3a in Appendix D for all jurisdictions.
- The RC's Geographical Information System (GIS) Department produced several of the maps contained in the update. (*See Appendix A for maps*).
- GEMA provided the HAZ-US report for Warren County and provided guidance for the plans completion as needed.

Several resources were consulted to facilitate the development of the update. Data was collected from numerous sources, including the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI), Spatial Hazard Events and Losses Database for the United States (SHELDUS™), National Weather Service, US Geological Survey (USGS), Southeast Regional Climate Center (SERCC), US Census Bureau, Georgia Department of Natural Resources (DNR), Georgia Forestry Commission (GFC), Georgia Tornado History Project Database, Georgia Department of Community Affairs (DCA), US Department of Agriculture (USDA), local and regional newspaper articles, as well as personal interviews. Table 1.4 provides a list of existing planning documents used during the update.

Table 1.4

Existing planning mechanisms	Reviewed? (Yes/No)	Method of use in Hazard Mitigation Plan
Warren County Joint Comprehensive Plan	Yes	Development trends, capability assessment, mitigation strategies
Local Emergency Operations Plan	Yes	Identifying hazards; Assessing vulnerabilities; Capability assessment
Georgia Emergency Operations Plan	Yes	Identifying hazards; Assessing vulnerabilities;
Flood Damage Protection Ordinance	Yes	Mitigation strategies, capability assessment
Building and Zoning Codes and Ordinances	Yes	Development trends; Future growth, capability assessment, mitigation strategies
Mutual Aid Agreements	Yes	Assessing vulnerabilities, Determine assets added to disaster relief and response.
State Hazard Mitigation Plan	Yes	Risk assessment, review of recommended strategies
Land Use Maps	Yes	Assessing vulnerabilities; Development trends; Future growth
Critical Facilities Maps	Yes	Locations
Community Wildfire Protection Plan	Yes	The current CWPP was reviewed, and a copy can be found in Appendix C. The CWPP is being updated and any new information will be incorporated as needed during the annual review.
Soil Survey for Columbia, McDuffie and Warren Counties	Yes	Physical Characteristics of the County
Flood Insurance Study	Yes	Review for historical Data and Information
Hazard Risk Analyses Supplement to the McDuffie County Joint Hazard Mitigation Plan Provided by The Polis Center	Yes	Assessing vulnerabilities; Mitigation strategies, risk assessment
CSRA Regional Plan 2035	Yes	Development trends; Future growth, regional concerns and data
Flood Mitigation Assistance Plan	No	The county does not have a Flood Mitigation Assistance Plan and is listed as a mitigation action in Chapter III

The committee held seven meetings over a 17-month period to guide the development of the plan. Individual jurisdictions and/or agencies were contacted, as information was needed. The committee was responsible for developing the mission statement, as well as the goals, objectives, and action steps identified in the plan. The committee researched previous hazard information in the areas of earthquakes, flooding, wildfires, tornados, winter storms, hurricanes, high winds, dam failure, lightning, hail, and drought. However, some hazards were eliminated due to their low level of risk. Committee members collected critical facilities information based on their area of expertise or jurisdiction. The RC was responsible for assessing vulnerability and estimating potential losses from the information collected. Potential losses include people, structures/properties, infrastructure, and other important community assets.

Table 1.5 provides the dates and synopsis of committee meetings. All meetings were open to the public and meeting notices posted at all governmental offices. Of the seven meetings, three were advertised in *The Warrenton Clipper*, the County’s legal organ. This is the most efficient means

to disseminate information to residents and organizations located in the county. In order to meet the requirement to afford an opportunity for neighboring communities, local and regional agencies, businesses, academia and other private and non-profit interests to be involved in the planning process, invitations were extended by email. Invitations were extended to the following counties: Burke, Columbia, Glascock, Hancock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Taliaferro, Washington, and Wilkes including all municipalities located within the counties. It is noted that no public comments or feedback was provided by the public. Copies of correspondence, emails and advertisements are in Appendix E.

Table 1.5

Meeting Date	Purpose of Meeting
July 23, 2021	Met with EMA Director to discuss the planning process, update committee members, and set a date for the first meeting.
October 21, 2021	An advertisement ran in the Warren County Leader to announce the October 21, 2022, kickoff meeting for the five-year update to the Warren County Pre Disaster Hazard Mitigation Plan. The meeting was also posted on all Warren County social media pages.
October 27, 2022	Kimberly Angel, Hazard Mitigation Specialist at GEMA discussed the need and purpose for the plan. The committee also discussed the timeline and next steps in the planning process. An email was sent to Crystal Ladousier, EM director to update the critical facilities list.
January 19, 2022	This meeting was to discuss the mitigation actions from the 2018 update and add new mitigation or remove old strategies if needed.
August 31, 2022	This meeting was to review previous mitigation strategies, determine what mitigation actions were completed since the last update, and to update action steps for the 2023 plan update.
TBA	

SECTION III. ORIGINAL PLAN REVIEW AND REVISION

The Federal Disaster Mitigation Act of 2000 requires an update to the Pre-Disaster Mitigation Plan every five years. The EMA Director was responsible for this requirement. The committee, with the assistance of the RC, was involved in the planning process to ensure thorough data collection. All members of the committee were responsible for the evaluation of 2013 plan. During the review process, the committee noted mitigation accomplishments, updated and prioritized mitigation projects, added additional hazard information, developed new goals and objectives, solicited input from the public and made any needed or required revisions. The evaluation included analyzing any changes in the needs and/or capabilities of Warren County, Camak, Norwood, and Warrenton.

SECTION IV. ORGANIZATION OF THE PLAN

The estimated time to complete the plan update was approximately 17 months. Plan completion was identified by adoption of resolution by all jurisdictions. The update contains a Hazard, Risk, and Vulnerability (HRV) Assessment describing the natural hazards typically occurring within

the county, as well as a review of all mitigation goals, objectives, and related courses of action. In addition, plan implementation and maintenance were reviewed, which includes methods to provide opportunities for public involvement.

The hazards included in this plan are considered to have the highest probability of occurrence, vulnerability, potential loss/damages, and highest frequency of occurrence. The plan also identifies and prioritizes hazard mitigation opportunities in each vulnerable area based on the input from the committee members, relevant government agencies, local businesses, and Warren County citizens.

SECTION V. LOCAL HAZARD RISK AND VULNERABILITY, SUMMARY LOCAL MITIGATION PLANNING GOALS OBJECTIVES

The committee, early in the update process, established a set of goals and objectives in order to ensure the effectiveness of this plan. These goals and objectives established the paradigm for the planning process and proved very successful by the many accomplishments of the 2013 plan update. These goals and objectives are as follow:

- To actively involve and gain support from Camak, Norwood, Warrenton and unincorporated Warren County for the reduction of disasters in our community.
- Prioritize identified mitigation projects.
- Seek and implement any grant funding for the reduction of disasters in Warren County, Camak, Norwood, and Warrenton. Monitor, evaluate, and update the progress of the plan as needed.
- To form partnerships among local, state, and federal agencies to make Warren County more resistant to the effects of disasters.
- Strengthen our communities against the impacts of disasters through the development of new mitigation strategies and strict enforcement of current regulations that have proven effective.
- Reduce and where possible eliminate repetitive damage, loss of life and property from disasters.
- Bring greater awareness throughout the community about potential hazards and the need for community preparedness.
- To further enhance common mitigation projects and goals between Warren County, Camak, Norwood, and Warrenton.

An HRV assessment was accomplished by compiling and reviewing historical data on the location of specific hazards, the value of existing structures/properties in hazard locations, and analyzing the risk to life, property and the environment that could potentially result from future hazard events. The committee accomplished the HRV goals and objectives by completing the following steps:

Inventory of Critical Facilities: Critical facilities are crucial for providing essential services necessary for preserving the safety and quality of life of its residents. In addition, these facilities fulfill important public safety, emergency response, and/or disaster recovery functions. All critical facilities were added to the Georgia Mitigation Information System (GMIS). Critical

facilities for Warren County, Camak, Norwood, and Warrenton were identified, updated, mapped, and illustrated in Appendix A.

Hazard Identification: Maps and historical data sources were studied and reviewed to identify the geographic extent, intensity, and probability of occurrence for various hazard events. The 2013 committee identified six major hazards that have the potential to affect Warren County: flooding, dam failure, drought, wildfire, severe weather (tornados, tropical storms, thunderstorms and lightning) and winter storms. The update committee reviewed current hazard data and added hail to the already identified hazard. Appendix A provides an updated comprehensive table for each hazard event.

Profiling Hazard Events: The committee analyzed the causes and characteristics of each hazard, and its effect on Warren County in the past to determine what segment of the population and infrastructure has historically been vulnerable to each specific hazard. A discussion of each hazard's updated profile is in Chapter 2.

Vulnerability Assessment: This step was accomplished by comparing each previously identified hazard with the inventory of affected critical facilities and population exposed to each hazard. An updated Worksheet #3a is provided in Appendix A.

Estimating Losses: Using the best available data, tax digest data, parcel maps and GMIS reports and maps for critical facilities allowed the committee to estimate damages and financial losses that might occur in a geographic area. Describing vulnerability in terms of dollar losses provides the county with a common framework in which to measure the effects of hazards on critical facilities. All information in this section has been updated (*Appendix A and Appendix D*).

Mitigation Goals and Objectives: After ensuring that all interested persons had been given ample opportunity to contribute to strategy development, mitigation action steps were next given priority status by committee members. To evaluate priorities, committee members used as a guide a planning tool prepared by FEMA known as STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria. Each mitigation strategy step was evaluated using STAPLEE criteria as the guiding principle to identify those steps best for Warren County. Steps were ranked as high priority, medium priority, or low priority. Past occurrences of disasters and historical trend data aided committee members in assigning priorities. A copy of the STAPLEE is located in Appendix D.

SECTION VI. MULTI-JURISDICTIONAL SPECIAL CONSIDERATIONS

Warren County, Camak, Norwood, and Warrenton provided active participants throughout the planning process and identified mitigation goals, objectives and action items specific to their jurisdiction. All governing bodies formally adopted the Multi-Hazard Pre-Disaster Mitigation Plan.

Camak, Norwood, and Warrenton were notified in June of 2015 of the requirement concerning the update to the 2013 plan. Representatives from Warren County, Camak, Norwood, and Warrenton have worked collectively over the past months to gather data that included researching old records, newspaper articles, databases, historical data, past and present flood

plain data, and technical information for the plan. Collected data was forwarded to the RC for review and plan development. The committee held subsequent meetings to ensure that all information was correct and that all agencies and organizations input was included.

The EMA Director led activities for mitigation planning countywide. The committee goals are to work in partnership with municipal partners toward a common mitigation strategy that significantly reduces vulnerability of natural disasters. Most natural threats overlap jurisdictions and are all susceptible to their affects. Warren County, Camak, Norwood, and Warrenton share the same passion and desire for protecting and reducing risk through the mitigation projects. Specific risks and areas were identified through working relationships and data collection from all areas of the county and are identified in this plan.

SECTION VII. ADOPTION, IMPLEMENTATION AND MONITORING AND EVALUATION

Adoption Date

Table 1.6

Jurisdiction	Adoption Date
Warren County	<i>(will add after FEMA Approves)</i>
Town of Camak	<i>(will add after FEMA Approves)</i>
City of Norwood	<i>(will add after FEMA Approves)</i>
City of Warrenton	<i>(will add after FEMA Approves)</i>

The plan was submitted to GEMA for review and then to FEMA for approval. Their respective governing bodies have formally adopted the 2023 update after GEMA and FEMA approval. The plan is intended to be implemented into policy and to enhance state and federal recommendations for the mitigation of natural hazards in the following ways:

- Substantially reduce the risk of life, injuries, and hardship from the destruction of natural disasters.
- Create awareness to the public about the need for individual preparedness and about building safer, disaster resistant communities.
- Develop strategies for long-term community sustainability during community disasters.
- Develop governmental and business continuity plans that will continue essential private sector and governmental activities during disasters.

FEMA publishes many guidance documents for local governments for mitigating natural disasters. The plan fully recognizes, adopts, incorporates, and endorses the following principals.

- Develop a strategic mitigation plan for Warren County.
- Enforce current building codes.
- Develop incentives to promote mitigation.
- Incorporate mitigation of natural hazards into land use plans.
- Promote awareness of mitigation opportunities throughout Warren County community on a continual basis.
- Identify potential funding sources for mitigation projects.

The private sector is often an overlooked segment of the community during disasters. It is vital that this sector of a community is included in mitigation efforts that are consistent with state and federal recommendations as such:

- Develop mitigation incentives with insurance agencies and lending institutions.
- Encourage the creation of a business continuity plan for the continuance of commerce during disasters.
- Collaborate with businesses in effort to communicate with customers about the community hazards and possible solutions.

Individual citizens need to be aware of the hazards they face and educated on how to protect themselves and their property. They must be shown mitigation is an important part of reducing loss of life and property in their community. The public support is critical to the success of any mitigation effort. The Warren County Plan supports the following FEMA recommendations regarding individual citizens:

- Become educated on the hazards that your community and you may face.
- Become part of the process by supporting and encouraging mitigation programs that reduce vulnerability to disasters.
- That individual responsibility for safeguarding you and your family prior to a disaster is essential.

Chapter IV. Plan Integration and Maintenance details the formal process that will ensure that the plan remains an active and relevant document. The plan maintenance process includes monitoring and evaluating the plan annually and producing a plan revision every five years. Additionally, Warren County will develop steps to ensure public participation throughout the plan maintenance process. Finally, this section describes how Warren County will incorporate the mitigation strategies identified in this plan into other relevant planning documents such as the Warren County Joint Comprehensive Plan, Short-Term Work program (STWP) and Local Emergency Operations Plan (LEOP).

SECTION VIII. COMMUNITY DATA

Political Boundaries - Warren County



Warren County



GA Department of Community Affairs
Region 7



Georgia

History: Warren County, Georgia’s sixteenth county, was created on December 19, 1793, from portions of Burke, Columbia, Richmond, and Wilkes Counties. Warren County is a rural county covering 287 square miles. Warren County is one of 13 counties that comprise the Central Savannah River Area (CSRA). There are three incorporated municipalities in Warren County: Camak, Norwood, and Warrenton.

Government: Warren County operates under a commission-based system of government in which three commissioners are elected to four-year terms. Other county officials are the Clerk of Courts; Coroner; Emergency Communications Director; Emergency Services Director; Magistrate Judge; Superior Court Judge; Probate Judge; Sheriff; Surveyor; Tax Commissioner; Planning and Code Enforcement Staff; and Public Works Director.

Warrenton is the County seat and operates under a Mayor and City Council-based system of government with 5 elected council members. Other officials charged with presiding over activities within the City are the City Clerk, City Attorney, Personnel Director, Police Chief, Fire Chief, City Engineer, Public Works Director, Sanitation Superintendent, Municipal Court Clerk, Downtown Manager, and Parks and Recreation Director. City Hall houses the administration and the police and fire departments.

Camak and Norwood operate under similar Mayor and City Council based systems of government. Camak has a Mayor Pro-Tem and 4 council members in addition to the Mayor; Norwood has 6 council members working with their mayor. Other officials in Camak are the City Clerk, City Attorney, and Water Superintendent. Norwood employs a City Clerk, City Attorney, and Water and Wastewater Superintendents.

Demographics: Presently, Warren County has a population of 5,259 persons. The two tables below provide a comparison of the jurisdictions and a historical prospective of the population trends within the county.

Table 1.7

Category	Warren County	Camak	Norwood	Warrenton
Population	5,259	312	247	2,084
Number of Households	2,261	138	121	852
Average Household Size	2.29	2.26	2.04	2.35
Race - White	37.7%	9.9%	42.5%	29.0%
Race - Black	60.9%	90.1%	57.5%	67.5%
Race - Hispanic	1.4%	0%	0%	0%
Race - Other	0.7%	0%	0%	3.5%
Median HH Income	\$38,250	\$51,121	\$28,542	\$28,265
Per Capita Income	\$24,547	\$19,949	\$29,802	\$18,083

Source: US Census 2020 ACS 5-year

Table 1.8

Community	Population				Growth (%)		
	1990	2000	2010	2020	1990-2000	2000-2010	2010-2020

Warren County	6,900	6,336	5,384	5,259	-8.2%	-15.0%	-2.3%
Camak	220	165	138	312	-25.0%	-16.7%	126.08%
Norwood	238	299	239	247	25.6%	-20.0%	3.34%
Warrenton	2,195	2,013	1,937	2,084	-8.3%	-3.8%	7.59%

Source: 2020 US Census Bureau

Economy: In 2020, the labor force for Warren County was 2,635 and 2,456 were employed, giving the County an unemployment rate of 6.8%. The average weekly wage for all employment sectors in Warren County was \$909. The county’s per capita personal income was \$39,545.

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. The table below provides a list of jobs, number of establishments and jobs along with average weekly wages per job for 2020 in Warren County.

Table 1.9

Annual Industry Distribution of Jobs and Average Wage in 2020 (NAICS)	Establishments	Jobs	Weekly Average Wage Per Job
Total Covered Employment and Wages	105	1,335	857
Total Private Sector	87	1,066	924
Total Government	18	270	594
Agriculture, forestry, fishing, hunting	2	*	*
Mining, Quarrying, and Oil and Gas Extraction	4	87	1,332
Construction	8	27	771
Manufacturing	7	450	1,083
Wholesale trade	5	*	*
Retail trade	17	93	489
Transportation, warehousing	8	*	*
Utilities	0	0	0
Information	1	*	*
Finance and Insurance	1	*	*
Real Estate, rental, leasing	5	14	1,047
Professional, Scientific, and Technical services	4	12	1,750
Mgmt. of companies, enterprises	0	0	0
Administrative and support and waste management services	3	*	*
Educational services	1	*	*
Health care, social assistance	6	132	549
Arts, entertainment, recreation	0	0	0

Annual Industry Distribution of Jobs and Average Wage in 2020 (NAICS)	Establishments	Jobs	Weekly Average Wage Per Job
Accommodation and food services	3	*	*
Other services, except public administration	6	11	619
Unclassified-Industry not assigned	6	4	719

Source: 2020 Georgia Department of Labor * Industry group does not meet criteria for disclosure

Climate: According to the National Weather Service, Central Georgia where Warren County is located experiences all four seasons. Warren County, GA, gets 47.5 inches of rain per year. The US average is 37. Snowfall is 0.7 inches. The average US city gets 25 inches of snow per year. The number of days with any measurable precipitation is 91. On average, there are 218 sunny days per year. The July high is around 91 degrees. The January low is 35. Our comfort index, which is based on humidity during the hot months, is a 30 out of 100, where higher is more comfortable. The US average on the comfort index is 44.

Physical Features: Warren County covers an area of 287 square miles in East Central Georgia. The county is comprised of 183,680 acres with 90% dedicated to agricultural and forestry. Small, isolated wetlands are scattered throughout unincorporated Warren County. Ninety-five percent of the land in Warren County has slopes between two and ten percent with five percent steeper slopes of ten to 25% and slopes of less than 2% comprising only one percent of the County total land area. The Ogeechee River is an important resource for the County.

Warren County is located at the edge of two geological regions providing a mixture of features and landscapes. The southern portion of Warren County is bisected by the Fall Line, a geological boundary following the Appalachian Mountain range from Alabama to New York. The Southern Piedmont Region is in the northern part of the County, Carolina, and Georgia Sand Hills in the central part of the County, and Southern Coastal Plain in the southern part. Below is a brief description of these land types:

Southern Piedmont - Characterized by steep to gently rolling thin and well drained red soil with sandy loam surface layers over sandy clay to clay subsoil. This area has fair to good suitability for building foundations and fair to poor suitability for septic tanks.

Carolina and Georgia Sand Hills - Consists of a belt of gently sloping to steep, well drained soils originally derived from marine sands, loams, and clays. The area is largely covered with sparse forest of scrub oaks and pines and has poor to good suitability for residential development and commercial-industry uses.

Southern Coastal Plain - Characterized by gently sloping well-drained sandy loam to sandy soils over friable and sandy clay loam to clay subsoils that are sticky when wet. This area has fair to good suitability for residential development and commercial industry uses. A map of the soil types, wetlands and flood plains are located in Appendix A.

A survey of Warren County soil associations was conducted and approved by the Soil Conservation Service in 1977 and can be found at the following URL:

https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/georgia/columbia_mcduffie_warrenGA1981/CMW.pdf. A map of the soil types, wetlands and flood plains are located in Appendix A.

Transportation

Vehicle Traffic: There are roughly 421 miles of roads in the County network. This mileage includes 92 miles of state highways, 301.49 miles of county roads, 27.57 miles of city streets (Camak, Norwood, and Warrenton). State highways 12, 80, 223, 128, and 171 are major transportation routes along with Interstate 20. Currently Warren County has no mass transit system.

Table 1.10

Mileage by Route and Road System Report 445 for 2020			
	Total Road Mileage	Lane Mileage	Vehicle Miles Traveled (VMT)
State Route	93.53	219	505,803
County Road	301.61	603	77,154
City Street	27.58	55	9,929
Total	422.74	877	592,886

Source: Georgia Department of Transportation, Office of Transportation Data, 2018 "445 Series Reports."

Public Transportation: Public transportation is available to County residents through the Section 18 Program and is not a widespread system found in urban areas. This federally funded program apportions transit assistance funds to rural areas and places having fewer than 50,000 residents, administered by the county and the Georgia Department of Transportation (GDOT). Public buses are to assist the elderly, providing transportation to senior citizens centers for congregate meals and to deliver meals.

Rail Traffic: The rail companies provide crucial cargo transport for industries in Warren County. Many items and materials are too bulky or heavy to be shipped by truck and are moved by rail. Both CSX Railroad (from Augusta through Camak) and Norfolk Southern (from Savannah through Warrenton) serve Warren County. Currently Warren County is not served by passenger rail.

Air Service: Warren County does not have any local aviation facilities. The nearest local airport is 20 miles away in McDuffie County. The nearest commercial air service is in Augusta, 50 miles away offering direct flights to Columbia, South Carolina and Charlotte, North Carolina. Atlanta-Hartsfield International Airport, located approximately 105 miles from Warrenton, provides major commercial airline service.

Utilities

Electricity: Three utility companies provide service to customers in Warren County and its municipalities. Georgia Power provides service to all jurisdictions while Jefferson Electric Membership Corporation and Washington Electric Membership Corporation provide service to the unincorporated area.

As part of Georgia's modern integrated electrical transmission system, Warren County has excellent ability to supply industrial electricity demands. Coal accounts for 84% of fuel used by the state's power generating plants compared to 47% for the U.S. This assures long-term continuity. If demand exceeds 900kw, any supplier can step in and offer service.

Natural gas: Customers in Warren County using natural gas are served by Atlanta Gas Light Company, Scana and Wilhoit Gas Company. Natural gas is available in industrial quantities on both a firm and an interruptible basis.

Water: Warren County does not operate a public water system. Most Warren County residents rely on private wells for their water supply while some areas of the unincorporated portions of Warren County are served by municipal water systems or by the Thomson-McDuffie County Water Authority.

The City of Warrenton has an intake station at Paul Marshall Lake and draws raw water and produces potable water through a process of coagulation, filtration, and disinfection. The current plant production capacity is 750,000 gallons per day with a current production rate of 350,000 gallons per day. The City of Camak purchases water from Warrenton. The City of Norwood relies on its surface water intake from two deep-water wells, which produce, on average, 24,000 gallons per day.

Sewer: Warren County residents rely on individual septic systems, as the County does not operate a public sewerage system in the unincorporated areas. The City of Camak also relies on septic tanks for sewage disposal and does not provide public sewerage system for the residents.

The City of Warrenton's sewer system relies on two oxidation ponds located south of highway 16 and north of Highway 278. Both primary treatment facilities encompass 1.5 acres and have the capacity to treat 500,000 gallons per day. The system was developed in 1928 and has a useful life of 100 years. The City serves 900 customers with a daily demand of 250,000 gallons of sewage.

The City of Norwood operates a public sewerage system established in 1992 and a useful life of 30 years. The system serves 116 customers with an estimated flow of 17,000 to 25,000 gallons of waste per day and has the capacity to treat 50,000 gallons of sewerage per day.

Solid Waste: After the Warren County landfill was closed in 1994 and the D&H Rail Transfer Station was closed in 1997, Warren County entered into an agreement with McDuffie County so that all waste generated within the County is transported to the McDuffie County transfer station.

Green box collection is used in the unincorporated areas for solid waste disposal. Warren County contracts with a private company to collect waste from the green boxes and transport the solid waste to the McDuffie County transfer station. Camak and Norwood contracts with the County for waste disposal. Waste is collected and taken to the McDuffie County transfer station.

Warrenton provides solid waste collection through a private waste hauler. Household waste is collected once a week for residents. Solid waste in Warrenton is transported to the McDuffie

County transfer station. Warrenton also offers yard waste pickup, which is transported to the City Inert Landfill.

Communications

Local telephone service is provided by AT&T Telephone Company with all the various options for long distance available as the customer chooses. Cable for television and high-speed internet are available from Comcast in the city limits and in some of the County.

Local print media consists of *The Warrenton Clipper* (which serves as the legal organ of Warren County) and *The Augusta Chronicle*. Warren County is served by 11 FM radio stations and 9 AM radio stations. All metro Augusta television stations broadcast in Warren County. These are WRDW, WJBF, WAGT, and WFXG.

Fire and Emergency Services

Response: The Warren County Emergency Operations Center (EOC) houses an enhanced E-911 service. There are nine communications officers, or dispatchers, who work in the E-911 dispatch center. The County is currently upgrading their system to allow the precise location of 911 calls from wireless phones. The wireless E-911 program is an important part of the County's program to apply modern communications technology to public safety.

Fire and Rescue: Warren County Fire and Rescue services also operate from the EOC where there are six bays housing fire trucks and ambulances. There are seven fire stations located throughout the County: one in each of the Cities, and four located throughout the unincorporated areas of Warren County. There are 32 volunteer fire fighters countywide equipped with three Class-A pumpers, one tanker and three fire knockers. The Insurance Services Organization (ISO) ratings for Warren County fire services improved upon the 2008 inspection. The ISO rating for Warren County is 6/9, for Camak is 5/9, and for Norwood is 5/9. These ratings are indicative of the limited water resources in the County rather than the adequacy of the fire services. The City of Warrenton operates a fire department within the city limits, staffed with 16 volunteers and one Class-A pumpers. The city's ISO rating is 6. All fire stations are in operation 24 hours a day. Fire protection response times across the County average between 12 and 15 minutes.

Law Enforcement: Three law enforcement entities serve Warren County: The Warren County Sheriff's Office, the Warrenton Police Department, and the Georgia State Patrol. The Warren County Sheriff's Office provides police protection for unincorporated Warren County along with Camak and Norwood. The Warrenton Police Department provides services within the city limits.

Warren County residents depend on the Warren County Sheriff's Office led by the elected sheriff and employing seven deputies equipped with eight law enforcement vehicles, including the serving of arrest warrants and civil papers. The Sheriff's Office is located in the EOC in Warrenton, which serves as the base of operation, records bureau, administration, and one holding cell. The Warren County EOC does not have a jail. The County contracts with McDuffie Counties for jail facility space when necessary.

Warrenton city residents are served by a separate Police Department, which is staffed by a Chief of Police, one sergeant, one senior patrol officer and four patrol officers. The Police Department is located in City Hall and is equipped with five police cruisers and has no detention area.

CHAPTER II. NATURAL HAZARD, RISK AND VULNERABILITY (HRV)

The committee identified all-natural hazards that could potentially affect Warren County, Camak, Norwood, and Warrenton utilizing FEMA Worksheet #1 (Appendix D). Task A of Worksheet #1 instructed committee members to research newspapers and other historical records, existing community plans and reports, as well as internet websites to determine which hazards might occur in Warren County. Task B then narrowed the list to only hazards most likely to impact the county by reviewing hazard websites to determine if Warren County is located in a high-risk area.

Initially, the committee found that droughts, earthquakes, hurricanes, extreme heat, severe winter storms, tornadoes, wildfire, dam failure and windstorms might affect Warren County. However, the committee later concluded that some of these hazards did not pose a significant threat. Because of the planning process, the committee determined that eight natural hazards pose a direct, measurable threat: flooding, dam failure, drought, wildfires, tornadoes, tropical storms, severe weather (wind, hail, and lightning) and winter storms. The committee profiled each of these hazards using FEMA worksheet #2 and #3a-, which included obtaining a base map and recording hazard-event profile information. Of the eight hazards mentioned, the entire County is exposed to six: severe weather, drought, tornadoes, tropical storms, severe weather events, and winter storms while dam failure and flooding is isolated to select areas. Each of these potential hazards is addressed with relevant supporting data.

Chapter II. Section	Updates to Section
I. Flood	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data. Added information from Hazus-MH analyses
II. Dam Failure	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
III. Drought	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
IV. Wildfire	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
V. Tornadoes	Removed from Severe Weather Category. Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
VI. Tropical Storms	Removed from Severe Weather Category. Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
VII. Severe Weather	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data. Added information from Hazus-MH analyses.
VIII. Winter Storms	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.

SECTION I. FLOODING

A. Hazard Identification: Flood plains are relatively flat lands that border streams and rivers that are normally dry but are covered with water during floods. The susceptibility of a stream to flooding is dependent upon several different variables. Among these are topography, ground saturation, rainfall intensity and duration, soil types, drainage, drainage patterns of streams, and vegetative cover. A large amount of rainfall over a short time can result in flash flood conditions. A small amount of rain can also result in floods where the soil is saturated from a previous wet period or if rain is concentrated in an area of impermeable surfaces such as large parking lots, paved roadways, etc. Topography and ground cover are contributing factors for floods where water runoff is greater in areas with steep slopes and little or no vegetation. The severity of a flood is usually measured in terms of depth of flooding.

Flooding occurs when the volume of water exceeds the ability of a water body (stream, river, or lake) to contain it within its normal banks. Floodplains serve three major purposes: Natural water storage and conveyance, water quality maintenance, and groundwater recharge. These three purposes are greatly inhibited when floodplains are misused or abused through improper and unsuitable land development. For example, if floodplains are filled to construct a building, valuable water storage and recharge areas are lost. This causes unnecessary flooding in previously dry areas and can damage buildings and other structures. All four jurisdictions comply with NFIP requirements and intend to remain in compliance by enforcing flood plain ordinances that prohibit or severely limit development in floodplains. The following table provides information about each jurisdiction’s participation level.

Jurisdiction	Init FHBM Identified	Init. FIRM Identified	Curr. Eff. Map Date	Reg-Emer Date	Sanction Date
Warren County	N/A	07/22/2010	07/22/2010	07/22/2010	N/A
Camak	N/A	07/22/2010	07/22/2010	07/22/2010	N/A
Norwood	N/A	07/22/2010	07/22/2010	07/22/2010	N/A
Warrenton	04/04/1975	07/23/1982	07/22/2010	07/23/1982	N/A

Source: FEMA Community Status Book

B. Hazard Profile: Severe flooding within Warren County is a relatively infrequent event. The county has 23 rivers/streams and 22 reservoirs. Ninety-five % of the land in Warren County has slopes between 2 and 10%. Steeper slopes of 10 to 25% compromise only 5% of the county are located on the hillsides of the piedmont section to the north. Slopes of less than two % compromise one % of the county total land area and are located in the floodplain. The committee examined historical data from the NCEI, USGS, SHELDUS™, past newspaper articles, and conducted interviews on the effects of past flooding events. In the last 72 years, three flooding events were recorded. The table below is a result of information gathered from interviews, newspaper articles, and the NCEI and SHELDUS™ databases.

Date	Fatality	Inj	PrD	CrD	Description
March 1, 2001	0	0	0.00K	0.00K	March 2001 was one of the wettest March's on record for north and central Georgia. Frequent heavy rain and thunderstorms occurred during the month as a very active jet stream remained in place. Most locations averaged 4-7 inches above normal.
October 6, 2002	0	0	0.00K	0.00K	Above normal rainfall occurred across a majority of Georgia. Heavy rainfall was caused by an abundance of tropical moisture and stalled frontal systems.
June 07, 2013	0	0	3 K	0.000K	A tropical storm combined with a stalled frontal system produced very heavy rainfall across east-central Georgia.
July 13, 2013	0	0	10 K	0.00K	Several days of heavy rain caused very wet soil conditions across portions of central Georgia. Additional rainfall amounts around two inches in a few counties caused long-term areal flooding which washed out culverts or damaged several roads.

Source: NCEI, SHELDUS and The Warrenton Clipper

Most flood events resulted in flash flooding which washed out several roads and wooden bridges. On July 13, 2013, heavy rainfall washed our roadways and damaged culverts in the Norwood area. Data pinpointing the depth of floodwaters and exact locations of all washed out roads and bridges is limited. The table above provides all data that is available.

While severe flooding within the county is a very infrequent event, there is a potential for flooding. Flash flooding is the most prominent flooding event as riverbanks overflow due to rainfall. The GMIS flood hazard map assigns a flood zone rating of zero for unincorporated parts of the County, Camak, Norwood and Warrenton where there are no identified or undesignated flood hazards. A hazard score of four has been assigned for known floodplain areas for unincorporated parts of the County, Camak, Norwood and Warrenton.

The magnitude of a major flood event could have approximately 35% of the county experiencing some damage from flooding. While data was collected looking at 72 years of data, the frequency rate was calculated using a 20-year hazard cycle per guidance from GEMA. Based on a 20-year hazard cycle the chance of an annual flooding event occurring is:

- 20% for all of Warren County;
- 20% for the unincorporated areas of Warren County;
- 15% for Camak;
- 10% for Norwood; and
- 5% for Warrenton

(See Appendix A, Section I for Worksheet 3A, Historical Event Tables, Critical Facilities Reports, and Flood Maps and Appendix D for Hazard Frequency Tables).

- C. Assets Exposed to Hazard and Estimates of Potential Loss:** For determination of assets exposed to risk, maps were created by using FEMA data and available parcel data. Based on FIRM, tax digests, and FEMA Worksheet #3a, it was determined that 81 structures/properties valued at nearly \$2 million are located in known flood prone areas. There are 149 residents living in the flood prone area.

All 81 structures/properties have been identified by federal floodplain maps and/or parcel maps and not all structures/properties will experience damage from floods. The extent of each flood varies according to the amount of rainfall in each area. If a complete loss of the 81 structures/properties located would result in approximately \$1,969,210 million in damages assuming 100% loss, a 75% loss would represent approximately \$1.5 million, a 50% loss would represent approximately \$1 million, and a 25% loss would represent approximately \$492 thousand. The table below shows the hazard scores assigned to critical facilities by GMIS along with replacement values, content values, and daily occupancy.

Jurisdiction	Flood Hazard Score	# of Critical Facilities	Replacement Value \$	Content Value \$	Occupancy	
					Day	Night
Unincorporated	1	8	26,680,000	2,995,000	1,073	38
Unincorporated	0	7	13,940,130	1,432,500	624	123
Camak	1	1	800,000	7,500	2	0
Camak	0	3	700,000	415,000	1	0
Norwood	1	4	1,003,000	919,750	3	0
Norwood	0	5	1,067,707	218,500	0	0
Warrenton	1	1	11,000,000	50,000	4	1
Warrenton	0	7	8,340,000	680,000	348	2
Total		36	63,530,837	6,718,250	2,055	164

The GMIS has no repetitive flooding NFIP properties and no NFIP mitigated property. There are no estimates for future structures since future development will be limited in known floodplains. (See Appendix A, Section I and Appendix D).

FEMA Hazus-MH Version 2.2 SP1 was used to analyze a probabilistic risk assessment of a 1% annual chance riverine flood event (100-Year Flood) for Warren County. A copy of the complete report can be found in Appendix C. Land area covered by floodwaters of the base flood is identified as a Special Flood Hazard Area (SFHA). The Warren County flood risk assessment analyzed at risk structures in the SFHA. The results of the Riverine 1% Flood Scenario revealed that buildings in Warren County are vulnerable to flooding from events equivalent to the 1% riverine flood. The economic and social impacts from a flood of this magnitude can be significant. The Hazus analysis generated information to building loss, essential facility loss, food and shelter requirements and debris because of the Riverine 1% Flood Scenario. The results of this scenario are as follows:

- **Building Losses:** Residential buildings 3 residential buildings damaged at a loss of \$89,015.
- **Essential Facility Losses:** The analysis no essential facilities subject to damage.
- **Flood Shelter Requirements:** The scenario estimates 24 households are subject to displacement. Displaced households represent 71 individuals, of which one may require short-term publicly provided shelter.
- **Flood Debris:** Hazus-MH estimates that an approximate total of 804 tons of debris might be generated by the flood. The model breaks debris into three general categories:
 - Finishes (dry wall, insulation, etc.) - 272 tons generated;
 - Structural (wood, brick, etc.) – 198 tons generated; and
 - Foundations (concrete slab, concrete block, rebar, etc.) - 334 tons generated.

D. Land Use and Development Trends: The Warren County Joint Comprehensive Plan 2019-2029 presents future development scenarios for Warren County. It is also the guiding document for the basis of future development decisions. Warren County and its municipalities are presently experiencing several significant issues which will be exacerbated in the future without major intervention. These issues include:

- Population decline
- Increasing stock of abandoned and dilapidated housing
- Exodus of young residents
- Exodus of families with children
- Aging population
- Pattern of decreasing per capita income

The concerns identified above are presented as those General Demographic issues Warren County must confront over the time-period for which this Comprehensive Plan covers.

To the greatest extent possible, the County and municipalities shall attempt to encourage development away from the Rocky Comfort Creek Watershed, groundwater recharge areas, wetlands, floodplains, and primary agricultural lands. There are significant land structures/properties outside these environmentally sensitive areas to develop. Population and housing growth rates are not projected to be significant. Even with the County’s aggressive economic policy related to manufacturing growth, there are numerous locations in proximity to Warrenton, Norwood and Camak that do not impact environmentally sensitive areas.

An analysis of the existing and future land-use maps of Warren County establishes that the no land use has changed more than 6%. Major changes are not expected to occur in the county. A copy of the comprehensive plan on land use can be found in Appendix B.

E. Multi-Jurisdictional Concerns: During a natural hazard, it is imperative that all emergency personal can communicate with each other throughout the entire planning area. The County and its jurisdictions have numerous dead spots throughout the area due to topography and lack of adequate communication equipment. The County and its emergency personnel are

dependent on the private sector for towers to use for signals. If these towers are ever removed, the County will be without any adequate means to transmit signals. The County, Camak, Norwood, and Warrenton are aware of the need to develop communication capabilities that will serve their County. Since flooding has the potential to affect all of Warren County, any mitigation steps taken related to flooding should be undertaken on a countywide basis to include Camak, Norwood, and Warrenton.

F. Hazard Summary: Based on interviews, data from the NCEI covering 72 years, and the local paper, *The Warren Leader*, there have been four reported flooding events. These flooding events were the result of heavy rains. The rainfall resulted in flash flooding, washed out several roads and downed trees and power lines.

The hazard frequency table calculates a 20% chance of an annual flooding event countywide. Hazard frequency tables can be found in Appendix D. Severe flooding, although relatively rare in occurrence, has the potential to inflict significant damage in Warren County. Mitigation of flood damage requires the community to know where flood-prone areas are, what roads and bridges may be affected, and which facilities fall below anticipated flood levels. The committee recognized the potential for losses caused by flooding and identified it as a hazard requiring mitigation measures.

Based on tax data, parcel, and flood maps, all or a portion of 81 known structures/properties valued at approximately \$2 million and a population of 149 are located in known floodplains. The committee identified specific mitigation goals, objectives and action items related to flooding, which can be found in Chapter III, Section I.

SECTION II. DAM FAILURE

A. Hazard Identification: Dam failures involve unintended release or surges of impounded water. They can destroy property and cause injury and death downstream. While they may involve total collapse of a dam, that is not always the case. Damaged spillways, overtopping of a dam or other problems may result in a hazardous situation. Dam failures may be caused by structural deficiencies in the dam itself. Dam failures may also come from other factors including but not limited to debris blocking spillways, flooding, earthquakes, improper operation, and vandalism. Dam failures are potentially the worst flood events. When a dam fails, a large quantity of water is suddenly let loose downstream, destroying anything in its path and poses a threat to life and property.

Dams are classified into three categories:

- High Hazard: Dams where failure or disoperation will probably cause loss of human life.
- Significant Hazard: Dams where failure or disoperation results in no probable loss of life but can cause economic loss, environment damage, disruption of lifeline facilities or other impact concerns.
- Low Hazard: Dams where failure or disoperation results in no probable loss of life and low economic and/or environmental loss.

B. Hazard Profile: A review of the National Inventory of Dams reveals that there are 21 dams in Warren County. There has never been a reported dam failure event in Warren County to date. The committee felt that it was important to address dam failure since three of the 21 dams are classified high hazard. If one of these high hazard dams fails, there is the potential for loss of life and property and economic losses. The remaining 18 dams are low hazard where potential losses are limited to minimal property damage. The table below is an inventory of the dams located in Warren County.

DAM NAME	HAZARD	YEAR COMP.
Rocky Comfort Creek w/s str # 14	L	1963
Rocky Comfort Creek w/s str # 45	H	1964
Rocky Comfort Creek w/s str # 50	H	1968
Rocky Comfort Creek w/s str # 46	H	1966
Langham Dam	L	1959
Ray Dam	L	1959
Shivers Dam 2	L	1954
Shivers Dam no 1	L	1955
Chafin Dam	L	1948
Reese Lake Dam	L	
Nelson Dam	L	1952
Johnson Dam	L	1952
Martin Marietta Quarry Waste Pond	L	1968
English Lake Dam	L	1944
Kaolin Mines Lake Dam	L	1963
Johnsons Lake Dam	L	1955
Shivers Lake Dam	L	
South Sewage Disposal Pond Dam	L	1969
Neal Lake Dam	L	
Cotton Ridge Farm Lake Dam	L	
Richmond Farm Lake Dam	L	
Newsome Millpond Dam	L	

Source: National Inventory of Dams, Army Corp of Engineers

A map of dams with rivers and streams is provided in Appendix A. The map shows if a high hazard dam were to fail it would not have an impact on the cities. Dam failure would most likely occur in the unincorporated areas of the County. Based on interviews and best available data, a dam failure has not occurred within the last 67 years therefore the estimated annual probability of a future event is less than one %. Due to the lack of available data a precise calculation to determine the probability of an annual dam failure event cannot be determined without further study (See Appendix A, Section II, and Appendix D).

C. Assets Exposed to Hazard and Estimates of Potential Loss: Based on the FEMA worksheet #3A, the location of the high hazard dams and parcel data all or a portion of 85 structures/properties are at risk of loss due to dam failure with an estimated loss of \$3.9 million with a population of 53. There is little or no threat to assets located in the incorporated cities of Warren County. Projected changes in land use based on the county's

multi-jurisdictional comprehensive plan, has minimal or no change to land use within the incorporated jurisdictions. The greatest change in land use and future development has a decrease in forestland that will be converted to residential. Because it is impossible to determine where future residents will move in the unincorporated areas of the county, vulnerability in terms of future buildings, infrastructure and critical facilities is not known at this time. It can be surmised that this will bring an increase in population and efforts must be made to ensure that new homes are not built downstream where a dam break may occur. Land use tables and projections can be found in Appendix A. A dam break analysis study is recommended in Chapter III., Section VI to determine the exact assets exposed to risk because of a dam failure.

Based on FEMA worksheet #3a and using a straight-line method there are 85 structures/properties at risk of loss due to dam failure with an estimated loss of \$3.9 million. These numbers are best guess estimates. Without further study, the extent of potential loss due to dam failure is unknown. No critical facilities are downstream of a dam and appear not to be at risk from a dam failure. (*See Appendix A, Section II, and Appendix D*).

- D. Land Use and Development Trends:** Currently the county has no guidelines that address development in areas surrounding dams. No development has taken place or is planned in the areas surrounding dams. Section I. Flood D provides a synopsis of land use and development trends. A copy of the comprehensive plan on land use can be found in Appendix B.
- E. Multi-Jurisdictional Concerns:** The unincorporated areas of Warren County are most likely to be affected by a dam failure event. The Cities of Warrenton and Norwood and the Town of Camak appear to be at little or no risk of loss due to a dam failure. Any mitigation steps taken related to dam failure should be undertaken on a countywide basis and include all incorporated jurisdictions. A concern is the lack of available data for the county and its incorporated jurisdictions. A database needs to be created and maintained that provides information on past and future occurring dam failure events.
- F. Hazard Summary:** Dam failures and incidents involve unintended release or surges of impounded water. They can destroy property and cause injury and death downstream. While they may involve total collapse of a dam, that is not always the case. Dam failure has never occurred in Warren County, but because there are three high hazard dams it is imperative to address the potential for this hazard. The Warren County Pre-Disaster Hazard Mitigation Committee recognized the potential for losses caused by dam failure and identified it as a hazard requiring mitigation measures. Located in the unincorporated areas of Warren County, it is estimated that all or a portion of 85 structures/properties are at risk of loss due to dam failure with an estimated loss of \$3.9 million and a population of 53. The committee identified specific mitigation goals, objectives and action items related to dam failure, which can be found in Chapter III., Section II.

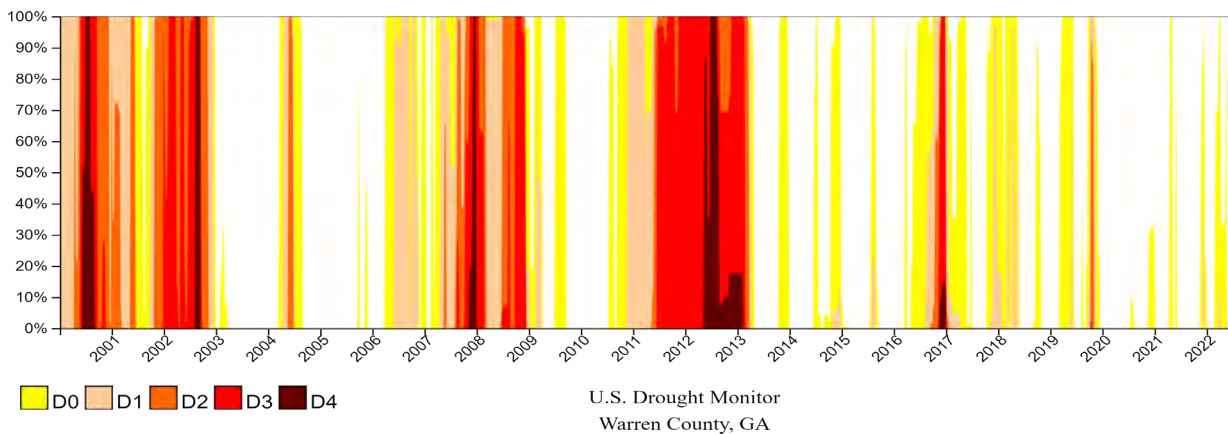
SECTION III. DROUGHT

A. Hazard Identification: The committee reviewed historical data from the Palmer Drought Index, NCEI, DNR, USDA and GFC in researching drought conditions. Drought conditions are identified by a prolonged period of moisture deficiency. Climatologists and hydrologists use five indicators of drought: rainfall, soil moisture, stream flows, lake levels and groundwater levels. Drought conditions affect the cultivation of crops as well as water availability and water quality. Drought is also a key factor in wildfire development. Wildfire will be addressed in a separate HRV.

B. Hazard Profile: Drought is not spatially defined and has the potential to affect the entire planning area equally. Warren County’s consist of 287 square miles with 2.4 of these miles being water. The county is comprised of 183,680 acres with 94.1 % dedicated to agricultural and forestry. According to the USDA 2012 Census of Agriculture 4,158 heads of livestock. Agricultural losses due to drought are the primary losses. No critical facilities have sustained any damage or functional downtime due to dry weather conditions.

According to the NCEI and SHELDUS™, there have been 29 reported drought events in Warren County. The Palmer Index is most effective in determining long-term drought, a matter of several months, and is not as good with short-term forecasts (a matter of weeks). The Palmer Index uses a zero abnormally dry, and drought is shown in terms of minus numbers; for example, minus two is severe drought, minus three is extreme drought, and minus four is exceptional drought.

NCEI data for surrounding counties and a review of The Palmer Index (from <https://www.NCEI.noaa.gov/temp-and-precip/drought/historical-palmers/>) reveals there have been 29 drought events. One of the longest running droughts in recent history began in January 2012 and ended in January 2013. The County was in extreme drought conditions from January to July of 2012 and exceptional drought conditions from August 2012 to January 2013. The last extreme drought in Warren County occurred in October 2019. The county only experience extreme drought conditions for one week. The average based on historical data is a -3.00 on the Palmer Index. The maps below show drought conditions for January 2020 until June 2022.



Based on the weekly data from the US Drought Monitor from January 2000 to January 2017 the county has experienced the following drought conditions

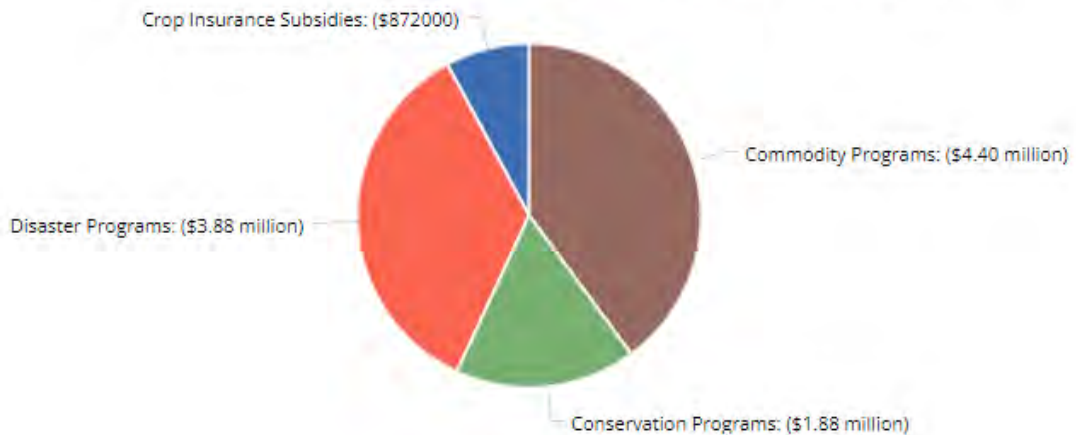
(<https://www.drought.gov/states/georgia/county/Warren>).

- 715 weeks where all or a portion of the county has experienced of D0 - Abnormally Dry;
- 476 weeks where all or a portion of the county has experienced of D1 - Moderate Drought;
- 300 weeks where all or a portion of the county has experienced levels of D2 - Severe Drought;
- 193 weeks where all or a portion of the county has experienced levels of D3 - Extreme Drought; and
- 68 weeks where all or a portion of the county has experienced levels of D4 - Exceptional Drought. (US Drought Monitor and Extent Tables can be found in Appendix A.)

According to the USDA Farm Subsidies Database, there has been a total of \$ \$9.03 million in disaster assistance from 1995-2016. The pie chart below depicts amounts and type of assistance.

Warren County, Georgia Farm Subsidy Information

Farmers received \$11.0 million in subsidies 1995-2020



<https://farm.ewg.org/region.php?fips=13301&progcode=total>

Historical data is only for the county. A severe, prolonged drought would mainly affect the 94.1% of the county that makes up the timber and agriculture business. This could result in loss of crops, livestock and create the conditions for a major wildfire event. This would also have an impact on the incorporated cities, as water restrictions would be enforced. Based on

a 20-year hazard cycle history there is a 100 % chance of an annual drought event for the county as well as Camak (*See Appendix A, Section III, for Worksheet 3a and Appendix D.*)

C. Assets Exposed to Hazard and Estimate of Potential Losses: Drought conditions typically pose little or no threat to structures; however, fires can occur because of dry weather. The greatest threat to assets in the county is to forestry and agricultural properties and livestock. No damage to critical facilities is anticipated because of drought conditions. Crop damage cannot be accurately quantified due to several unknown variables: duration of the drought, temperatures during the drought, severity of the drought, different crops require different amounts of rainfall, and different growing seasons. Based on FEMA Worksheet #3a the potential loss in agricultural and forestry properties for each jurisdiction is:

- Camak has 20 agricultural/forestry structures/properties valued at approximately \$359,850 with an estimated population of thirty-two (32).
- Norwood has 18 agricultural/forestry structures/properties valued at approximately \$479,348 with an estimated population of twenty-six (26).
- Warrenton has 8 agricultural/forestry structures/properties valued at approximately \$389,482 with an estimated population of eighteen (18).
- Unincorporated Warren County has 4,590 agricultural/forestry structures/properties valued at approximately \$236 million with an estimated population of 51.

There are 4,636 agricultural/forestry properties in Warren County valued at approximately \$238 million with a population of 260 that are at the greatest risk due to a drought event (*See Appendix A, Section III for Worksheet 3A, Historical Event Tables, Drought Extent Tables and Drought Maps and Appendix D for Hazard Frequency Tables*).

D. Land Use and Development Trends: Warren County currently has no land use or development trends related to drought conditions. When drought conditions do occur, all jurisdictions follow the restrictions set forth by the Georgia DNR Drought Management Plan and the Statewide Outdoor Water Use Schedule. The Georgia Water Stewardship Act went into effect statewide on June 2, 2010. It allows daily outdoor watering for purposes of planting, growing, managing, or maintaining ground cover, trees, shrubs, or other plants only between the hours of 4 p.m. and 10 a.m. by anyone whose water is supplied by a water system permitted by the Environmental Protection Division.

The following outdoor water uses also are allowed daily at any time of the day by anyone:

- Commercial Agriculture
- Alternative sources of water (grey water, rainwater, condensate, etc.)
- Irrigation of food gardens
- Irrigation of newly installed or reseeded turf for the first 30 days
- Drip irrigation or soaker hoses
- Hand watering with a shut off nozzle
- Water from a private well
- Irrigation of plants for sale
- Irrigation of athletic fields, golf courses or public recreational turf

- Hydroseeding

Outdoor water uses for any purposes other than watering of plants, such as power washing or washing cars, is still restricted to the current odd/even watering schedule.

- Odd-numbered addresses can water on Tuesdays, Thursdays and Sundays.
- Even numbered and unnumbered addresses are allowed to water on Mondays, Wednesdays and Saturdays.

Projected changes in land use based on the joint comprehensive plan, has minimal or no change. Limited growth or new development is expected in the County. The vulnerability in terms of future buildings, infrastructure and critical facilities located in the identified hazard areas is not known since there is no planned or approved future development. Thus, it is impossible to determine vulnerability in terms of future buildings, infrastructure, and critical facilities. Current and future land-use tables, maps and projections are in Appendix B.

- E. Multi-Jurisdictional Concerns:** Agricultural losses associated with drought are more likely to occur in the rural, less concentrated areas of the county. Although Camak, Norwood, and Warrenton are less likely to experience drought related losses, they should not be excluded from mitigation considerations. Drought creates a deficiency in water supply that affects water availability and water quality. Droughts can and have severely affected private wells, municipal and industrial water supplies, agriculture, stream water quality, recreation at major reservoirs hydropower generation, navigation, and forest resources.
- F. Hazard Summary:** Drought is not spatially defined and equally affects the entire planning area. Droughts do not have the immediate effects of other natural hazards, but sustained drought can cause severe economic stress to not only the agricultural interests in Warren County, but to the entire State of Georgia. The potential negative effects of sustained drought are numerous. *Historical data is available only for the county as a whole.* Based on a 20-year cycle hazard history there is a 100 % chance of an annual drought event in Warren County. In addition to an increased threat of wildfires, drought can affect private wells, municipal and industrial water supplies, stream-water quality, water recreation facilities, hydropower generation, as well as agricultural and forest resources.

In summary, for Warren County as a whole, there are 4,636 agricultural/forestry properties valued at approximately \$238 million and include 4,158 heads of livestock and an estimated population of 260 that have the greatest potential to be damaged by drought. There is a population of 5,297 and approximately 14,744 structures/properties valued at nearly \$573 million, which could be affected if wildfires break out due to drought conditions. Drought mitigation goals and objectives are in Chapter III, Section III.

SECTION IV. WILDFIRE

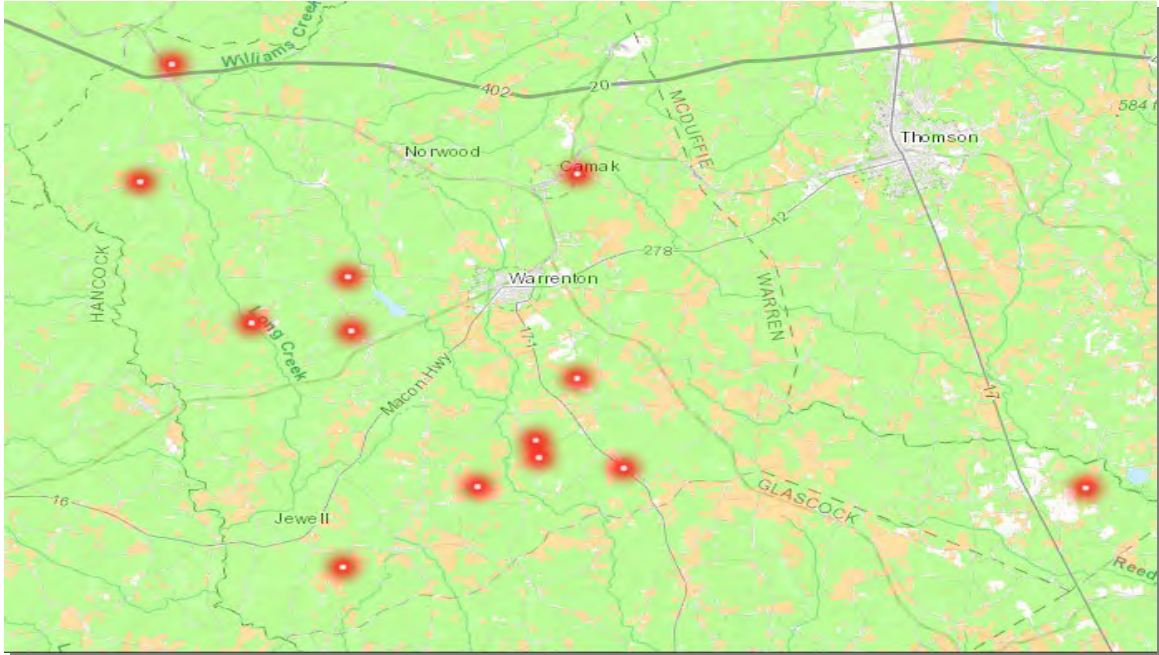
- A. Hazard Identification:** A wildfire is any uncontrolled fire occurring on undeveloped land that needs fire suppression. The potential for wildfire is influenced by three factors: the presence of fuel, the area’s topography, and air mass. There are three different classes of wildland fires. A surface fire is the most common type and burns along the floor of a forest, moving slowly and killing or damaging trees. A ground fire is usually started by lightning and burns on or below the forest floor. Crown fires spread rapidly by wind and move quickly by jumping along the tops of trees. Wildfires are usually signaled by dense smoke that fills the area for miles around. Wildfires by lightning have a very strong probability of occurring during drought conditions. Drought conditions make natural fuels (grass, brush, trees, dead vegetation) more fire prone.

- B. Hazard Profile:** Warren County consists of 287 square miles with 2.4 of these miles being water. The county is comprised of 183,680 acres with 172,843 (94.1%) acres dedicated to agricultural and forestry. Given the right weather conditions and variables, wildfire, due to natural causes, creates a potential threat to the lives of residents and property in the planning area. The NCEI has never reported a significant wildfire event in Warren County.

The committee reviewed historical data from the GFC, which is not found in the NCEI database, to research wildfire events. The GFC provides wildfire data on manmade and natural wildfire occurrences for the county as a whole and not for individual jurisdictions. This plan will address only natural disasters. According to Georgia Forestry data, from 1957 to February 1, 2022, there have been 1,357 fire events burning a total of 8374 acres. Of these 1,357 fire events, only 71 were a result of a natural hazard event that burned 876 acres. There is no data is available for largest fire because of lightning. Data provided by GFC is cumulative on an annual basis.

Year	Number of Wildfires	Acres Burned
2018	15	95
2019	12	28
2020	14	17
2021	13	49
As of February 1, 2022	4	1
TOTAL	58	190

Since the last update, there have been a total of 58 wildfires in Warren County. These fires have burned a total of 190 acres, primarily in unincorporated areas of the county. The graphic below indicates the location of wildfires across Warren County during 2021.



Fire Weather System, Georgia Forestry Commission

While data was collected looking at 65 years of data, frequency rate was calculated using a 20-year hazard cycle per guidance from GEMA. There were 34 wildfire events during the 20-year hazard cycle predicting a 170 % chance of an annual wildfire due to a natural hazard event or statistically the county can expect 1.7 wildfires because of a natural hazard annually. The drier the condition the more susceptible the county is to wildfire (*See Appendix D*). GEMA Wildfire Risk Maps, found in Appendix A, assigns the following wildfire hazard score showing areas with different levels of fire potential for each jurisdiction as follows:

- Hazard score of two (low wildfire risk)
 - Unincorporated areas of the county – approximately 4%
 - Norwood - approximately 5%
- Hazard score of one (very low wildfire risk)
 - Unincorporated areas of the county – approximately 92%
 - Camak – 100 %
 - Norwood – approximately 95%
 - City of Warrenton - approximately 85%
- Hazard score of zero (no houses, agriculture, water, or city)
 - Unincorporated areas of the county – approximately 4%
 - Warrenton - approximately 15%

C. Assets Exposed to Hazard and Estimate of Potential Losses: While wildfires are more likely to occur in the county outside of the incorporated areas. The committee concluded that wildfires present a threat to all existing buildings, infrastructure and critical facilities since wildfires can spread throughout the county and into the urban areas. Damages due to a

wildfire event are more likely to occur in areas of the county where forestry and woodland are prevalent but does have the potential to spread into the incorporated areas and cause extensive damage. FEMA Worksheet #3a located in Appendix A shows the number and types of buildings found in Warren County, as well as the value of these structures/properties and their population. The following assets by jurisdiction could potentially be exposed to wildfire hazard.

Jurisdiction	Number of Structure/Properties	Value \$	Population
Warren County (Unincorporated)	11,093	482,659,740	2,834
Camak	473	12,525,300	127
Norwood	521	6,267,373	284
Warrenton	2,657	71,539,045	2,052
TOTAL FOR COUNTY	14,744	572,991,458	5,297

Source: Warren County Tax Assessor

The following table reveals all critical facilities in the county by jurisdiction, number of facilities, hazard score, replacement value, and daily occupancy exposed to wildfire hazard. A complete breakdown of each jurisdiction by hazard can be found in Appendix A.

Jurisdiction	Wildfire Hazard Score	# of Critical Facilities	Replacement Value \$	Content Value \$	Occupancy	
					Day	Night
Unincorporated	3	10	17,680,130	2,332,500	1,157	157
Unincorporated	2	2	19,250,000	1,025,000	387	2
Unincorporated	1	1	190,000	300,000	0	0
Unincorporated	0	2	3,500,000	770,000	153	2
Camak	4	1	200,000.00	200,000	0	0
Camak	3	3	1,300,000	222,500	3	0
Norwood	3	4	1,032,000	15,750	1	0
Norwood	2	2	157,506	350,000	0	0
Norwood	1	2	231,201	222,500	1	0
Norwood	0	1	650,000	550,000	1	0
Warrenton	3	7	8,340,000	680,000	348	2
Warrenton	2	1	11,000,000	50,000	4	1
TOTAL		36	\$63,530,837	6,718,250	2,055	164

According to FEMA Worksheet #3a, there are 14,744 structures/properties with a population of 5,297 and assets valued at nearly \$573 million. If a wildfire started, it is not likely that all of these structures/properties would be affected. (See Appendix A, Section IV, for Worksheet 3A, Historical Event Tables, Critical Facilities Reports and Wildfire Risk Maps, and Appendix D for Hazard Frequency Tables).

D. Land Use and Development Trends: Warren County currently has no land use or development trends related to wildfire conditions. Land use codes do provide for fire protection to any proposed major and minor developments connected to the public water

supply system, and minimum fire flows shall be computed based on standards promulgated by the Warren County Fire Services. For those proposed developments that will not have immediate access to the public water supply system, such standards and computations should be based on the National Fire Protection Association *Standards on Water Supply for Suburban and Rural Fire Fighting*.

E. Multi-Jurisdictional Concerns: Wildfire has the potential to affect the entire county. As a result, all mitigation steps taken related to wildfire should be undertaken by Warren County, Camak, Norwood, and Warrenton. Also, during a natural hazard, it is imperative that all emergency personnel can communicate with each other throughout the entire planning area. Another concern is the lack of available data for the county and individual jurisdictions. A database needs to be created and maintained that provides information on all past and future occurring wildfire events.

F. Hazard Summary: Warren County's consist of 287 square miles with 2.4 of these miles being water. The county is comprised of 183,680 acres with 94.1 % dedicated to agricultural and forestry. Given the right weather conditions and variables, wildfire, due to natural causes, creates a potential threat to the lives of residents and property in the planning area.

According to Georgia Forestry data, from 1957 to 2022, there have been 1,357 fire events burning a total of 8,373 acres. Of these 1,357 fire events, only 71 were a result of a natural hazard event that burned 876 acres. Based on best available data, the 71-wildfire events due to the natural hazard of lightning all occurred in the unincorporated areas of the county. There is no data available for the Camak, Norwood or Warrenton.

According to FEMA Worksheet #3a, there are 14,744 structures/properties with a population of 5,297 and assets valued at nearly \$573 million countywide. Mitigation Goals and Objectives concerning wildfires are in Chapter III, Section IV.

SECTION V. TORNADOES

A. Hazard Identification: The committee reviewed historical data from the county's own weather database, the NCEI, SHELDUSTM, newspapers and citizen interviews in researching the past effects of severe weather. The month of February marks the beginning of the severe weather season in the South, which can last until the month of August. While the number of tornadoes peaks during the Spring, they can occur and time of year.

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. It is spawned by a thunderstorm or the result of a hurricane and is produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. Tornadoes are among the most unpredictable and destructive of weather phenomena and can strike at any time of the year if the essential conditions are present. The damage from a tornado is a result of the high wind velocity and wind-blown debris. The positions of the subtropical and polar jet streams often are conducive to the formation of storms in the Gulf region. The table below shows the original Fujita Scale and the Enhanced Fujita Scale (in use since 2007) to rate the intensity of

a tornado by examining the damage caused by the tornado after it has passed over a manmade structure.

FUJITA SCALE			DERIVED EF SCALE		OPERATIONAL EF SCALE	
F Number	Fastest 1/4-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Source: NOAA

B. Hazard Profile: Tornadoes pose one of the greatest risk to property and residents of Georgia. Since the exact time and location of a tornado event is not always predictable, all of Warren County is vulnerable to the threats of these storms. Based on historic data, there have been seven reported tornadoes in the planning area: all seven traveled over parts of unincorporated areas of the county and one touchdown in Norwood and one in Warrenton. There is no record of a tornado in Camak. The seven tornadoes that have occurred over the past 50 years have injured three people and caused nearly \$2 million in damage

The highest magnitude tornado reported in Warren County was an F4 that occurred in 1875. This tornado formed over Hancock County and moved across Warren, McDuffie, and Columbia counties, killing 25 people and injuring 65 others. Tornadoes tend to strike in somewhat random fashion, making the task of calculating a recurrence interval extremely difficult. Using a 20-year hazard cycle, frequency tables calculate an annual chance for a tornado event at:

- 20% for Warren County and the unincorporated areas of the county;
- 5% for Warrenton and Norwood;
- No data is available for Camak.

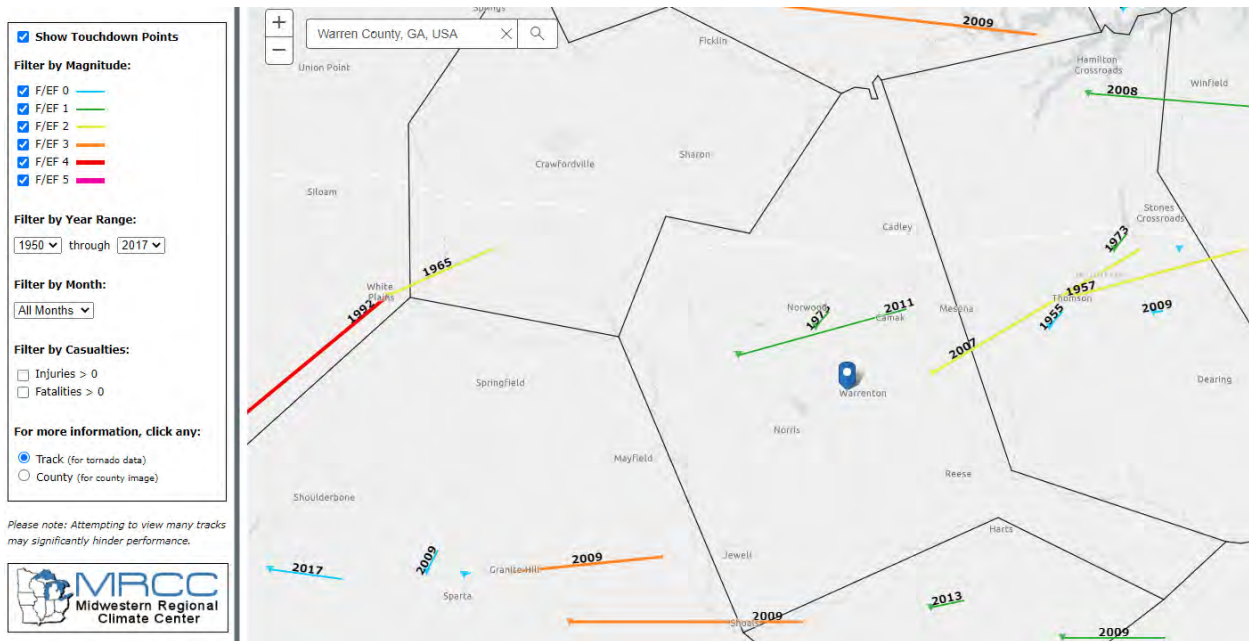
The following table shows the event, severity and estimated cost of damages reported. The map from the Georgia Tornado Projects shows the paths taken by the storms (*See Appendix A, Section I and Appendix D*).

Location	Date	Event Narrative	Injuries	Deaths	Mag.	\$
Warren County	3/20/1875	25 people were killed and 65 were injured in a tornado that formed Hancock County, moved across McDuffie County and dissipated in Columbia County.	*	6	F4	Unknown
Warren County	02/02/1973	The tornado damaged several houses and knocked trees over onto Hwy 278	*	*	F1	3K

Location	Date	Event Narrative	Injuries	Deaths	Mag.	\$
		east of Norwood.				
Warren County	05/23/1978	At Cason's Cabins, several building damaged and trees uprooted.	*	*	Unknown	28K
Warrenton	03/01/2007	An EF2 tornado tracked across eastern Warren county, touching down about four miles east-northeast of Warrenton, and continued into Warren county, terminating about 6 miles northeast of Thomson near Interstate-20. The overall tornado path length was 15 miles, but only about 2.5 miles of the path occurred within Warren County. In addition, a number of homes, mostly double-wide mobile homes, especially on the northeast side of Warrenton. Most of the damage was in the Camak Road and Thomson Highway area. One double-wide mobile home was completely destroyed with only the base slab left standing. There were eight homes with major damage, 13 with moderate damage, and 17 with minor damage. Three individuals sustained minor injuries from flying glass and debris. Dozens of trees and power lines were down along the path of the tornado.	3	0	F2	700K
Warren County (Four Points)	12/18/2009	EF1 as it crossed into Warren County with a maximum path width of 100 yards. While the total path length of the tornado was nearly 11 miles, just a little over one mile of this path was within Warren County. Since the tornado traveled through an extremely rural part of Warren County, damage was confined to around 100 downed trees.	0	0	F1	25K
Warren County (Jewell)	03/28/2010	The public observed a funnel cloud in the Beall Springs area in far southwestern Warren County. A tornado warning was in effect at the time and there was clear indication of	0	0	Unknown	0K

Location	Date	Event Narrative	Injuries	Deaths	Mag.	\$
		a strong circulation on the Doppler radar.				
Norwood	04/28/2011	The tornado touched down four miles southwest of Norwood and tracked nearly eight miles on an east-northeastward path across northern Warren County lifting one mile northeast of Camak. Eight homes sustained moderate to major damage along the path of the tornado, mostly from large fallen trees on the structures. Hundreds of trees and several power lines were down. There were no fatalities or injuries.	0	0	F1	1.0M

Sources: Interviews, The Warrenton Clipper, Georgia Tornado History Project, NCEI and SHELDUS™



Source: Georgia Tornado History Project <http://www.tornadohistoryproject.com/tornado/Georgia>

C. Assets Exposed to Hazard and Estimate of Potential Losses: In evaluating assets exposed to tornadoes, the committee determined that all critical facilities, as well as all public, private, and commercial property, are susceptible to these storms. According to GMIS, 50% of the county has a wind hazard score of two with speeds between 90 to 99 mph. The remaining 50% has a hazard score of one, where wind speed is less than 90 mph. The table below provides data from FEMA Worksheet #3a that estimates the potential loss for each jurisdiction.

Source: Warren County Tax Assessor

Jurisdiction	Number of Structure/Properties	Value \$	Population
Warren County (Unincorporated)	11,093	482,659,740	2,834
Camak	473	12,525,300	127
Norwood	521	6,267,373	284
Warrenton	2,657	71,539,045	2,052
TOTAL FOR COUNTY	14,744	572,991,458	5,297

Of the 36 critical facilities, 23 have a wind hazard score of two, placing the critical facilities in Zone IV which has a wind speed of 90 to 99 mph. The remaining 13 have a hazard score of one or zero. GMIS critical facility reports for wind and FEMA Worksheet #3a are in Appendix A for each individual jurisdiction and the entire county. The table below shows the number of critical facilities by jurisdictions, hazard score, replacement value, content value, and daily occupancy.

Jurisdiction	Wind Hazard Score	# of Critical Facilities	Replacement Value \$	Content Value \$	Daily Occupancy	
					Day	Night
Unincorporated	1	1	\$2,100,000.00	\$20,000.00	10	0
Unincorporated	2	14	\$38,520,130.00	\$4,407,500.00	1547	161
Camak	0	1	\$200,000.00	\$15,000.00	1	0
Camak	1	3	\$1,200,000.00	\$407,500.00	2	0
Norwood	1	8	\$1,420,707.00	\$588,250.00	1	0
Norwood	2	1	\$650,000.00	\$550,000.00	2	0
Warrenton	2	8	\$19,340,000.00	\$730,000.00	352	3
TOTAL	-	36	\$63,430,837	\$6,718,250	1,915	164

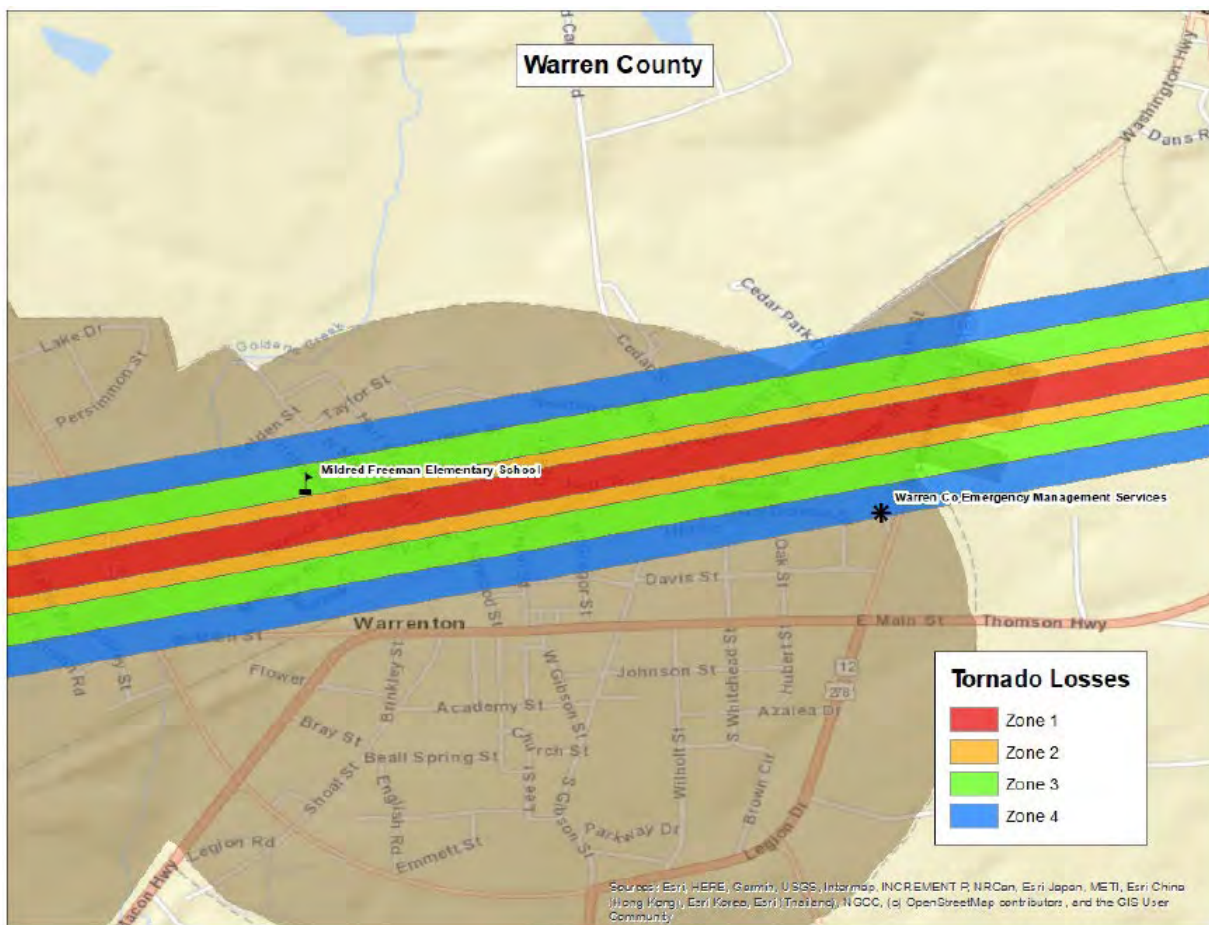
A hypothetical tornado scenario was run using an EF3 tornado was modeled to illustrate the potential impacts of tornadoes of this magnitude in the county. This model placed the tornado track through the City of Warrenton. The analysis estimated that approximately 361 buildings could be damaged, with estimated building losses of \$9 million. The building losses are an estimate of building replacement costs multiplied by the %ages of damage. The table below estimates building losses by occupancy type.

Occupancy Classification	Buildings Damaged	Building Losses
Agricultural	12	\$0
Commercial	26	\$94,477
Industrial	5	\$128,874
Residential	318	\$8,728,721
Total	361	\$8,952,072

There were two essential facilities located in the tornado path- one school and one emergency operations center. The table below outlines the specific facility and the amount of damage under the scenario.

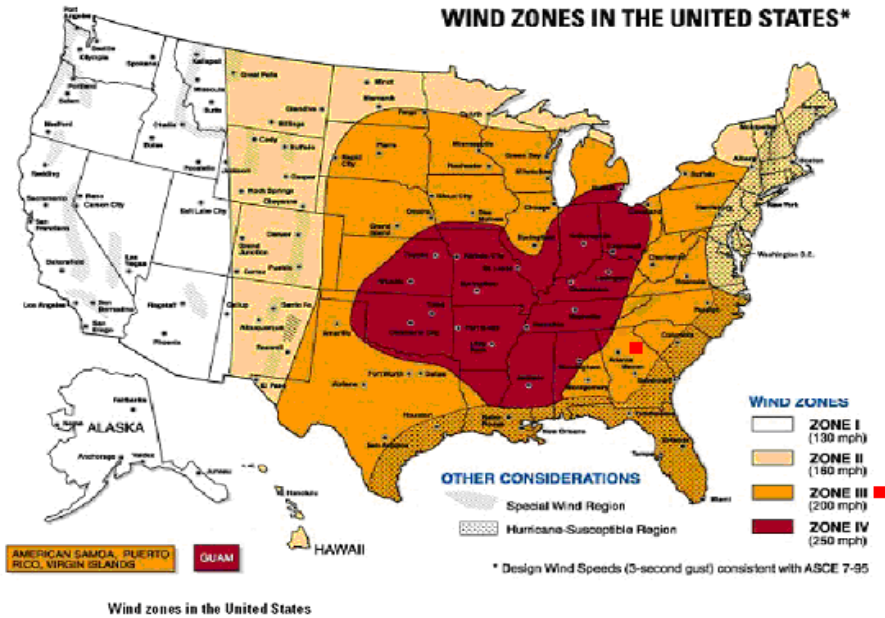
Facility	Amount of Damage
Mildred Freeman Elementary School	Minor Damage
Warren County Emergency Management Services	Minor Damage

According to the Georgia Department of Education, Mildred Freeman Elementary School’s enrollment was 321 students as of March 2022. Depending on the time of day, a tornado strike - as depicted in this scenario - could result in significant industry and loss of life.



D. Land Use & Development Trends: Warren County is located in FEMA wind zone III, which is associated with 200-mph wind speeds. Currently, the county has no land use or development trends related to **tornadoes**. Information on current and future land use projections can be found in Appendix B.

E. Multi-Jurisdictional Concerns – All of Warren County has the same design wind speed of 200 mph as determined by the American Society of Civil Engineers (ASCE) as evidenced by the map and table below.



		WIND ZONE			
		I	II	III	IV
NUMBER OF TORNADOES PER 1,000 SQUARE MILES	<1	LOW RISK	LOW RISK ★	LOW RISK ★	MODERATE RISK
	1 - 5	LOW RISK	MODERATE RISK ★	HIGH RISK	HIGH RISK
	6 - 10	LOW RISK	MODERATE RISK ★	HIGH RISK	HIGH RISK
	11 - 15	HIGH RISK	HIGH RISK	HIGH RISK	HIGH RISK
	>15	HIGH RISK	HIGH RISK	HIGH RISK	HIGH RISK

LOW RISK Need for high-wind shelter is a matter of homeowner preference

MODERATE RISK Shelter should be considered for protection from high winds

HIGH RISK Shelter is preferred method of protection from high winds

★ Shelter is preferred method of protection from high winds if house is in hurricane-susceptible region

During a natural hazard, it is imperative that all emergency personal can communicate with each other throughout the entire planning area. The county and its jurisdictions have numerous dead spots throughout the area due to topography and lack of adequate communication equipment. The county and its emergency personnel are dependent on the

private sector for towers to use for signals. If these towers are ever removed, the county will be without any adequate means to bounce signals.

The entire county has the potential to be affected by tornadoes. As a result, any mitigation steps taken related for these five severe weather events should be considered on a countywide basis to include Camak, Norwood and Warrenton. A concern is the lack of available data for the county and the city. A database needs to be created and maintained that provides information on all past and future for the four severe weather events.

- F. Hazard Summary:** Since the previous plan, there has been limited new development and no increase in population that would affect the overall vulnerability of the community to this hazard. This has been no new adoption of development or building regulations to increase or decrease the overall vulnerability to severe weather events.

Overall, tornadoes pose one of the greatest threats to Warren County in terms of property damage, injuries, and loss of life. Therefore, the committee recommends mitigation measures identified in this plan should be aggressively pursued. Tornadoes do not touch down as frequently; however, the unpredictability and the potential for excessive damage caused by tornadoes makes it imperative that mitigation measures identified in this plan receive full consideration.

To summarize, there are approximately 14,744 structures/properties in the county valued at nearly \$573 million with a population of 5,297. A breakdown of information for individual jurisdictions can be found in Appendix A and Appendix D. Specific mitigation actions for tornadoes, tropical storms, thunderstorm winds, lightning and hail events are identified in Chapter III, Section V.

SECTION VI. TROPICAL STORMS

- A. Hazard Identification:** The committee reviewed historical data from NOAA, NCEI, SHELDUS™, newspapers, and citizen interviews in researching the past effects of Tropical Storms in McDuffie County. Tropical Storms are an organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39–73 MPH (34–63 knots). In this area they generally occur as a result of a hurricane or tropical system that has come inland.

Tropical storms begin as tropical depressions over warm oceanic water, then develop into tropical cyclones. A tropical cyclone life span can last from a few hours to close to three weeks. Most tropical cyclones last approximately five to ten days. If the winds are under or up to 39 mph, it is a tropical depression. If winds speeds are between 39 to 73 mph, it is considered a tropical storm. Any storm with over 74 mph wind speed is called a hurricane. As a rule, hurricanes occur in the western Atlantic Ocean when warm, humid conditions are prevailing. Hurricanes are usually accompanied by excessive rain, thunder and lightning. When hurricanes make landfall, they typically slow down. Unfortunately, at that time, another danger often appears – tornadoes. A storm surge, which is an abnormal rise in water

levels in a coastal area, usually occurs with tropical storms. Warren County is not likely to experience a hurricane.

Category	Wind Speed	Expected Damage
One	74-95 mph	No real damage to building structures; primarily damage to trees, shrubbery, unanchored manufactured homes
Two	96-110 mph	Some roofing material, door, window damage; considerable damage to vegetation, manufactured homes.
Three	111-130 mph	Some structural damage to small residences and utility buildings; manufactured homes destroyed.
Four	131-155 mph	Some complete roof structure failure on small residences; more extensive curtain wall failures.
Five	155 mph up	Complete roof failure on many residences and industrial buildings; some complete building failures with small utility buildings blown over or away.

B. Hazard Profile: Tropical storms generally affect the entire county. Based on 72 years of historical data there have been 27 tropical storms affecting Warren County. Data were collected from NOAA, NCEI, HURDAT, the National Weather Service in Columbia, SC, and SHELDUS™. Five tropical storms have affected McDuffie since the last update. In 2020, the remnants of Hurricane Sally and Hurricane Zeta moved across the region causing gusty wind and heavy rainfall. There have been no reported injuries, deaths, or property damage in McDuffie from tropical systems.

Based on a 20-year hazard frequency cycle, there is a 95% chance of an annual tropical storm event for all jurisdictions (*See Appendix D*). The table below provides historical data on tropical storm events.

Details	Date	PrD	CrD
Remnants of Arlene	6/2/1959	0	0
Remnants of Cleo	8/30/1964	0	0
Remnants of Unnamed Storm	6/16/1965	0	0
Remnants of Abby	6/8/1968	0	0
Remnants of Agnes	6/20/1972	0	0
Remnants of Marco	10/12/1990	0	0
Remnants of Jerry	8/27/1995	0	0
Remnants of Helene	9/23/2000	0	0
Remnants of Allision	6/13/2001	0	0
Remnants of Tropical Storm Hannah	09/14/2002	0.00K	0.00K
Remnants of Tropical Depression Bill	07/01/2003	0.00K	0.00K
Remnants of Hurricane Francis	09/06/2004	0.00K	0.00K
Remnants of Hurricane Ivan	09/16/2004	0.00K	0.00K
Remnants of Hurricane Jeanne	09/26/2004	0.00K	0.00K

Details	Date	PrD	CrD
Remnants of Tropical Storm Arlene	06/12/2005	0.00K	0.00K
Remnants of Hurricane Dennis	07/10/2005	0.00K	0.00K
Remnants of Hurricane Katrina	08/29/2005	0.00K	0.00K
Remnants of Tropical Storm Tammy	10/05/2005	0.00K	0.00K
Remnants of Tropical Storm Fay	08/21/2008	0.00K	0.00K
Remnants of Hurricane Ida	11/10/2009	0.00K	0.00K
Remnants of Tropical Storm Lee	09/04/2011	0.00K	0.00K
Remnants of Hurricane Irma	09/11/2017	50.00K	0.00K
Remnants of Hurricane Michael	10/11/2018	0	0
Remnants of Tropical Storm Fay	7/7/2020	0	0
Remnants of Hurricane Sally	9/18/2020	0	0
Remnants of Hurricane Zeta	10/29/2020	0	0
Remnants of Tropical Storm Claudette	6/202/2021	0	0

C. Assets Exposed to Hazard and Estimate of Potential Losses: In evaluating assets that may potentially be impacted by the remnants of tropical storms, the committee determined that all critical facilities, as well as all public, private and commercial property, are susceptible. The table below shows assets by jurisdiction that could be at potential risk of damage from a winter storm event.

Jurisdiction	Number of Structure/Properties	Value \$	Population
Warren County (Unincorporated)	11,093	482,659,740	2,834
Camak	473	12,525,300	127
Norwood	521	6,267,373	284
Warrenton	2,657	71,539,045	2,052
TOTAL FOR COUNTY	14,744	572,991,458	5,297

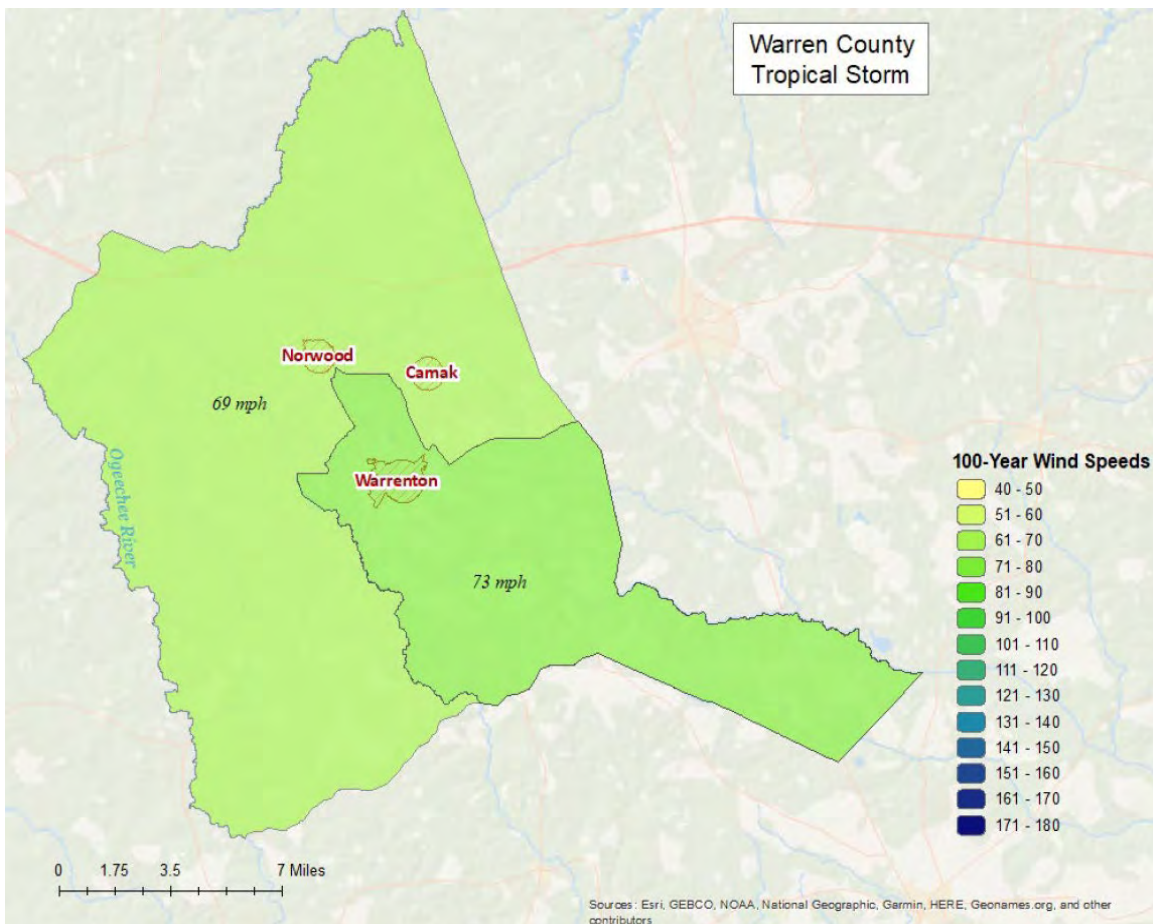
Source: Warren County Tax Assessor

Of the 36 critical facilities, 23 have a wind hazard score of two, placing the critical facilities in Zone IV which has a wind speed of 90 to 99 mph and the remaining 13 have a hazard score of one or zero. GMIS critical facility reports for wind and FEMA Worksheet #3a are located in Appendix A for each individual jurisdiction and the county as a whole. The table below shows the number of critical facilities by jurisdictions, hazard score, replacement value, content value, and daily occupancy.

Jurisdiction	Wind Hazard Score	# of Critical Facilities	Replacement Value \$	Content Value \$	Daily Occupancy	
					Day	Night
Warren County	1	1	\$980,000.00	\$20,000.00	10	0
Warren County	2	14	\$16,433,500.00	\$3,832,500.00	936	4
Camak	0	1	\$200,000.00	\$15,000.00	1	0
Camak	1	3	\$1,200,000.00	\$407,500.00	12	2
Norwood	1	8	\$1,617,376.00	\$588,250.00	98	32
Norwood	2	1	\$650,000.00	\$550,000.00	20	0
Warrenton	2	8	\$14,790,000.00	\$730,000.00	978	126
TOTAL		36	\$35,870,876.00	\$6,143,250.00	2,055	164

FEMA Hazus-MH Version 2.2 SP1 ran a hurricane scenario for probabilistic wind-damage risk assessment modeling a tropical storm storm with maximum winds of 73 mph.

Separate analyses were performed to determine wind losses from this modeled tropical storm. Wind losses were determined from probabilistic models for the tropical storm which equated to the 1% chance storm event. The figure below shows wind speeds for the tropical storm.



Buildings in Warren County are vulnerable to storm events, and the cost to rebuild may have significant consequences to the community. The table below shows a summary of the results of wind-related building damage across the county for the modeled tropical storm.

Storm Classification	Damaged Buildings	Building Damages	Total Economic Loss	Loss Ratio
Tropical Storm (73 mph)	7	\$396,540	\$525,400	0.12

In this simulation, the resulting damage would not be enough to displace households or require temporary shelters.

Hazus-MH estimates the amount of debris that will be generated by high velocity hurricane and quantifies it into three categories to determine the material handling equipment needed:

1. Reinforced Concrete and Steel Debris
2. Brick and Wood and Other Building Debris
3. Tree Debris

The amount of tropical storm related debris (in tons) for this tropical storm simulation is listed in the table below.

Brick, Wood, and Other	Reinforced Concrete and Steel	All Tree Debris	Total Debris
39 tons	0 tons	18,341 tons	18,380 tons

D. Land Use & Development Trends: Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community’s overall vulnerability to this hazard. Warren County is located in FEMA wind zone III, which is associated with 200-mph wind speeds. Currently, the county has no land use or development trends related to tropical storms. Information on current land use and future land use projections can be found in Appendix.

E. Multi-Jurisdictional Concerns: During a natural hazard, it is imperative that all emergency management personal can communicate with each other throughout the entire planning area. The county and its jurisdictions have numerous dead spots throughout the area due to lack of adequate communication equipment. The county and its jurisdictions are dependent on the private sector for towers to use for signals. If these towers are damaged or removed, the county will be without adequate means to communicate. The county and its jurisdictions are aware of the need to develop communication capabilities that will serve the community.

F. Hazard Summary: The entire county has the potential to be affected by tropical storms. In the last 72 years there have been 27 tropical storms that have affected the county with heavy rainfall and strong wind. In 201, the remnants of Hurricane Irma moved across the region knocking down trees and powerlines. This storm caused approximately \$50,000 in damage. Based on a 20-year hazard frequency cycle, there is a 95% chance of an annual tropical storm event for all jurisdictions (See Appendix D).

To summarize, there are approximately 14,474 structures/properties in the county totaling nearly \$573 million. Of the 36 critical facilities located in the county, 23 have a hazard score of two. If any of the critical facilities were to be damaged from a tropical storm, it would likely cause a serious disruption to society and the local economy.

SECTION VII. SEVERE WEATHER EVENTS (HAIL, WIND, LIGHTNING)

A. Hazard Identification: The committee reviewed historical data from the NCEI, SHELDUS™, newspapers and citizen interviews in researching the past effects of severe weather events in Warren County. The month of February marks the beginning of the severe weather season in the South, which can last until the month of August. Three types of severe weather were identified by the mitigation team: (1) thunderstorm winds, (2) hail, and (3) lightning.

The first severe weather event, thunderstorm winds, can cause death, injury, power outages, property damage, disrupt telephone service, and severely affect radio communications which may seriously impair the emergency management capabilities of the affected jurisdictions.

Thunderstorm winds arise as a result from convection (with or without lightning), with speeds of at least 50 knots (58 mph), or winds of any speed producing a fatality, injury, or damage. Severe thunderstorms develop powerful updrafts and downdrafts. An updraft of warm, moist air helps to fuel a towering cumulonimbus cloud reaching tens of thousands of feet into the atmosphere. A downdraft of relatively cool, dense air develops as precipitation begins to fall through the cloud. Winds in the downdraft can reach more than 100 miles per hour. When the downdraft reaches the ground, it spreads out forming a gust front: the strong wind that kicks up just before the storm hits. As the thunderstorm moves through the area, the full force of the downdraft in a severe thunderstorm can be felt as horizontal, straight-line winds with speeds well over 50 miles per hour. Straight-line winds are often responsible for most of the damage associated with a severe thunderstorm. Damaging straight-line winds occur over a range of scales. At one extreme, a severe single-cell thunderstorm may cause localized damage from a microburst, a severe downdraft extending not more than about two miles across. In contrast, a powerful thunderstorm complex that develops as a squall line can produce damaging winds that carve a path as much as 100 miles wide and 500 miles long.



The second severe weather event is hail. Hailstones are created when strong rising currents of air called updrafts carry water droplets high into the upper reaches of thunderstorms where they freeze. These frozen water droplets fall back toward the earth in downdrafts. In their descent, these frozen droplets bump into and coalesce with unfrozen water droplets and are then carried back up high within the storm where they refreeze into larger frozen drops. This cycle may repeat itself several times until the frozen water droplets become so large and heavy that the updraft can no longer support their weight. Eventually, the frozen water droplets fall back to earth as hailstones.

Hail can also be a destructive aspect of severe thunderstorms. Hail causes more monetary loss than any other type of thunderstorm-spawned severe weather in the United States, annually producing about one billion dollars in crop damage. Storms that produce hailstones only the size of a dime can produce dents in the tops of vehicles, damage roofs, break windows and cause significant injury or even death.

The third type of severe weather events is lightning. Lightning is a giant spark of electricity in the atmosphere between clouds, the air, or the ground. In the early stages of development, air acts as an insulator between the positive and negative charges in the cloud and between the cloud and the ground. When the opposite charges build up enough, this insulating capacity of the air breaks down and there is a rapid discharge of electricity that we know as lightning. The flash of lightning temporarily equalizes the charged regions in the atmosphere until the opposite charges build up again.

Lightning can occur between opposite charges within the thunderstorm cloud (intra-cloud lightning) or between opposite charges in the cloud and on the ground (cloud-to-ground lightning).

Lightning is one of the oldest observed natural phenomena on earth. It can be seen in volcanic eruptions, extremely intense forest fires, surface nuclear detonations, heavy snowstorms, in large hurricanes, and obviously, thunderstorms.

B. Hazard Profile: Severe thunderstorm winds, hail, and lightning can affect the entire county given the right conditions and movement of the storms. While severe thunderstorms can occur at any time of the year, the majority occur during the spring and summer months. The peak month for damaging winds in the region is July while April is the peak month for large hailstorms. The most likely time of occurrence for severe weather events is during the mid-afternoon through early evening hours.

There have been 44 severe thunderstorm wind events recorded in the last 72 years with over \$260 million in property and crop damages reported with no reports of injuries or fatalities. Wind speeds of 50 to 75 knots have been reported with these events. Since the last update, there have been five severe thunderstorm events recorded. Using data from the NCEI and SHELDUS™ databases, the 20-year hazard cycle calculated an annual chance for severe thunderstorm wind at:

- 120% for Warren County
- 120% chance for unincorporated Warren County
- 20% chance for Camak
- 30% chance for Norwood
- 35% Warrenton

The table below breaks down severe thunderstorm wind events by jurisdiction. A complete table of thunderstorm wind events can be found in Appendix A.

Location	# of Events	County-Wide Events*	Total # of events per jurisdiction
McDuffie County (Unincorporated)	12	9	22
Camak	4	9	13
Norwood	7	9	16
Warrenton	13	9	22
TOTAL FOR COUNTY	35	9	44

The second severe weather type is hail. In the last 72 years, there have been 14 hail events reported to the NCEI and SHELDUS™ databases with slightly more than \$120,000 in property and crop damages. One of the worst hailstorms in Warren County occurred on March 15, 2008, when 2.75” hail fell across the southern part of the county. This storm caused nearly \$90,000 in damage. Using a 20-year hazard cycle, frequency tables calculate an annual chance for a hail event at:

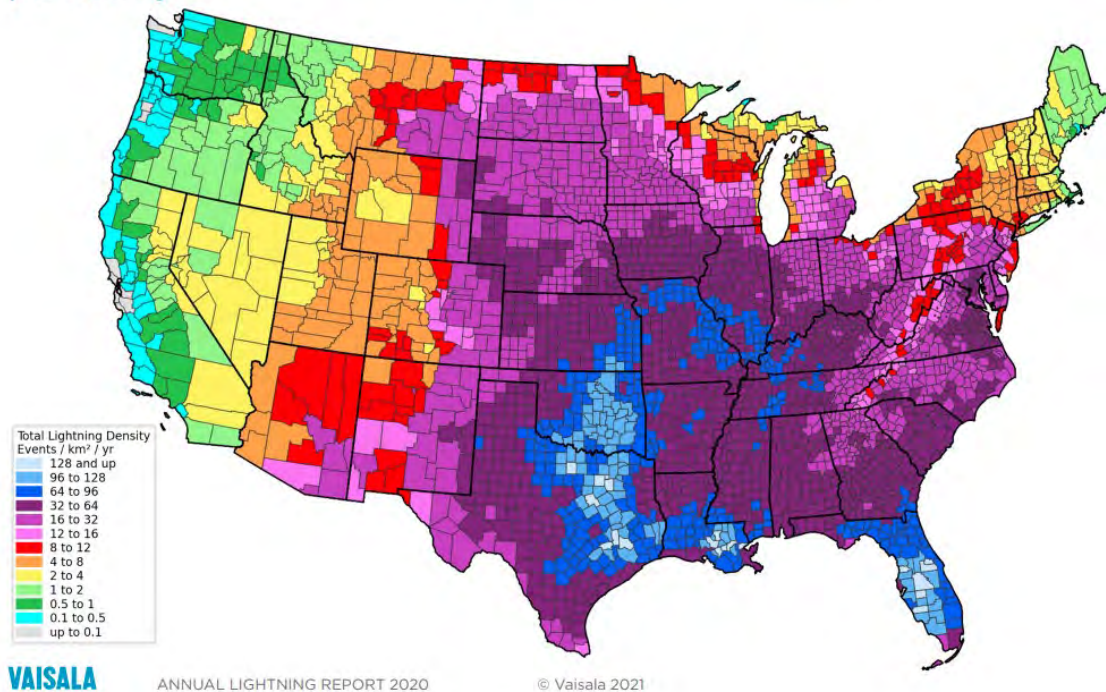
- 20% for unincorporated Warren County
- 10% in Norwood
- 25% in Warrenton

Location	# of Events	County-Wide Events*	Total # of events per jurisdiction
McDuffie County (Unincorporated)	4	1	5
Camak	1	1	2
Norwood	2	1	3
Warrenton	6	1	7
TOTAL FOR COUNTY	13	1	14

There have been no reports of hail in Camak in the past 20 years. Overall, there is a 55% chance that an annual hail event in Warren County. A complete list of all hazards is in Appendix A and hazard frequency tables for individual jurisdictions are in Appendix A.

The third severe weather type of lightning. During the spring and summer months the county experiences numerous storms that can often produce lightning. The VAISALA National Lightning Detection Network has the average total lightning density of 32-64 events/km²/year from 2015-2019. According to the Georgia Forestry Commission, there have been 71 lightning strikes recorded in the past 65 years, resulting in wildfires that burned nearly 876 acres.

Average U.S. total lightning density in 2015–2019 per county



While data was collected looking at 65 years of data, hazard frequency rate was calculated using a 20-year hazard cycle per guidance from GEMA. Based on a 20-year hazard cycle, the annual chance for a lightning strike is 170%.

C. Assets Exposed to Hazard and Estimate of Potential Losses: In evaluating assets exposed to severe thunderstorm winds, hail, and lightning, the committee determined that all critical facilities, as well as all public, private and commercial property, are susceptible to tropical storms. The table provides data from FEMA Worksheet #3a that estimates the potential loss for each jurisdiction.

Jurisdiction	Number of Structure/Properties	Value \$	Population
Warren County (Unincorporated)	11,093	482,659,740	2,834
Camak	473	12,525,300	127
Norwood	521	6,267,373	284
Warrenton	2,657	71,539,045	2,052
TOTAL FOR COUNTY	14,744	572,991,458	5,297

Of the 36 critical facilities, 23 have a wind hazard score of two, placing the critical facilities in Zone IV which has a wind speed of 90 to 99 mph and the remaining 13 have a hazard score of one or zero. GMIS critical facility reports for wind and FEMA Worksheet #3a are located in Appendix A for each individual jurisdiction and the county as a whole. The table below shows the number of critical facilities by jurisdictions, hazard score, replacement value, content value, and daily occupancy.

Jurisdiction	Wind Hazard Score	# of Critical Facilities	Replacement Value \$	Content Value \$	Daily Occupancy	
					Day	Night
Warren County	1	1	\$980,000.00	\$20,000.00	10	0
Warren County	2	14	\$16,433,500.00	\$3,832,500.00	936	4
Camak	0	1	\$200,000.00	\$15,000.00	1	0
Camak	1	3	\$1,200,000.00	\$407,500.00	12	2
Norwood	1	8	\$1,617,376.00	\$588,250.00	98	32
Norwood	2	1	\$650,000.00	\$550,000.00	20	0
Warrenton	2	8	\$14,790,000.00	\$730,000.00	978	126
TOTAL		36	\$35,870,876.00	\$6,143,250.00	2,055	164

GMIS critical facility reports for wind can be found in Appendix A. FEMA Worksheet #3a is located in Appendix D.

D. Land Use & Development Trends: Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community’s overall vulnerability to this hazard. Warren County is located in FEMA wind zone III, which is associated with 200-mph wind speeds. Currently, the county has no land use or development trends related to thunderstorm

winds, hail, or lightning events. Information on current land use and future land use projections can be found in Appendix B.

- E. Multi-Jurisdictional Concerns:** All of McDuffie County has the same design wind speed of 200 mph as determined by the American Society of Civil Engineers (ASCE) as evidenced by the map and table below.
- F. Hazard Summary:** Since the previous plan, there has been limited new development and no increase in population that would affect the overall vulnerability of the community to these hazards. This has been no new adoption of development or building regulations to increase or decrease the overall vulnerability to severe weather events.

Overall, severe weather in the form of thunderstorm winds and lightning, poses one of the greatest threats to Warren County in terms of property damage, injuries, and loss of life. Therefore, the committee recommends mitigation measures identified in this plan should be aggressively pursued.

To summarize, there are approximately 14,744 structures/properties in the county totaling \$523 million. A breakdown of information for individual jurisdictions can be found in Appendix A and Appendix D. Specific mitigation actions for severe thunderstorm events are identified in Chapter III, Section V.

SECTION VIII. WINTER STORMS

- A. Hazard Identification:** Southeastern snow or ice storms often form when an area of low pressure moves eastward across the northern Gulf of Mexico. To produce a significant winter storm in the south, not only must temperatures be cold enough, but there must also be enough moisture in the atmosphere to produce adequate precipitation. A major winter storm can last for several days and be accompanied by ice and freezing rain, high winds, heavy snowfall, and cold temperatures. These conditions can make driving very dangerous, as well as bring down trees and power lines.
- B. Hazard Profile:** Winter storms are not spatially defined and affect the entire planning area equally. The committee researched historical data from NCEI, SHELDUS™, SERCC, as well as information from past newspaper articles relating to winter storms. There have been 16 winter storm events recorded in the county in the past 50 years. These storms have caused widespread power outages and property damage.

Winter storms are not spatially defined and affect the entire planning area equally. The committee researched historical data from the NCEI, SHELDUS™, SERCC, as well as information from past newspaper articles relating to winter storms. There have been 23 winter storm events recorded in the county over the last 67 years with no estimated property damage or crop damage.

The most recent ice storm on February 11-13, 2014, had freezing rain and sleet with accumulations of up to 1½ inches of ice and 2 inches of snow and sleet across the area. The heavy sleet and snow overloaded branches that came down on top of power lines when the storm hit late Tuesday, Feb. 11. Electrical service for almost 85 % of the county was interrupted. In Warren County, customers were without power for up to five days.

The weight of the ice brought down trees, limbs and other vegetative debris that blocked roads and rights of way creating hazardous conditions. The timber industry was severely affected by the storm. Warren was one of the nine counties hit by the storm and had moderate to severe timber damage according to the GFC. The GFC examined the levels of damage within two types of pine that were most frequently damaged: the young pine stands, and pine stands on which a first thinning had recently occurred. The moderate to severe damage has branches and limbs broken from the trees with damage to the overall stand, having more than 25 % of branches damaged.

Although winter storms are infrequent in the South, they have the potential to cause excessive damage to a community and disrupt the lives of residents. Based on the hazard frequency table located in Appendix D there is a 45% chance of an annual winter storm event for the entire county.

- C. Assets Exposed to Hazard and Estimate of Potential Loss:** In evaluating assets that may potentially be impacted by the effects of winter storms, the committee determined that all critical facilities, as well as all public, private, and commercial property, are susceptible. The table below shows assets by jurisdiction that could be at potential risk of damage from a winter storm event.

Jurisdiction	Number of Structure/Properties	Value \$	Population
Warren County (Unincorporated)	11,093	482,659,740	2,834
Camak	473	12,525,300	127
Norwood	521	6,267,373	284
Warrenton	2,657	71,539,045	2,052
TOTAL FOR COUNTY	14,744	572,991,458	5,297

The GMIS does not provide a report for winter storm damage. Countywide, there are assets valued at slightly less than \$572 million at risk from a winter storm hazards. The table below shows the number of critical facilities by jurisdiction, replacement value, content value, and daily occupancy (See Appendix A, s, and Appendix D).

Jurisdiction	# of Critical Facilities	Replacement Value \$	Content Value \$	Occupancy	
				Day	Night
Unincorporated	15	\$40,620,130	4,427,500	1,697	161
Camak	4	\$1,500,000	\$422,500	3	3
Norwood	9	\$2,070,707	\$1,138,250	3	0
Warrenton	8	\$19,340,000	\$730,000	352	3

Jurisdiction	# of Critical Facilities	Replacement Value \$	Content Value \$	Occupancy	
				Day	Night
TOTAL	36	\$63,530,837	\$6,718,250	2,055	164

D. Land Use & Development Trends: Warren County currently has no land use or development trends related to winter storms. Projected changes in land use based on the joint comprehensive plan has minimal or no change to land use within the incorporated jurisdictions. The greatest change in land use and future development has a decrease in forestland that will be converted to residential. Since it is impossible to determine where future residents will move in the unincorporated areas of the county, vulnerability in terms of future buildings, infrastructure and critical facilities is not known at this time. It can be surmised that this will bring an increase in population and homes. Current and future land use tables and projections can be found in Appendix B.

E. Multi-Jurisdictional Concerns: Winter storms can potentially impact the entire County. As a result, any mitigation steps taken related to winter storms should be undertaken on a countywide basis to include Dearing and Thomson.

Another major issue is countywide communications capabilities. During a natural hazard, it is imperative that all emergency personnel can communicate with each other throughout the entire planning area. The county and its jurisdictions have numerous dead spots throughout the area due to topography and a lack of adequate communication equipment. The county and its emergency personnel are dependent on the private sector for towers to use for signals. If these towers are removed, the county will be without any adequate means to bounce signals. The County, Dearing, and Thomson are aware of the need to develop communication capabilities that will serve the entire county.

F. Hazard Summary: Since the previous plan there has been limited new development and no increase in population that would affect the overall vulnerability of the community to this hazard. This has been no new adoption of development or building regulations to increase or decrease the overall vulnerability to winter storm events.

There have been 28 winter storm events recorded in the county over the last 72 years with more than \$133,000 property damaged reported. There is a 45% chance of an annual winter storm event. Winter storms can be more accurately predicted than most other natural hazards, making it possible to give advance warning to communities. The National Weather Service issues winter storm warnings and advisories as these storms make their way south. Given the infrequency of these types of storms, southern communities are still not properly equipped to sustain the damage and destruction caused by severe winter storms. To summarize, there are approximately 14,474 structures/properties in the county valued at slightly more \$573 million. The committee recognized the dangers posed by winter storms and identified specific mitigation actions in Chapter III, Section VI.

CHAPTER III. MITIGATION STRATEGIES

Table 3.1 provides a brief description of each section in this chapter and a summary of the changes to the 2018 update plan.

Chapter III. Section	Updates to Section
I. Flooding	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
II. Dam Failure	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
III. Drought	Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
IV. Wildfire	Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
V. Tornadoes	Removed from Severe Weather Category. Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data
VI. Tropical Storms	Removed from Severe Weather Category. Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
VII. Severe Weather	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data. Added information from Hazus-MH analyses.
VIII. Winter Storms	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.

SECTION I. INTRODUCTION TO MITIGATION STRATEGY

This chapter addresses the mitigation strategy requirements of 44 CFR Section 201.6 (c)(3):

“A mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:

- i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
- ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction’s participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.
- iii) An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.
- iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.”

A. Priority Changes from Previously Approved Plan

There have been no significant priority changes from the previous plan. The goal of Warren County, Camak, Norwood, and Warrenton, is to protect the safety, health and well-being of all county citizens, and to protect public and private property and to lessen the overall effects of a hazard event.

There has been limited new development since the previous plan and no increase in population that would affect the overall vulnerability of the community from identified hazards. This has been no new adoption of development or building regulations to increase or decrease the overall vulnerability to hazard events.

B. Capability Assessment

Warren County, Camak, Norwood, and Warrenton identified current capabilities for implementing hazard mitigation activities. The capability assessment identifies administrative, technical, legal, and fiscal capabilities. This includes a summary of departments and their responsibilities associated with hazard mitigation as well as codes, ordinances, and plans already in place that contain mitigation activities or programmatic structure. The second part of the assessment examined the fiscal capabilities applicable to providing financial resources to implement identified mitigation action items. Warren County has an annual budget

of approximately \$5 million, Camak’s budget is \$96,100 Norwood’s budget is \$85,000 and Warrenton’s 2016 budget is \$2.2 million. It should be noted that mitigation action steps with high dollar amounts cannot be completed without grant funds and careful budget planning by all jurisdictions.

While not all technical and administrative skills are found in-house, all jurisdictions have access to multiple staff through the RC and can contract out with private firms or any professional services needed. The three tables below identifies administrative, technical, legal and fiscal capabilities of each jurisdiction.

Table 3. 2 Legal and Regulatory Capability (Y/N)

Regulatory Tools (ordinances, codes, plans)	Warren County	Camak	Norwood	Warrenton	Does State Prohibit
Building codes	Y	Y	Y	Y	N
Zoning ordinance	Y	Y	Y	Y	N
Subdivision ordinance or regulations	N	N	N	N	N
Special purpose ordinances (floodplain management, storm water management, soil erosion)	Y	Y	Y	Y	N
Growth management ordinances (also called “smart growth” or anti- sprawl programs)	N	N	N	N	N
Site plan review requirements	Y	N	N	N	N
General or comprehensive plan	Y	Y	Y	Y	N
A capital improvements plan	Y	N	N	N	N
An economic development plan	Y	N	N	N	N
An emergency response plan	Y	Y	Y	Y	N
A post-disaster recovery plan	N	N	N	N	N
A post-disaster recovery ordinance	N	N	N	N	N
Real estate disclosure requirements	N	N	N	N	N

Table 3.3 Fiscal Capability

Financial Resources	Warren County	Camak	Norwood	Warrenton	Accessible or Eligible to Use (Yes/No)
Community Development Block Grants (CDBG)	Y	Y	Y	Y	Y
Capital improvements project funding	Y	Y	Y	Y	Y
Authority to levy taxes for specific purposes	Y	Y	Y	Y	Y – Vote required
Fees for water, sewer, gas, or electric service	Y	Y	N	Y	Y
Impact fees for homebuyers or developers for new developments/homes	N	N	N	N	Y
Incur debt through general obligation bonds	Y	Y	Y	Y	Y
Incur debt through special tax and revenue bonds	Y	Y	Y	Y	Y – Vote required
Withhold spending in hazard-prone areas	N	N	N	N	Y
Other Grants	Y	Y	Y	Y	Y

Table 3.4 Administrative and Technical Capacity

Staff/Personnel Resources	Warren County	Camak	Norwood	Warrenton	Dept./Agency and Position
Planner(s) or engineer(s) with knowledge of land development and land management practices	Y	Y	Y	Y	Building Dept./ Code Enforcement/ Public Works CSRA RC/Contract as Needed
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Y	N	N	N	Building Dept./ Code Enforcement

Staff/Personnel Resources	Warren County	Camak	Norwood	Warrenton	Dept./Agency and Position
Planners or Engineer(s) with an understanding of natural and/or manmade hazards	Y	Y	Y	Y	Public Works/CSRA RC Staff
Floodplain manager	N	N	N	N	
Surveyors	N	N	N	N	Contracted as needed
Staff with education or expertise to assess the community's vulnerability to hazards	Y	Y	Y	Y	Public Safety/EMA
Personnel skilled in GIS and/or HAZUS	Y	Y	Y	Y	EMA/CSRA RC
Emergency manager	Y	Y	Y	Y	EMA
Grant writers	Y	Y	Y	Y	CSRA RC

C. Community Mitigation Goals

Collectively, the jurisdictions reviewed the hazard profiles, and the loss estimates in Section II and used it as a basis for developing mitigation goals, objectives and action steps. Mitigation goals are preventive measures to lessen the effect of and losses due to hazard events and are typically long-range visions adapted toward jurisdictional policy. Mitigation objectives are strategies to attain identified goals. Goals and objectives are formulated by reviewing hazard historical data, existing local plans, policy documents, regulations, and public input. Each jurisdiction developed objectives and actions unique to specific vulnerabilities or concerns within its boundaries.

Mitigation actions were developed as the means to carrying out the objectives and attain goals. All action steps are compatible with the plans, policies, and regulations of each jurisdiction. The jurisdictions must also have the legal, administrative, fiscal, and technical capacities to perform each action.

The capabilities assessment above aided in forming realistic mitigation actions. This capabilities assessment can then incorporate results of the STAPLEE worksheet to identified obstacles that may hinder the completion actions. Each jurisdiction identified and prioritized actions steps along with an implementation schedule, funding source, and coordinating individual or agency.

Based on the capabilities assessment, the STAPLEE and six categories listed above the county and all jurisdictions identified the following goals:

- Goal 1: Protect the safety, health and well-being of all county citizens;
- Goal 2: Protect public infrastructure and private property;
- Goal 3: Educate the community about natural hazards;
- Goal 4: Manage development to minimize loss;
- Goal 5: Natural Resources Protection; and
- Goal 6: Structural modifications to reduce the impacts of hazard events.

D. Identification & Analysis of Range of Mitigation Actions

The framework used to guide jurisdictions in identifying mitigation measures was developed by FEMA and is captured by the following six categories:

- **Prevention:** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples include building and construction code revisions, zoning regulation changes, and computer hazard modeling.
- **Property Protection:** Actions that involve the modifications of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include roadway elevations, improving wind and impact resistance, and flood proofing.
- **Public Education and Awareness:** Action to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples include programs that target repetitive loss properties and vulnerable populations.
- **Natural Resources Protection:** Actions that, in addition to minimizing hazard losses also preserve or restore the function of natural systems. Examples include projects to create open space, green space, and stream restoration.
- **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples include projects that control floodwater, reconstruction of dams, and construction of regional retention areas.
- **Emergency Services:** Actions that protect people and property during and immediately after a disaster event or hazard event. Examples include enhancements that provide advanced warning and redundant communications.

i. Structural and Non-Structural

Mitigation relates to concrete actions that are put into practice to reduce the risk of destruction and casualties. Mitigation is generally split into two main types of activities: Structural mitigation refers to any physical construction to reduce or avoid

possible impacts of hazards, which include engineering measures and construction of hazard-resistant and protective structures and infrastructure. Non-structural mitigation refers to policies, awareness, knowledge development, public commitment, and methods and operating practices, including participatory mechanisms and the provision of information, which can reduce risk with related impacts. Structural and non-structural actions are identified in Table 3.7.

ii. Existing Polices, Regulations, Ordinances, and Land Use

Warren County, Camak, Norwood, and Warrenton have adopted the following Mandatory codes:

- Georgia State Minimum Standard Building Code (International Building Code with Georgia State Amendments).
- Georgia State Minimum Standard One- and Two-Family Dwelling Code (International Residential Code for One- and Two-Family Dwellings with Georgia State Amendments).
- Georgia State Minimum Standard Fire Code (International Fire Code with Georgia State Amendments).
- Georgia State Minimum Standard Plumbing Code (International Plumbing Code with Georgia State Amendments).
- Georgia State Minimum Standard Mechanical Code (International Mechanical Code with Georgia State Amendments).
- Georgia State Minimum Standard Gas Code (International Fuel Gas Code with Georgia State Amendments).
- Georgia State Minimum Standard Electrical Code (National Electrical Code with Georgia State Amendments).
- Georgia State Minimum Standard Energy Code (International Energy Conservation Code with Georgia State Supplements and Amendments).
- Life Safety Code (NFPA 101).

They have also adopted the Permissive codes:

- International Property Maintenance Code.
- International Existing Building Code.

Other types of ordinances that have been adopted are:

The *Warren County Joint Comprehensive Plan 2014-2024* was adopted by resolution by the Warren County Board of Commissioners, Camak Town Council, Norwood City Council, and the Warrenton City Council. The planning process examines the current and future trends and assess the strengths and opportunities available to achieve their community vision. This document drives the decision-making process for the County Camak, Norwood and Warrenton. The Comprehensive Plan also examines existing land use and projects future land use. Existing and Future Land Use Maps can be found in Appendix B.

iii. Community Values, Historic & Special Considerations

Historical-Cultural: Warren County has one districts listed on the National Register of Historic Places, as well as several individual sites.

- The Warrenton Downtown Historic District was listed in 2002. Period of significance is from 1850 to 1974. Significant years include 1908, 1910, and 1932. The district includes 31 buildings, 1 structure, and 1 object.
- The Roberts-McGregor House circa 1835 and was listed in 1979. Architectural style is Greek Revival and Federal.
- The Warren County Courthouse circa 1909-1910 and was listed in 1980. Architectural style is Classical Revival. The architect was Walter Chamberlain.
- The Warrenton Gymnasium Auditorium circa 1937 and was listed in 2002. Location 304 South Gibson Street Warrenton, GA. Architectural style is Classical Revival. The architectural firm was Merry and Parsons.



Warren County Courthouse circa 1909-1910

Warrenton Downtown Historic District



Recreation: Public parks and recreation facilities are located in Warrenton, Camak, and Norwood. These municipalities contain a total of 20 acres of active and passive parks. Warren County is currently working with the Warren County School Board to improve recreational facilities and provide additional venues. The City of Warrenton contains multiple recreational areas including a downtown park that contains playground equipment and tennis courts. The Memorial Park located in Camak is an excellent example of a passive park and should be replicated in other areas.

- iv. **Prioritization of Actions:** Those mitigation actions given high priority are in two groups: life safety-related actions that can be accomplished relatively quickly and changes to protect critical facilities on which other emergency management systems are dependent, for example communications focal points. Those actions likely to require extended time-frames to accomplish received medium priority status.

The committee consultant used the STAPLEE worksheet (Social, Technical, Administrative, Political, Legal, Economic, Environmental) to select and prioritize the most appropriate mitigation alternatives and is in Appendix D. This methodology requires that seven categories outlined in the STAPLEE be considered when reviewing potential actions. This process helped ensure that the most equitable and feasible actions would be undertaken based on each jurisdiction's capabilities. Table 3.6 provides information regarding the review and selection criteria for alternatives.

Table 3.6

STAPLEE REVIEW AND SELECTION CRITERIA FOR ALTERNATIVES

- Is the proposed action acceptable by the community?
- Is the action compatible with current and future community values?
- Are equity concerns involved that would result in unjust treatment of any segment of the population?
- Will the proposed action cause social disruption?

TECHNICAL

- Will the proposed action achieve the stated objective and further mitigation goals?
- Will the proposed action create more problems than it solves?
- Does the proposed action resolve the problem completely or partially?
- Is it the most useful action in light of other community values?

ADMINISTRATIVE

- Does the community have the capability to implement proposed action?

- Is there someone to lead or coordinate the proposed action?
- Is there sufficient funding, staff and technical support to implement the proposed action step?
- Are there ongoing administrative needs that are required?

POLITICAL

- Is the proposed action politically acceptable?
- Have political leaders participated in the planning process?
- Who are the stakeholders for this proposed action?
- Have all stakeholders been afforded an opportunity to participate in the planning process?
- Is there public support to implement and maintain the action?

LEGAL

- Does the community have the authority to implement the proposed action?
- Is there a clear legal basis for the proposed action?
- Are there legal side effects? (i.e. could the action be construed as a taking)
- Is the proposed action allowed in the general plan?
- Will the community be liable for action or lack thereof?
- Will the proposed action be challenged?

ECONOMIC

- What is the cost-benefit of the proposed action (do the benefits exceed the cost)?
- Have initial, maintenance and administrative costs been taken into account?
- Has funding been secured for the proposed action? If not have funding sources been identified?
- Will the proposed action affect the fiscal capabilities and/ or budget of the jurisdiction?
- Will the proposed action place a tax burden on the community?
- Does the proposed action contribute to other community goals? (capital improvements, economic development)

ENVIRONMENTAL

- Will the proposed action have a positive or negative effect on the environment?
- Does the proposed action require environmental regulatory approvals?
- Does the proposed action meet local and state regulations?
- Does the proposed action impact a threatened or endangered species?

E. Introduction to Action Plan

The next two sections of Chapter III., Section II. Natural Hazards and Section III. Mitigation Actions comprise the strategies Warren County together with Camak, Norwood, and Warrenton have identified to reduce the effects of natural hazards. Mitigation actions given high priority are in two groups: (1) life safety-related actions that can be accomplished relatively quickly and (2) changes to protect critical facilities on which other emergency management systems are dependent, for example communications focal points. Those actions likely to require extended time frames to accomplish received medium priority status.

SECTION II. NATURAL HAZARDS

A. Flooding Action Plan

The committee determined that due to the presence of flood plains in the county efforts to reduce the level of exposure to flooding should be considered. In previous flooding instances, damage has been sustained primarily to roads, bridges and natural resources. Specific mitigation measures identified by the committee are designed to lessen the effects of such damage to new and existing structures in the future.

Objective A1. Improve the effectiveness of existing flood insurance programs.

Objective A2. Evaluate and improve the present drainage infrastructure.

Objective A3. Warn citizens when the potential for flooding exist.

Objective A4. Lessen the impact to existing buildings, critical facilities and infrastructure due to flooding.

Objective A5. Limit future development in flood prone areas.

Objective A6. Reduce the threat of water contamination caused by flooding.

B. Dam Failure Action Plan

Dam failure mainly affects areas that are downstream of the event. Further study of this type event is required to determine where property damage and loss of life has the greatest potential to occur. Critical facilities and vulnerable populations are located in all jurisdictions as well as the unincorporated areas of the County. As a result, any mitigation steps taken related to dam failure events should be undertaken on a countywide basis and specifically include all incorporated jurisdictions.

Objective B1. Identify at risk population and properties.

Objective B2. Develop proposal to regulate protective measures for dam breach zones

C. Drought Action Plan

As indicated in Chapter II, Section III, drought conditions can cause costly damage to crops. However, from a danger or hazard perspective, the greatest threat posed by drought conditions is from potential wildfires. As 46 percent of the county is made up of forest and woodlands, the possibility for wildfires is distinct and poses a significant threat. In general, wildfires are the result of

dry conditions combined with lightning or carelessness. The committee determined that mitigation goals were necessary to prevent crop damage, as well as damage to new and existing structures.

Objective C1. Ensure that there is an adequate water supply during periods of drought.

Objective C2. Educate citizens on water conservation issues.

D. Wildfire Action Plan

As indicated in Chapter II, Section III, wildfires have the potential to cause costly damage in Warren County. From a danger or hazard perspective, the greatest threat posed by wildfire is the damage to forest, woodlands and agriculture property. The possibility for wildfires is distinct and poses a significant threat to the county. Forest fires are generally the result of dry conditions combined with lightning or carelessness. The committee determined that mitigation goals were necessary to prevent damage to undeveloped areas of the county as well as damage to new and existing structures caused by wildfires.

Objective D1. Ensure that adequate fire protection is available.

Objective D2. Reduce threat of wildfire occurrence.

Objective D3. Increase public awareness of wildfire dangers.

E. Tornadoes

As with many Georgia communities, if a tornado were to strike Warren County, significant damage to both property and agricultural crops could result. In addition, the potential for injuries and loss of life is substantial due to the unpredictability and violent nature of these storms. The committee recognizes the important role advance planning plays in the mitigation process. There is great benefit in identifying appropriate steps that can be taken to help minimize losses to new and existing structures in Warren County because of a severe weather event. As indicated in Chapter II, Section IV, of all of the natural hazards profiled in this plan, tornados have the potential to inflict the greatest amount of damage. The committee has identified several courses of action that both local officials and citizens can use in their mitigation efforts against the effects of tornados to both new and existing structures.

Objective E1. Minimize damage to property from severe weather events.

Objective E2. Minimize damage to public buildings and critical facilities to ensure continual operations of vital services.

Objective E3. Protect vulnerable populations from the effects of severe weather events.

Objective E4. Educate the public including citizens and business owners on disaster preparedness and safety.

F. Tropical Storms

If a tropical storm were to move near or over Warren County, significant to damage to both property and agricultural crops could result. There is also the potential for injuries and loss of life. While most damage from hurricanes and tropical storms occur along coastal areas, damage from high wind, tornadoes, and flooding can occur well inland. Therefore, the committee would like to

focus on goals and objectives that will increase public awareness of these storm in our community and mitigation strategies that will save lives through proper planning.

- Objective F1.** Minimize damage to property from tropical storm events.
- Objective F2.** Minimize damage to public buildings and critical facilities to ensure continual operations of vital services.
- Objective F3.** Protect vulnerable populations from the effects of tropical storms.
- Objective F4.** Educate the public, including business owners on disaster preparedness activities.

G. Severe Weather (Severe Thunderstorm Wind, Hail, and Lightning)

As with many Georgia communities, if a severe weather events were to strike Warren County, significant damage to both property and agricultural crops could result. In addition, the potential for injuries and loss of life exists due to the violent nature of these storms. The committee recognizes the important role advance planning plays in the mitigation process. There is great benefit in identifying appropriate steps that can be taken to help minimize losses to new and existing structures in McDuffie County because of a severe weather wind event. As indicated in Chapter II, Section IV, of all of the natural hazards profiled in this plan, severe weather events are the most frequently occurring natural hazard in the county and have the greatest chance of affecting the county each year. The committee has identified several courses of action that both local officials and citizens can use in their mitigation efforts against the effects of severe thunderstorm winds.

- Objective G1.** Minimize damage to property from severe weather events.
- Objective G2.** Minimize damage to public buildings and critical facilities to ensure continual operations of vital services.
- Objective G3.** Protect vulnerable populations from the effects of severe weather events.
- Objective G4.** Educate the public, including business owners on disaster preparedness activities.

H. Winter Weather

Within Warren County, and the southeast region in general, there is great concern over the threat of winter storms. Although this area does not typically receive the amounts of snow and ice that other regions do, nor do they experience winter storms as frequently as other regions, Warren County and other southeastern communities must be prepared for the damage caused by winter storms. The fact that winter storms hit Warren County infrequently results in other problems, such as lack of equipment and supplies to combat treacherous winter storm conditions. In Warren County, the formation of ice on roads and bridges, tree limbs, and power lines is the cause of most damage. In Chapter II, Section V additional winter storm hazards are addressed, as well as information related to potential losses for the county. The committee has determined that several steps could be undertaken to minimize the effects of winter storms to protect the health and safety of citizens, as well as damage to new and existing structures.

- Objective H1.** Minimize damage to property from winter weather events.

- Objective H2.** Minimize damage to public buildings and critical facilities to ensure continual operations of vital services.
- Objective H3.** Protect vulnerable populations from the effects of severe weather events.
- Objective H4.** Educate the public including citizens and business owners on disaster preparedness and safety.

I. All Hazards

The purpose of this section is to allow the committee to recommend mitigation measures within this plan that transcend individual hazards. Certain common mitigation measures are needed regardless of the specific hazard event. Rather than list these multiple times within each different hazard category, the committee decided to list these “all-hazards” mitigation measures within a separate section of the plan. The goal with these mitigation measures is again to minimize the loss of life and property, and to prevent disruption of services to the public to the greatest extent possible.

- Objective I1.** Ensure communication capabilities exist between all Emergency Service Personnel and Agencies.
- Objective I2.** Ensure the ability to travel for county residents, organizations, and providers of essential services such as Law Enforcement Personnel, hospitals and utilities after a hazard event.
- Objective I3.** Protect critical facilities from the effects due to power outages because of a hazard event to ensure a continuation of all vital services.
- Objective I4.** Provide adequate notification to citizens of Warren County pertaining to hazard event.
- Objective I5.** Guarantee all evacuation plans are up to date and adequate to meet the needs of the citizens of Warren County.
- Objective I6.** Guarantee that all Emergency Response Plans are up to date and adequate to meet the needs of citizens of Warren County.
- Objective I7.** Ensure all emergency shelters are ready to meet the needs of the population of Warren County, Camak, Norwood, and Warrenton,
- Objective I8.** Provide the citizens of Warren County educational information on Emergency Preparedness.
- Objective I9.** Provide the citizens of Warren County with accurate and timely information pertaining to Emergency Preparedness.
- Objective I10.** Collect accurate and complete data pertaining to hazard events within Warren County, Camak, Norwood, and Warrenton,

MITIGATION ACTIONS

Table 3.7

Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
1.	Investigate greater participation Level in the CRS	Warren/Camak/ Norwood/ Warrenton	BOC/City Councils	Flood	A1, A2	1, 2, 4, 5	Non-Structural	Staff Time	General Funds	3 years	Stalled due to funding	Low
2.	Continue to assess storm water runoff.	Warren/Camak/ Norwood/ Warrenton	Public Works	Flood	A5, B2	2, 6	Non-Structural	Staff time	General Funds	1 year and Continual	Ongoing	High
3.	Construct as needed, more storm water retention facilities, storm drain improvements and channel improvements to protect existing and new developments.	Warren/Camak/ Norwood/ Warrenton	BOC/City Council/ Public Works	Flood/ Drought	A3, C3	2, 6	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	2 years and Continual	Ongoing	High
4.	Clear run-off and water retention ditches.	Warren/Camak/ Norwood/ Warrenton	Public Works/Road Dept.	Flood	A5	2, 1	Structural	Staff Time	General Fund,	1 year and Continual	Ongoing	High
5.	Seek funding for communication towers and voice repeater systems.	Warren/Camak/ Norwood/ Warrenton	EMA/Police/ Sheriff	All hazards	I1, I9	1	Structural	\$750,000	General Fund, FEMA, CJCC, JAG, USDA, DOJ	2 years and Continual	Ongoing	High
6.	A Storm drainage project has been identified along Pates Mill Rd.	Warren County	Public Works	Flood	A5	2, 1	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	This project will be completed if and when funding is available	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
7.	A Storm drainage project has been identified along Prospect Church Rd.	Warren County	Public Works	Flood	A5	2, 1	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	5 years	This project will be completed if and when funding is available	High
8.	A Storm drainage project has been identified along east side of Hwy 278	Warren County	Public Works	Flood	A5	2, 1	Structural	2,000,000	CDBG, USDA, EPA, DNR, General Fund,	5 years	This project will be completed if and when funding is available	High
9.	A Storm drainage project has been identified along Shoals Rd.	Warrenton	Public Works	Flood	A5	2, 1	Structural	500,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	This project will be completed if and when funding is available the city will apply for funds through CDBG in 2019	High
10.	A Storm drainage project has been identified along Cronin Rd	Warren County	Public Works	Flood	A5	2, 1	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	This project will be completed if and when funding	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
											is available	
11.	A Storm drainage project has been identified along Tucker Rd	Warren County	Public Works	Flood	A5	2, 1	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	5 years	This project will be completed if and when funding is available	High
12.	Identify flood prone properties and seek funding to acquire and convert to low impact uses.	Warren/ Warrenton/ Camak/ Norwood	BOC/City Councils	Flood	A6	1, 2, 4, 5	Non-Structural	Staff time	CDBG, USDA, EPA, DNR	2 years	Ongoing	Medium
13.	Identify and move property owners who are in areas continually subject to flooding.	Warren/ Warrenton/ Camak/ Norwood	BOC/City Councils	Flood	A6	1, 2, 4, 5	Non-Structural	Staff time	CDBG, USDA, EPA, DNR	2 years	Stalled due to lack of funding	Medium
14.	Promote the preservation of areas in and around watercourses.	Warren	BOC/Public Works	Flood	A6	1, 2, 4, 5	Non-Structural	Staff time	CDBG, USDA, EPA, DNR	2 years and continual	Ongoing	High
15.	Add greenspace to known flood prone areas.	Warren/Camak/ Norwood/ Warrenton	BOC/City Councils	Flood	A6	1, 2, 4, 5	Non-Structural	Staff time	CDBG, USDA, EPA, DNR	2 years and continual	Ongoing	Medium
16.	Evaluate existing water system upgrade as needed	Warren/Camak/ Norwood/ Warrenton	Public Works	Flood/ Drought/ Wildfire	A7, C1, D1	1, 2, 6	Structural	1,000,000	General Fund, CDBG, USDA, EPA, DNR	1 year and Continual	Ongoing	High
17.	Investigate methods to reduce	Warren/Camak/ Norwood/	BOC/City Council	Flood	A1	1, 2, 5	Non-Structural	100,000	USDA, EPA, DNR	2 years	Ongoing	Medium

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
	non-point source pollution.	Warrenton										
18.	Conduct dam breach analysis to identify assets and population at risk in the event of a failure.	Warren County	BOC	Dam Failure	B1, B2	1, 2,	Non-Structural	100,000	General Funds, DNR	3 years	Stalled due to funding	Medium
19.	Install dam failure alert systems.	Warren	BOC	Dam Failure	B4	1, 2, 6	Structural	50,000	General Funds, DNR	4 years	Ongoing As funding becomes available	Medium
20.	Enact a program to educate the residents about water conservation issues	Warren/Camak/Norwood/Warrenton	BOC/City Councils/Water Dept.	Drought	C1, C2	1, 3	Non-Structural	\$2,000.00	USDA, EPA, DNR, General Funds	1year and Continual	Ongoing	High
21.	Increase public awareness of watering restrictions and bans.	Warren/Camak/Norwood/Warrenton	BOC/City Councils/Water Dept.	Drought	C1, C2	1, 3	Non-Structural	Staff Time	General Funds	1year and Continual	Ongoing	High
22.	Develop a public awareness campaign to promote water-saving campaigns (i.e. low-flow water saving devices)	Warren/Camak/Norwood/Warrenton	BOC/City Councils/Public Works	Drought	C1, C2	1, 3	Non-Structural	Staff Time	General Funds	1year and Continual	Ongoing	High
23.	Promote increased surface water usage for irrigation.	Warren/Camak/Norwood/Warrenton	BOC/City Councils/Public Works	Drought	C1, C2	1, 3	Non-Structural	Staff Time	General Funds	1year and Continual	Ongoing	High
24.	Promote usage of surface artesian flow for irrigation.	Warren/Camak/Norwood/Warrenton	BOC/City Councils/Public Works	Drought	C1, C2	1, 3	Non-Structural	Staff Time	General Funds	1year and Continual	Ongoing	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
25.	Continue training of firefighters to include wildland fire training.	Warren/Camak/ Norwood/ Warrenton	EMA/Fire Depts.	Wildfire	D1	1, 2	Non-Structural	100,000	General Funds, FEMA	1year and Continual	Ongoing	High
26.	Seek funding for more paid firefighters	Warren/Camak/ Norwood/ Warrenton	EMA/Fire Depts.	Wildfire	D1	1, 2	Non-Structural	\$200,000	General Funds, FEMA	1year and Continual	Ongoing As funding becomes available	High
27.	Seek funding for needed firefighting equipment	Warren/Camak/ Norwood/ Warrenton	EMA/Fire Depts.	Wildfire	D1	1, 2	Non-Structural	1,500,000	General Funds, FEMA	1 year and Continual	Ongoing As funding becomes available	High
28.	Inventory and replace or install more fire hydrants as needed.	Warren/Camak/ Norwood/ Warrenton	Public Works/ Fire Depts.	Wildfire	D1	1, 2	Structural	\$100,000	General Funds, FEMA	1year and Continual	Ongoing As funding becomes available	High
29.	Seek funding fire engines, burhs trucks, equipment trucks and tankers for local fire departments.	Warren/Camak/ Norwood/ Warrenton	EMA/Fire Depts.	Wildfire	D1	1, 2	Non-Structural	\$500,000	General Funds, FEMA	1year and Continual	Ongoing As funding becomes available	High
30.	Relocate fire station in Camak to ensure response capabilities 100% of the time	Warren/Camak/	EMA/City Council	Wildfire	D1	1, 2	Structural	\$500,000	General Funds, FEMA	2 years	Stalled due to funding	High
31.	Enforce defensible space (30-ft minimum setbacks) between buildings and flammable brush and forestland where possible.	Warren/Camak/ Norwood/ Warrenton	BOC/City Councils/	Wildfire	D2, D3	1, 2, 3	Structural	Staff time	General Funds, FEMA	1 year and Continual	Ongoing	Medium

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
32.	Continue following GFC service of construction and maintenance of firebreaks around forests and structures, along abandoned roadbeds.	Warren/Camak/ Norwood/ Warrenton	BOC/City Councils/ Planning and Zoning	Wildfire	D2, D3	1, 2, 3	Non-Structural	Staff Time	General Fund	1 year and Continual	Ongoing	High
33.	Strictly follow GFC's guidelines for control burns and permits.	Warren/Camak/ Norwood/ Warrenton	BOC/City Councils/ GFC	Wildfire	D2, D3	1, 2, 3	Non-Structural	Staff Time	General Funds,	1 year and Continual	Ongoing	High
34.	Investigate the feasibility of Implementing the Firewise Community Initiative where appropriate	Warren/Camak/ Norwood/ Warrenton	BOC/City Councils/	Wildfire	D2, D3	1, 2, 3	Non-Structural	\$25,000	General Funds, GFC	3 years	Deferred due to lack of staff and coordination	Medium
35.	Improve public awareness of wildfire techniques and awareness of wildfire dangers.	Warren/Camak/ Norwood/Warrenton	EMA/ Fire Depts.	Wildfire	D2, D3	1, 2, 3	Non-Structural	\$25,000	General Funds	2 years and Continual	Ongoing	High
36.	Equip all county and city recreation parks with adequate early severe weather warning and lightning detection devices.	Warren/Camak/ Norwood/ Warrenton	BOC/City Councils/ Recreation Dept.	Tornado/ Severe Weather	E1, E2, E3 G1,G2,G3 H1,H2,H3	1, 2, 6	Structural	75,0000	General Funds, FEMA	2 years	Ongoing As funding becomes available	Low
37.	Inspects public buildings and critical facilities and retrofit to reinforce windows, doors, and roofs as needed	Warren/Camak/ Norwood/ Warrenton	EMA/ Fire Code Enforcement and Building Inspection	Severe Weather, Winter Storms	G1, G2, G3 H1,H2,H3	1, 2, 6	Structural	250,000	General Funds, FEMA	3 years	Ongoing No structure has been identified to date for retrofit.	Medium

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
38.	Enforce building codes for all new buildings and critical facilities.	Warren/Camak/ Norwood/ Warrenton	Code Enforcement and Building Inspection	Flood, Severe Weather, Winter Storm	A5, A6, G1, G2	1, 2, 6	Structural/N on-Structural	Staff Time	General Funds, FEMA	1 year and Continual	Ongoing	High
39.	Install lightning rods in high value critical facilities.	Warren/Camak/ Norwood/ Warrenton	EMA/ Code Enforcement and Building Inspection	Severe Weather	G1, G2, G3	1, 2, 6	Structural	100,000	General Funds, FEMA	1 year and continual	Ongoing	Medium
40.	Review current Emergency Response Plan and update when needed.	Warren County EMA	EMA	All hazards	H6,H8	1, 2, 3	Non-Structural	Staff Time	General Funds	2 years and continual	Ongoing	High
41.	Review current evacuation plans paying particular attention to vulnerable populations and update as needed.	Warren County EMA	EMA/BOE	Flood, Wildfire, Severe Weather, Winter Storm	A-H5, A-H8	1, 2, 3	Non-Structural	Staff Time	General Funds	2 years and continual	Ongoing	High
42.	Develop a public awareness program about the installation of lightning grounding systems on critical infrastructure, residential and business properties.	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ EMA	Severe Weather	G4	1, 2, 3	Non-Structural	Staff Time	General Funds	2 years	Stalled due to lack of staff	High
43.	Inventory all critical facilities and assess generator needs. Install generators where needed.	Warren/Camak/ Norwood/ Warrenton	EMA	All hazards	I3	1, 2, 3, 6	Structural/N on-Structural	300,000	General Funds, FEMA	1 year and continual	Ongoing As funding becomes available	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
44.	Seek funding to ensure all current and future emergency shelters have back-up generators.	Warren/Camak/ Norwood/ Warrenton	EMA	All hazards	I7	1, 2, 3, 6	Structural/N on-Structural	250,000	General Funds, FEMA	3 years	Ongoing As funding becomes available	High
45.	Educate the public on shelter locations and evacuation routes	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ EMA/BOE	Flood, Wildfire, Severe Weather, Winter Storm	I8, A-19	3	Non-Structural	Staff Time	General Funds	1 year and continual	Ongoing	High
46.	Develop public education and awareness programs regarding severe weather events to include home safety measures, purchase of weather radio and personal safety measures before, during and after an event.	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ EMA	Flood, Wildfire, Severe Weather, Winter Storm	I8, I9	3	Non-Structural	\$10,000	General Funds, FEMA	2year and continual	Ongoing	High
47.	Implement a winter storm education program to include winterization of home and/or business and what to do before, during and after.	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ EMA	Winter Storm	H1	3	Non-Structural	\$25,000	General Funds	2 year and continual	Ongoing	High
48.	Review current codes to comply with and enforce the State building code with criteria for design snow	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ Planning and Zoning	Winter Storm	H2	1, 2, 3,	Non-Structural	Staff Time	General Funds	Continual	Ongoing	Medium

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
	load for buildings and structures.											
49.	Create a database to record hazard event information.	Warren/Camak/ Norwood/ Warrenton	EMA	All hazards	I10	1, 2, 3,	Non-Structural	Staff Time	General Funds	3 years	Stalled due to lack of staff	Low
50.	Inventory existing road equipment and purchase needed equipment to maintain roads before, during and after a hazard event.	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ Road Dept.	Flood, Severe Weather, Winter Storm	I2	1, 2	Non-Structural	200,000	General Funds, FEMA	2 years	Ongoing As funding becomes available	Medium
51.	Develop coordinated management strategies for deicing, snow plowing, and clearing roads of fallen trees and debris	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ Road Dept./EMA	Flood, Severe Weather, Winter Storm	I2	1, 2	Non-Structural	Staff Time	General Funds	2 years	Ongoing	Medium
52.	Promote the construction of safe rooms in shelter areas and in public buildings.	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ EMA	Flood, Wildfire, Severe Weather, Winter	I3	1, 2, 6	Structural	2,500,000	General Funds, FEMA	3 years	Ongoing	Medium
53.	Update 911 equipment as needed.	Warren	EMA/ Sheriff	All hazards	I1,I3	1, 2, 6	Structural	150,000	General Funds, FEMA	1 year and Continual	Ongoing As funding becomes available	High
54.	Install weather Service Radio Transmitter on existing towers to provide coverage	Warren/ EMA/	EMA/	All Hazards	I4,8,I9	1, 2	Structural	150,000	General Funds, FEMA	2 years and continual	Ongoing As funding becomes available	High

2023 Multi-Hazard Pre-Disaster Mitigation Plan Update

Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
	of NWS transmissions											
55.	Request that all new education facilities be designed to serve as public shelters for emergency purposes.	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/ BOE	All hazards	I7	1, 2, 6	Non-Structural	Staff Time	General Funds	1 year and Continual	Ongoing	High
56.	Promote and participate in the following American Red Cross Programs • Disaster Resistant Neighborhoods Program • Business and Industry Preparedness Seminar • Community Disaster Education Preparedness presentations	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/	All hazards	I4, I8, I9	1, 2, 3	Non-Structural	10,000	General Funds, FEMA	2 years and Continual	Ongoing	Medium
57.	Work with local cable and radio providers to enhance and broadcast public education on Emergency Preparedness.	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/	All hazards	II	1, 2, 3	Non-Structural	Staff Time	General Funds	1 year and Continual	Ongoing	High
58.	Implement GIS technology on fire and emergency management vehicles so data can be readily available in the	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/	Flood, Wildfire, Severe Weather, Winter Storm	I9,I10	1, 2, 6	Non-Structural	50,000	General Funds, FEMA	1 year and Continual	Ongoing	High

2023 Multi-Hazard Pre-Disaster Mitigation Plan Update

Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
	field so more accurate, timely assessments for future mitigation planning activities.											
59.	Seek funding to purchase ambulance	Warren/EMA/EMS	EMA/EMS	All Hazards	I4,I8,I9	1, 2	Non-Structural	500,000	General Funds, FEMA	2 years and continual	Ongoing Applied in 2016 but did not receive funding. Will apply again.	High
60.	Pave Roads in county that are unpassable due to flooding	Warren County	BOC/ Road Dept.	Flood, Severe Weather	A1, A2 G1,G2	1, 2, 4, 5	Structural	\$1,500,000	General Funds T-SPLOST FEMA, DOT	2 years And continual	Ongoing paving will be performed as funds are available.	Medium
61.	Provide NOAA weather radios to elderly and handicap populations (moved to all hazards).	Warren/Camak/ Norwood/ Warrenton	EMA	Flood, Wildfire, Severe Weather, Winter Storm	I4,I8,I9	1, 2,3	Non-Structural	\$50,000	General Funds, FEMA	2 years	Stalled due to no funding	Medium
62.	Review existing comprehensive, development and land use plans to address flood prone areas.	Warren/Camak/ Norwood/ Warrenton	BOC/ City Councils/	Flood	A1, A2	1, 2, 4, 5	Non-Structural	Staff Time	General Funds	3 years and continual	Ongoing	Medium
63.	Preform procurement to contract with debris removal firm to have	Warren/ Warrenton	BOC/ City Councils/	Winter Storm, Severe Weather, Flood,	I2,I4	1, 2	Non-Structural	Staff Time	General Funds	3 months	New	Low

2023 Multi-Hazard Pre-Disaster Mitigation Plan Update

Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
	contract in place before hazards to ensure firm can move in immediately.			Wildfire,								

- A. New Buildings and Infrastructure:** All objectives and action steps are applicable to new buildings and infrastructure.
- B. Existing Buildings and Infrastructure:** All objectives and action steps are applicable to existing buildings and infrastructure except adopt building codes. Enforcing building codes on existing buildings is not always feasible. Buildings maybe retrofitted but cannot always be brought up to stricter regulations.
- C. Special Multi-Jurisdictional Strategy and Considerations:** During a natural hazard, it is imperative that all emergency personal can communicate with each other throughout the entire planning area. The County has numerous dead spots throughout the area due to topography and lack of adequate communication equipment. The County and its emergency personnel are dependent on the private sector for towers to use for signals. If these towers are ever removed, the County will be without any adequate means to transmit signals.

Another concern is the lack of available data for the county and individual jurisdictions on hazard events. A database needs to be created and maintained that provides information on flooding events that occur. This database should include information such as location (road names, neighborhoods, GPS coordinates, etc.), damages reported, power outages, road closures, county and city personal that are dispatched to the area, etc.

D. Completed and Deleted Action Steps from Original Plan:
Flood

- All jurisdiction participate in the NFIP.
- Review existing floodplain zoning/ordinances update and adopt floodplain ordinances as needed. Completed.
- Adopt ordinances to control building and development in known flood prone areas. Completed
- Cap wells not in use and increase wellhead waterproofing. Deleted deals with private property. Added back as an education component.
- Ensure wellhead elevations are above known flooding levels. Handled by Health Dept.
- Review set back requirements from top of banks of creeks and from top of banks of major rivers. Completed set back requirements are consistent with the DNR guidelines.

Dam Failure

- Perform Field Survey including dams, spillways, downstream cross section, and downstream structures with breach zone. Removed due to funding constraints.

Drought

- Identify and inventory all vulnerable agricultural properties to include livestock and develops a protective action plan. Removed, as this is private property.

- Study the range of federal support programs available to assist Warren County's agriculture community. Removed as this is private property and all farmers know about assistance.
- Water Use Ordinances was removed from the plan. All jurisdictions have adopted GA EPD guidelines.
- Map all wells with a flow of 100 gallons per minute or more for use by Emergency management during a drought. These are private wells. Action step removed.
- Conduct a study of proactive measures for Warren County agriculture to include livestock watering ponds and capturing storm water runoff. Removed since this is private property.
- Seek funding for wells that have gone dry and been removed. Funding does not exist for this activity as a grant. It is a loan and must be applied for by private citizens.

Severe Weather

- Inspect all county and municipal critical facilities for proper grounding. Completed.
- Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations. Completed
- To the greatest extent possible, identify all owners of inadequately installed manufactured homes offer a financial incentive to retrofit them with an appropriate level of anchoring and support. Removed.
- Install surge protectors on critical facilities' electronic equipment in essential county and city facilities. Completed.

Winter Storm

- Encourage harvesting of trees along utility and road corridors, preventing potential winter storm damage. Removed. This is done by electric companies.
- Place all utility lines underground in new subdivisions. There are no subdivision regulations in Warren County. This was removed.

All Hazards

- Upgrade E-911 system. Completed
- County has implemented CODE RED.
- Equip school buses with Automated Vehicle Location. Removed this decision will be made by the Board of Education.
- Provide boat owners with safety tie down procedures with boat registration. Removed. Information will be posted on EMA site as needed.
- Create an EMA website with information pertaining to Emergency Preparedness. Created a Facebook page to promote preparedness

E. Unchanged and/or Ongoing Action Steps: The following mitigation steps remain in the plan. It should be noted that several action steps listed as ongoing will be implemented when funding becomes available. Based on the STAPLEE Criteria these unchanged action steps were found to be relevant in limiting the damage to people and property from a

natural hazard. All action steps have been reformatted to meet the action step criteria established by GEMA and FEMA after the original plan was approved. The new table format from GEMA Plan Update Guidance Template 2013 has been used to organize action steps. STAPLEE worksheet can be found in Appendix D for each action step.

Flood:

- Investigate greater participation Level in the CRS. This step is stalled due to funding and lack of resources.
- Continue to assess storm water run-off.
- Seek funding to construct more storm-water retention facilities, storm-drain improvements and channel improvements to protect existing and new developments.
- Recommend that run-off and water retention ditches be cleared.
 - This is being done by the Warren County Road Department and is a continual goal.
- Promote the preservation of areas in and around watercourses.
- Add greenspace to known flood prone areas.
- Review existing comprehensive, development and land use plans to address flood prone areas. This was done during the 2004-2024 Comprehensive Plan Update but will be a continual action step.

Dam Failure:

- Conduct dam breach analysis to identify assets and population at risk in the event of a failure.
- Draft ordinance-prohibiting development in dam breach zone.
- Install dam failure alert systems.

Drought

- Evaluate existing water system.
- Increase public awareness of watering restrictions.
 - Adopted the Georgia DNR Drought Management Plan and the Statewide Outdoor Water Use Schedule. The Georgia Water Stewardship Act went into effect statewide on June 2, 2010.
- Educate citizens on water conservation.
- Promote increased surface water usage for irrigation.
- Promote usage of surface artesian flow for irrigation.

Wildfire

- Seek funding to install more fire hydrants.
- Review previous firefighter training and implements a schedule for the ongoing training of all firefighters to include wildland fire training.
- Seek funding for more paid firefighters
- Seek funding for needed firefighting equipment. Over the last five years 8 sets of firefighter protective clothing have been purchased for approximately\$ 16,000

- Seek funding for more fire tankers (2000 to 3000 gallons) for local fire departments.
- Increase public awareness of wildfire dangers by publishing articles in the local newspaper and providing bulletins to local churches and the schools.
- Recommend a defensible space (30-ft minimum setbacks) between buildings and strictly follow GFC guidelines for control burns and permits.
- Increase public awareness of wildfire dangers around the home and community, such as lighted matches, cigarettes, trash, and the process for obtaining burn permits by publishing articles in the local newspaper and providing bulletins to local schools.
- Participate in the Firewise Community Initiative where appropriate.

Severe Weather

- Inspect public buildings and critical facilities and retrofit to reinforce windows, doors, and roofs as needed.
- Provide NOAA weather radios to elderly and handicap populations.
- Review current evacuation plans paying attention to vulnerable populations and update as needed.
- Review and current Emergency Response Plan and update when needed.
- Install weather Service Radio Transmitter on existing towers to provide coverage of NWS transmissions
- Install generators where needed. Moved to all hazards
- Install generators on all new critical facilities. Moved to all hazards generators.
- Seek funding to ensure all current and future emergency shelters have back-up. Moved to all hazards generators.
- Educate the public on shelter locations and evacuation routes.
- Develop public education and awareness programs regarding severe weather events to include home safety measures, purchase of weather radio and personal safety measures before, during and after severe event weather.
- Promote the construction of safe rooms in shelter areas and in public buildings
- Promote and participate in the following American Red Cross Programs
 - i. Disaster Resistant Neighborhoods Program (educating communities)
 - ii. Business and Industry Preparedness Seminar (educating businesses on business continuity planning)
 - iii. Community Disaster Education Preparedness presentations

Winter Weather

- Implement a winter-storm education program to include winterization of home and/or business and what to do before, during and after the winter storm event.
- Install generators where needed. Moved to all hazards generators.
- Moved to all hazards generators.
- Develop coordinated management strategies for deicing, snow plowing, and clearing roads of fallen trees and debris

CHAPTER IV. PLAN INTEGRATION AND MAINTENANCE

The table below provides a brief description of each section in this chapter and a summary of the changes that have been made.

Chapter 1 Section	Updates to Section
I. Implementation Action Plan	Revised to follow New GEMA planning template
II. Evaluation, Monitoring, Updating Note whether the original method and schedule worked	Revised to follow New GEMA planning template
III. Plan update and maintenance	Regulated update and maintenance schedule and public involvement

SECTION I. Implementation Action Plan

A. Administrative Actions: Warren County Emergency Management Agency was responsible for overseeing the original PDM planning process and the plan update. Facilitation of the planning process was conducted by the Central Savannah River Area Regional Commission. The Warren County Board of Commissioners has authorized the submission of this plan to both GEMA and FEMA for their respective approvals. The Warren County Board of Commissioners, Town Council of Camak, City Council of Norwood, and the City Council of Warrenton have formally adopted this plan after approval from GEMA and FEMA was obtained.

B. Authority and Responsibility: Upkeep and maintenance of the plan shall be the responsibility of the EMA Director, as determined during the planning process. It shall be the responsibility of the EMA Director to ensure that this plan is utilized as a guide for initiating the identified mitigation measures within the community. The Warren County Board of Commissioners and the Mayors of all incorporated jurisdictions will be responsible for assigning appropriate staff members to implement the action steps identified in this plan for their jurisdictions. The EMA Director, or his designee, shall be authorized to call the committee to review and update this plan periodically (at least annually) throughout the useful life of the plan, not to exceed five years.

During the plan update process, the EMA Director and committee members shall identify projects that have been successfully undertaken in initiating mitigation measures within the community. These projects shall be noted within the planning document to indicate their completion. Additionally, the committee called together by the EMA Director shall discuss and identify any additional mitigation projects that are necessary in the community.

C. Prioritization: The mitigation goals, objectives and related action items were initially compiled from the input of the committee, as well as from others in the community. The committee prioritized the mitigation actions based on what would be perceived as most beneficial to the community, and the action steps have been listed in this plan as the committee prioritized them. Several criteria were established to assist committee members in the prioritization of these suggested mitigation actions. Criteria included perceived cost

benefit or cost effectiveness, availability of potential funding sources, overall feasibility, measurable milestones, multiple objectives, and both public and political support for the proposed actions.

1. **Methodology for prioritization:** To assist with the prioritization of mitigation actions, the STAPLEE worksheet and criteria recommended by FEMA was used. STAPLEE is a tool used to assess the costs and benefits and overall feasibility of mitigation actions. STAPLEE stands for the following:
 - i. **Social:** Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?
 - ii. **Technical:** Is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?
 - iii. **Administrative:** Are there adequate staffing, funding and maintenance capabilities to implement the project?
 - iv. **Political:** Will there be adequate political and public support for the project?
 - v. **Legal:** Does your jurisdiction have the legal authority to implement the action?
 - vi. **Economic:** Is the action cost-beneficial? Is there funding available: Will the action contribute to the local economy?
 - vii. **Environmental:** Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

The committee was asked to review the STAPLEE score sheet with a list of mitigation actions and assign a High, Medium or Low score to each item to help determine the item's priority. Each action item was discussed and a consensus reached by the group on the importance of each item.

2. **Use of cost benefit refer to Worksheet #4:** Through the STAPLEE prioritization process, several projects emerged as being a greater priority than others. Some of the projects involved expending considerable amounts of funds to initiate the required actions. Other projects allowed the community to pursue completion of the project using potential grant funding. Still others required no significant financial commitment by the community.

The determination of the cost benefit of a project was based upon the anticipated cost in relation to the perceived benefit of the action taken. A proposed action with a high price tag, but minimal benefit to the community, was considered to have a low-cost benefit. Conversely, if minimal expenditures were required and the entire community would benefit, this received a favorable cost benefit rating. All proposed mitigation actions were evaluated to determine the favorability of the benefit in relation to the cost associated with completing the project. Determining the economic feasibility of mitigating hazards can provide decision makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

3. **Use of other calculations:** Estimation of potential damages and costs in the event of a natural hazard achieves two ends: (1) it enables the identification of critical economic targets for mitigation measures and (2) to enhance the ability to prioritize post-disaster response in aiding the community to recover.
4. **Use of other review structure:** All goals were discussed in detail to determine what was considered a priority for the EMA personnel.

D. Incorporation of Local PDM Plan into other plans/planning measures: The jurisdictions completed and update to their Joint Comprehensive plan and updated their STWP in 2014. The 2013 PDM plan was reviewed to determine if any of the mitigation activities need to be added to the above-mentioned documents. Warren County, Camak, Norwood, and Warrenton work jointly to produce these planning documents.

The STWP will be updated in 2019 and the Joint Comprehensive Plan is due for an update in 2024. The RC facilitates the planning process for both documents and updates both plans. Warren County takes the lead and all jurisdictions must participate to complete the comp plan and STWP. This Plan will be reviewed by Warren County, Camak, Norwood and Warrenton. The requirements of this Hazard Mitigation Plan will be taken into consideration and will be incorporated into Comprehensive Plans, Five-Year Short-Term Work Program, Local Emergency Operations Plans, and all other such Plans as appropriate. This hazard plan will be reviewed and incorporated into the Joint Comprehensive plan and STWP update as needed. In addition, relevant sections of the 2013 plan were included in the revision of the Warren Local Emergency Operations Plan in 2018. This hazard plan update will also be reviewed in the next update of the LEOP.

Once this plan is approved, it will be used by the consultants and planning committees responsible for the update process for the Joint Comprehensive Plan, Short-Term Work Programs, and all other plans that could incorporate the requirements of this plan.

To facilitate inclusion of this Plan, the Warren County Commission and all cities will provide a copy of this Plan to the persons and/or committees responsible for writing and updating plans.

SECTION II. EVALUATION, MONITORING AND UPDATING

The original method for evaluation of the plan was unsuccessful. While the plan was discussed at EMA meetings, little attention was given to the monitoring and evaluation of the plan. Changes have been made to ensure a more successful and meaningful use of this plan.

- A. Method:** The Plan is intended to be a ‘living’ document that informs stakeholders about hazard mitigation projects and plans undertaken by the county and their jurisdictions. In accordance with the requirements set forth in the Disaster Mitigation Act of 2000, Warren County is required to review the plan annually and revise the plan every five years. The revision process will be consistent with the FEMA planning requirements as stipulated in the 44 CFR 201.6.

B. Criteria to be used to monitor and evaluate the plan annually or after any natural disaster event.

- a. Each hazard will be reviewed. Any new information pertaining to new and/or previous events will be added to the plan.
- b. Any new critical facilities will be added to the plan.
- c. Critical facilities information will be updated as needed.
- d. All mitigation goals, objectives and action steps will be reviewed for relevance and completion status. All mitigation goals, objectives and action steps that have been completed or are no longer relevant will be documented.
- e. New mitigation activities will be added if necessary.
- f. Public participation will be monitored and documented.

C. Responsibility: At the direction of the EMA Director, the committee shall be reconvened for the revision process that will include a schedule, timeline, and a list of the agencies or organizations participating in the plan revision. Warren County and all incorporated jurisdictions have designated the following participants of the committee to guide plan maintenance and update activities to ensure that the information in the plan is current. The update committee will also be responsible for disseminating information to stakeholders within their respective jurisdictions.

Jurisdiction	Hazard Mitigation Update Committee	Review
	Point-of-Contact	Schedule
Warren County	Emergency Management Director	Annually
Camak	Mayor	Annually
Norwood	Mayor	Annually
Warrenton	Mayor	

D. Timeframe: The committee has set the second Thursday of every October for the annual review of the plan update and within two months after any natural disaster event. A public notice will be submitted to the legal organ of each jurisdiction and the notice will be published at all government and community buildings.

SECTION III. PLAN UPDATE AND MAINTENANCE

A. Public involvement: Warren County is committed to having active public participation during reviews and updates of the PDM Plan. Public participation will follow the guidelines set forth in 44 CFR 201.6. Future public involvement of the community will be more stringent. The original method of posting notices at the government office and posting twice in the paper was not as successful as anticipated in ensuring community involvement. With this in mind, two weeks before the annual December review meeting, a notice will be published in the legal organ of Warren County. Flyers will be placed at all government, and community gathering places to ensure that citizens of the county are made aware of the annual review process. The flyer will also be given to community organizations. The process of providing information to community organizations and gathering places will

ensure that the public is aware of the planning process. The new EMA website will also provide ongoing information about the plan and its implementation.

- B. Timeframe:** At the direction of the EMA Director, the committee will convene in order to accomplish the revisions the second Thursday of every October. The EMA Director will ensure the revised plan is presented to the Warren County Board of Commissioners for formal adoption. In addition, all holders of the County plan will be notified of affected changes. No later than the conclusion of the five-year period following initial approval of the update plan, the EMA Director shall submit the update PDM Plan to the Georgia Emergency Management Agency and the Federal Emergency Management Agency for their review and coordination.

CHAPTER V. Conclusion

SECTION I. Summary

Through the update process of this plan, Warren County has developed a more thorough hazard history, an inventory of critical facilities, and an updated contact list for emergency contacts at critical facilities. Natural hazards have been identified countywide. Goals, objectives and mitigation actions have been compiled and prioritized that would reduce the risk of lives and property because of the identified hazards. The committee has been able to work together effectively and efficiently to produce this document and establish a greater awareness of our risks and our mitigation strategies.

As a result of the update PDM planning process, Warren County officials have obtained more complete and accurate information and knowledge regarding the County's disaster history, the presence of natural hazards, and the likelihood of each of these hazards occurring within the County, and the potential impacts and challenges these hazards present to the community.

All meetings were open to the public and advertised in *The Warrenton Clipper*, providing Warren County citizens with the opportunity to comment on and offer suggestions concerning disaster mitigation actions within the community.

The committee found that it is difficult to predict the geographic threat, and therefore the resulting impact of some natural disasters as compared to others. Tornados and related severe weather strike randomly, usually affecting a small, localized area. On the other hand, natural disasters such as winter ice storms and drought can blanket the entire county, affecting all businesses, public facilities, and residents.

Recognizing this challenge, the committee identified both general and specific measures to aid in the mitigation of several natural hazards most likely to impact Warren County. These measures include, but are not limited to, the protection of critical facilities and infrastructure, progressive governmental policies, and the proactive use of codes and regulations. It is worth noting that local government policies can often be the single most important and cost efficient component of PDM.

The mission of the Warren County Pre-Disaster Hazard Mitigation Planning Committee is to *"Make the citizens, businesses, communities and local governments of Warren County less vulnerable to the effects of natural hazards through the effective administration of hazard mitigation grant programs, hazard risk assessments, wise floodplain management and a coordinated approach to mitigation policy through state, regional and local planning activities."*

The committee feels that this plan, when implemented, will help to make all of Warren County a safer place to live and work for all of its citizens.

SECTION II – REFERENCES

Numerous sources were utilized to ensure the most complete planning document could be assembled. In an effort to ensure that all data sources consulted are cited, references are listed in the following format: 1) Publications, 2) Web Sites, 3) Other Sources.

Publications:

FEMA Pre-Disaster Mitigation *How-to Guides #1, 2, 3, 7* (FEMA)
GEMA Supplements to FEMA Pre-Disaster Mitigation How-to Guides (GEMA)
The Warrenton Clipper
The Augusta Chronicle
Summary of Floods in the United States During 1990 and 1991
<http://pubs.er.usgs.gov/publication/wsp2474>
FLOODS IN GEORGIA. FREQUENCY AND MAGNITUDE. By. R. W. Carter.
<Http://pubs.usgs.gov/circ/1951/0100/report.pdf>
Georgia Archives University System of Georgia
<http://cdm.sos.state.ga.us:2011/cdm/search/searchterm/FLOOD/mode/all/order/subject/ad/desc>

Web Sites:

FEMA www.fema.gov
GEMA www.gema.state.ga.us
Georgia Department of Community Affairs <http://www.dca.state.ga.us/>
Georgia Forestry Commission <http://weather.gfc.state.ga.us>
National Climatic Data Center www.ncdc.noaa.gov
SHELDUS™ | Spatial Hazard Events and Losses Database for the United States
<http://webra.cas.sc.edu/hvri/products/sheldus.aspx>
National Inventory of Dams <http://crunch.tec.army.mil/nid/webpages/nid.cfm>
<https://www.anyplaceamerica.com/directory/ga/glascocock-county-13125/>
New Georgia Encyclopedia <http://www.georgiaencyclopedia.org/nge/Home.jsp>
Georgia Archives University System of Georgia
<http://cdm.sos.state.ga.us:2011/cdm/search/searchterm/FLOOD/mode/all/order/subject/ad/desc>
United States Census Bureau <http://www.census.gov/>
USDA, NASS, 2012 CENSUS OF AGRICULTURE
http://www.nass.usda.gov/Census_of_Agriculture/index.asp
<http://www.sercc.com/> The Southeast Regional Climate Center (SERCC)
<http://www.tornadohistoryproject.com/tornado/Georgia> Tornado History Project

Other Sources:

American Red Cross
CSRA Regional Commission
Georgia Department of Natural Resources
Georgia Forestry Commission
Warren County
Warren County, Camak
Warren County, Norwood
Warren County, Warrenton
Warren County Board of Education
Warren County Tax Assessor

APPENDICES

Appendix A – Hazard Identification, Risk Assessment and Vulnerability (HRV)

- I. Hazard A - Flood
 - a. Description
 - b. Data – GEMA Critical Facility Inventory Report
 - c. Maps

- II. Hazard A – Dam Failure
 - a. Description
 - b. Data – GEMA Critical Facility Inventory Report
 - c. Maps

- III. Hazard C - Drought
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- IV. Hazard D - Wildfire
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- V. Hazard E –Tornado
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- VI. Tropical Storms
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- VII. Severe Weather
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- VIII. Hazard F – Winter Storms
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

Appendix B – Growth and Development Trends / Community Information

- I. Local Comp Plan Executive Summary
- II. Statistics/tables from Local Comp Plan
- III. Community Information

Appendix C –Planning documents

- I. Executive Summary Local Emergency Operations
- II. Hazard Risk Analysis
- III. Flood Insurance Study
- IV. Community Wildfire Protection Plan
- V. Timber Impact Assessment GFC
- VI. Soil Survey Columbia, McDuffie, and Warren Counties
- VII. Executive Summary CSRA Regional Commission Regional Plan

Appendix D – Worksheets used in planning process

- I. Completed GEMA/local worksheets
- II. Blank GEMA/local worksheets
- III. Other misc. worksheets or planning process documents

Appendix E – Copies of Required Planning Documentation

- I. Public notice
- II. Meeting Agendas / Meeting Minutes
- III. Sign-in sheets
- IV. Local proclamations (copy of all resolution)
- V. GEMA/FEMA correspondence

APPENDIX A

**HAZARD IDENTIFICATION,
RISK ASSESSMENT
AND
VULNERABILITY**

FLOOD

Flood plains are relatively flat lands that border streams and rivers that are normally dry, but are covered with water during floods. The susceptibility of a stream to flooding is dependent upon several different variables. Among these are topography, ground saturation, rainfall intensity and duration, soil types, drainage, drainage patterns of streams, and vegetative cover. A large amount of rainfall over a short time period can result in flash flood conditions. A small amount of rain can also result in floods where the soil is saturated from a previous wet period or if rain is concentrated in an area of impermeable surfaces such as large parking lots, paved roadways, etc. Topography and ground cover are contributing factors for floods where water runoff is greater in areas with steep slopes and little or no vegetation. The severity of a flood is usually measured in terms of depth of flooding. Flooding occurs when the volume of water exceeds the ability of a water body (stream, river, or lake) to contain it within its normal banks.

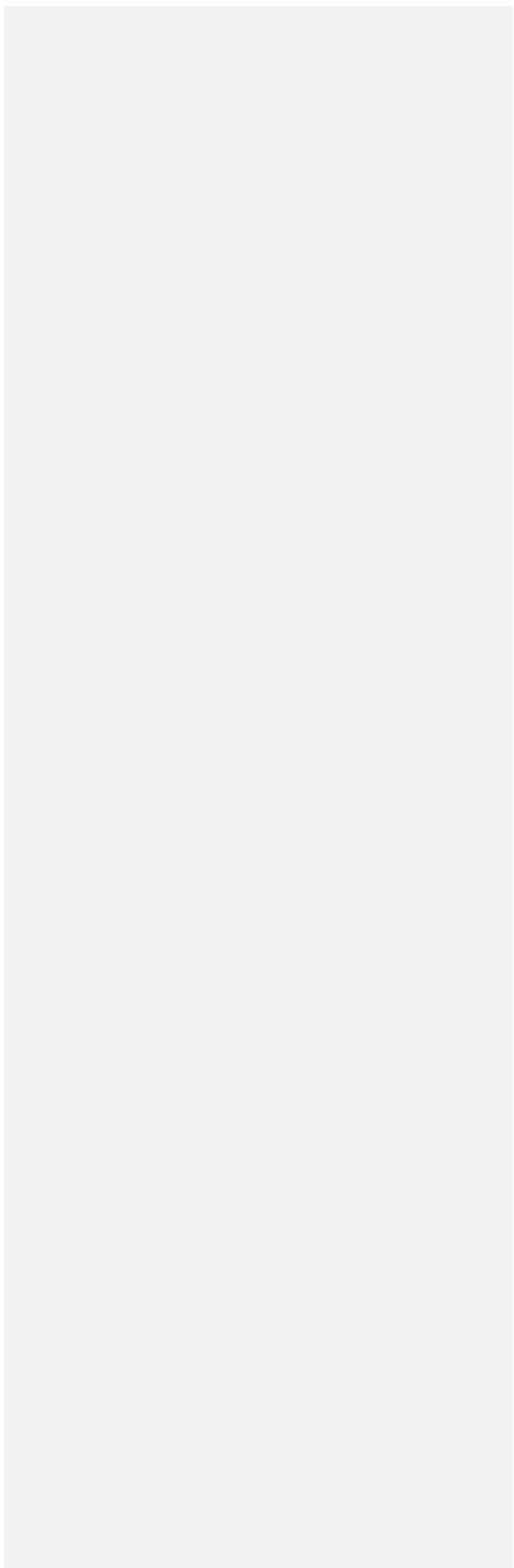
Floodplains serve three major purposes: Natural water storage and conveyance, water quality maintenance, and groundwater recharge. These three purposes are greatly inhibited when floodplains are misused or abused through improper and unsuitable land development. For example, if floodplains are filled to construct a building, valuable water storage and recharge areas are lost. This causes unnecessary flooding in previously dry areas and can damage buildings and other structures.

Severe flooding within Warren County is relatively infrequent. There have been four documented flood events in the county in the past 20 years. These flooding events have caused nearly \$13,00 in damage. The hazard frequency table indicates there is a 20% chance of an annual flooding events in the county.

Based on tax data, parcel and flood maps, all or a portion of 81 known structures/properties valued at approximately \$2 million and a population of 149 are located in known floodplains. The committee identified specific mitigation goals, objectives and action items related to flooding, which can be found in Chapter III, Section I.

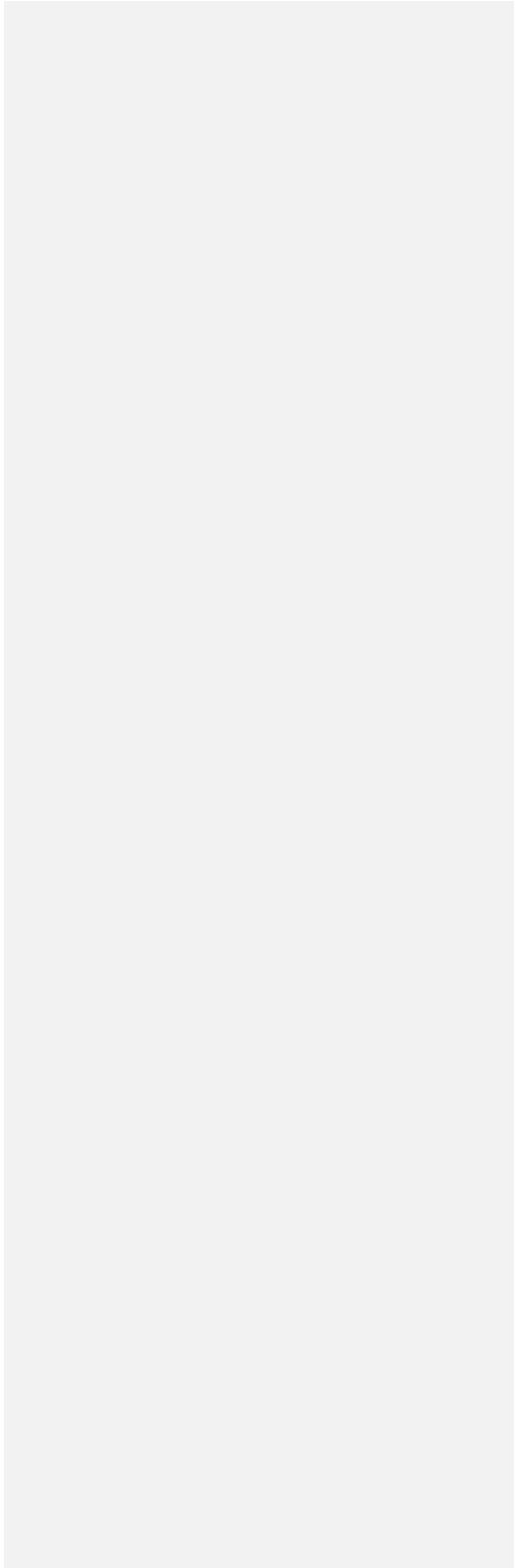
Location	Date	Event	Deaths	Injuries	Property Damage	Narrative
Countywide	3/1/2001	Heavy Rain	0	0	0	<p>March 2001 was one of the wettest March's on record for north and central Georgia. In the case of Columbus, it was the wettest month in history. Frequent heavy rain and thunderstorm events occurred during the month as a very active southern jet stream remained in place. Columbus received 13.30 inches of rain during the month, exceeding the previous record of 12.53 which occurred in 1952 and exceeding the normal rainfall for March by 7.53 inches. This also</p>

						<p>made it the wettest month ever recorded in Columbus since records had been started in 1946. Just on March 3rd alone, Columbus recorded 4.40 inches of rain. A similar story was repeated across the remainder of the state. Atlanta had 9.07 inches of rain, which was 3.30 inches above normal, Athens had 8.53 inches of rain, which was 3.07 inches above normal, and Macon recorded 9.83 inches of rain, which was 5.04 inches above normal.</p>
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Countywide	10/6/2002	Heavy Rain	0	0	0	Above normal rainfall was observed at many locations across north and central Georgia during the month. Most of the rain fell during three events on the 7th, the 13th, and the 28th. The rainfall on the 7th and 13th was largely caused by the combination of residual tropical moisture and stationary frontal systems, while the event on the 28th resulted from the remnants of Pacific hurricane Kenna, which traveled across mainly the northern one-third of the state. While above normal rainfall was not observed uniformly,
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						<p>many stations, especially in north Georgia, recorded rainfall totals for the month of October which exceeded normal amounts by three inches or more. Atlanta, for example, recorded its 10th wettest October on record (since the late 1800s) , with 5.94 inches of rain falling during the month, which is 2.83 inches above the normal rainfall of 3.11 inches. Only a handful of stations reported below normal rainfall during the month, and even in these cases the rainfall amounts were still within one inch of</p>
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						normal. Athens was the only major reporting station with below normal rainfall during the month, and even here it was only 0.17 inch below normal.
PLAINVIEW	6/7/2013	Flash Flood	0	0	3000	Tropical Storm Andrea off the South Carolina Coast along with the remains of a weak frontal boundary combined to produce a new round of showers and thunderstorms across the area. Several thunderstorms reached severe levels with downed trees reported across north and central Georgia. The heaviest rain

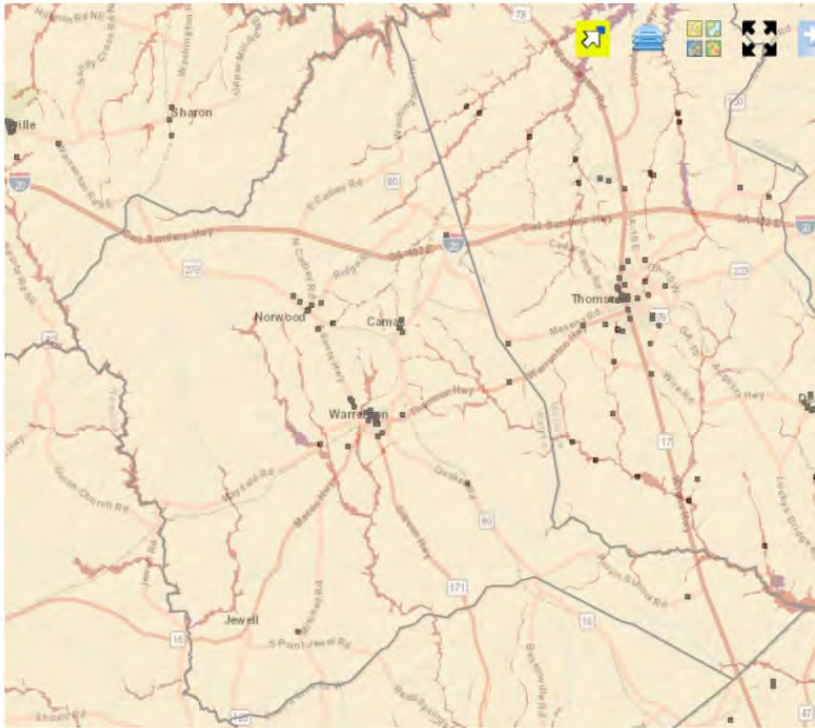
										was confined to mainly east central Georgia, in closer proximity to Andrea. A couple of these storms produced enough rainfall to result in flash flooding.
NORWOOD	7/13/2013	Flood	0	0	10000					Several days of heavy rain caused very wet soil conditions across portions of central Georgia. Additional rainfall amounts around two inches in a few counties caused long-term areal flooding which washed out culverts or damaged several roads.
									\$ 13,000.0 0	

Jurisdiction	Name	Hazard	Value	Replacement	Content value	Content value year	Facility type	Risk	Day Occupancy	Night Occupancy
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		Score		Value Year						
Warrenton City	Warrenton Water treatment plant(OMI)	1	\$ 11,000,000.00	2022	\$ 50,000.00	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, Lifeline	4	1
1			11,000,000		50,000				4	1
Warrenton City	Warrenton City Hall	0	1300000	2022	30000	2022	Government, Government, Private, Private	Important	5	0
Warrenton City	Rainbow Beginners	0	105000	2022	25000	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Important, Vulnerable Population	15	0
Warrenton City	Warrenton Southside WPCP	0	1500000	2022	30000	2022	Government, Government, Water/Sewer, Water/Sewer	Lifeline	1	0
Warrenton City	Warrenton Police Dept.	0	85000	2022	30000	2022	Law Enforcement, Law Enforcement,	Essential	5	2

							Police, Police			
Warrenton City	Warrenton Fire Dept	0	250000	2022	450000	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential, High Potential Loss	2	0
Warrenton City	First Baptist Church	0	3300000	2022	60000	2022	Medical, Medical, Hospital, Hospital	Essential	300	0
Warrenton City	Community Service Building	0	1800000	2022	55000	2022	Medical, Medical, Hospital, Hospital	Essential	20	0
7			8,340,000		680,000				348	2

Warren County Flood Plain Map from GMIS



Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
	VE	1% with Velocity BFE
	A	1% Annual Chance no BFE
3	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
	AR	1% Federal flood protection system
2	X500	0.2% Annual Chance
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

Camak Flood Plain Map from GMIS



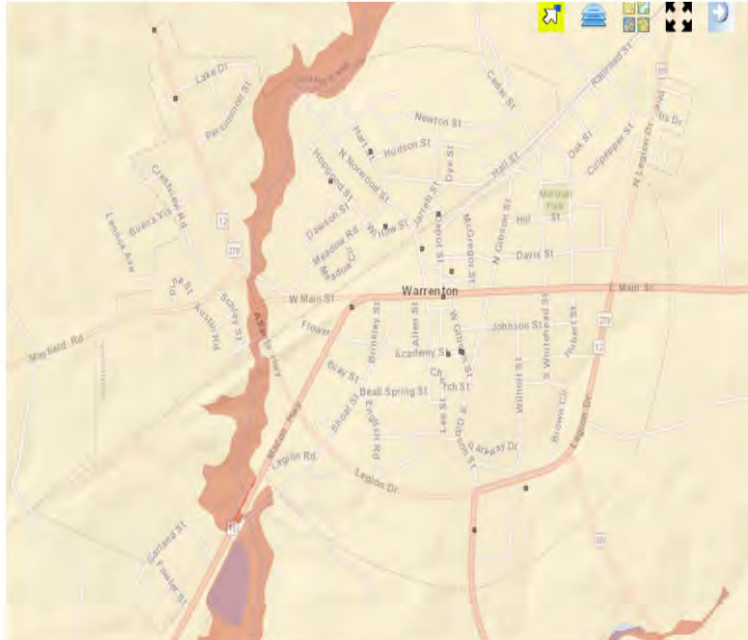
Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
3	VE	1% with Velocity BFE
	A	1% Annual Chance no BFE
	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
2	AR	1% Federal flood protection system
	X500	0.2% Annual Chance
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

Norwood Flood Plains GMS



Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
	VE	1% with Velocity BFE
	A	1% Annual Chance no BFE
3	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
	AR	1% Federal flood protection system
2	X500	0.2% Annual Chance
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

Warrenton Flood Plains GMIS



Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
	VE	1% with Velocity BFE
3	A	1% Annual Chance no BFE
	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
2	AR	1% Federal flood protection system
	X500	0.2% Annual Chance
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

DROUGHT

Drought is a normal, recurrent feature of climate consisting of a deficiency of precipitation over an extended period of time (usually a season or more). This deficiency results in a water shortage for some social or environmental sector. Drought should be judged relative to some long-term average condition of balance between precipitation and evapotranspiration in a particular area that is considered “normal.” Drought should not be viewed as only a natural hazard because the demand people place on water supply affects perceptions of drought conditions. The impacts of drought are vast, including limited water supplies in urban areas to insufficient water for farmland.

Drought is not spatially defined and equally affects the entire planning area. Droughts do not have the immediate effects of other natural hazards, but sustained drought can cause severe economic stress to not only the agricultural interests in Warren County, but to the entire State of Georgia. The potential negative effects of sustained drought are numerous. Based on a 20-year cycle hazard history there is a 100% chance of an annual drought event in Warren County. In addition to an increased threat of wildfires, drought can affect private wells, municipal and industrial water supplies, stream-water quality, water recreation facilities, hydropower generation, as well as agricultural and forest resources.

In Warren County there are 4,636 agricultural/forestry properties valued at approximately \$238 million and include 6,381 heads of cattle and an estimated population of 280 that have the greatest potential to be damaged by drought. There is a population of 5,297 and approximately 14,744 structures/properties in the county with a value of nearly \$573 million, which could be affected if wildfires break out due to drought conditions. Drought mitigation goals and objectives are in Chapter III, Section III.

County	None	D0	D1	D2	D3	D4	ValidStart	ValidEnd
Warren County	100	0	0	0	0	0	5/31/2022	6/6/2022
Warren County	100	0	0	0	0	0	5/24/2022	5/30/2022
Warren County	1.56	98.44	0	0	0	0	5/17/2022	5/23/2022
Warren County	66.75	33.25	0	0	0	0	5/10/2022	5/16/2022
Warren County	66.75	33.25	0	0	0	0	5/3/2022	5/9/2022
Warren County	66.75	33.25	0	0	0	0	4/26/2022	5/2/2022
Warren County	66.75	33.25	0	0	0	0	4/19/2022	4/25/2022
Warren County	66.75	33.25	0	0	0	0	4/12/2022	4/18/2022
Warren County	0	100	13.09	0	0	0	4/5/2022	4/11/2022
Warren County	0	100	13.09	0	0	0	3/29/2022	4/4/2022
Warren County	30.33	69.67	0	0	0	0	3/22/2022	3/28/2022
Warren County	30.33	69.67	0	0	0	0	3/15/2022	3/21/2022
Warren County	30.33	69.67	0	0	0	0	3/8/2022	3/14/2022
Warren County	55.51	44.49	0	0	0	0	3/1/2022	3/7/2022
Warren County	100	0	0	0	0	0	2/22/2022	2/28/2022
Warren County	100	0	0	0	0	0	2/15/2022	2/21/2022
Warren County	100	0	0	0	0	0	2/8/2022	2/14/2022
Warren County	100	0	0	0	0	0	2/1/2022	2/7/2022
Warren County	100	0	0	0	0	0	1/25/2022	1/31/2022
Warren County	100	0	0	0	0	0	1/18/2022	1/24/2022
Warren County	100	0	0	0	0	0	1/11/2022	1/17/2022
Warren County	100	0	0	0	0	0	1/4/2022	1/10/2022
Warren County	78.26	21.74	0	0	0	0	12/28/2021	1/3/2022
Warren County	78.26	21.74	0	0	0	0	12/21/2021	12/27/2021
Warren County	0	100	24.18	0	0	0	12/14/2021	12/20/2021
Warren County	15.86	84.14	38.57	0	0	0	12/7/2021	12/13/2021
Warren County	15.21	84.79	0	0	0	0	11/30/2021	12/6/2021
Warren County	40.14	59.86	0	0	0	0	11/23/2021	11/29/2021
Warren County	100	0	0	0	0	0	11/16/2021	11/22/2021
Warren County	100	0	0	0	0	0	11/9/2021	11/15/2021
Warren County	100	0	0	0	0	0	11/2/2021	11/8/2021
Warren County	100	0	0	0	0	0	10/26/2021	11/1/2021
Warren County	100	0	0	0	0	0	10/19/2021	10/25/2021
Warren County	100	0	0	0	0	0	10/12/2021	10/18/2021
Warren County	100	0	0	0	0	0	10/5/2021	10/11/2021
Warren County	100	0	0	0	0	0	9/28/2021	10/4/2021
Warren County	100	0	0	0	0	0	9/21/2021	9/27/2021
Warren County	100	0	0	0	0	0	9/14/2021	9/20/2021
Warren County	100	0	0	0	0	0	9/7/2021	9/13/2021
Warren County	100	0	0	0	0	0	8/31/2021	9/6/2021
Warren County	100	0	0	0	0	0	8/24/2021	8/30/2021
Warren County	100	0	0	0	0	0	8/17/2021	8/23/2021

Warren County	100	0	0	0	0	0	8/10/2021	8/16/2021
Warren County	100	0	0	0	0	0	8/3/2021	8/9/2021
Warren County	100	0	0	0	0	0	7/27/2021	8/2/2021
Warren County	100	0	0	0	0	0	7/20/2021	7/26/2021
Warren County	100	0	0	0	0	0	7/13/2021	7/19/2021
Warren County	100	0	0	0	0	0	7/6/2021	7/12/2021
Warren County	100	0	0	0	0	0	6/29/2021	7/5/2021
Warren County	100	0	0	0	0	0	6/22/2021	6/28/2021
Warren County	100	0	0	0	0	0	6/15/2021	6/21/2021
Warren County	100	0	0	0	0	0	6/8/2021	6/14/2021
Warren County	12.9	87.1	0	0	0	0	6/1/2021	6/7/2021
Warren County	100	0	0	0	0	0	5/25/2021	5/31/2021
Warren County	100	0	0	0	0	0	5/18/2021	5/24/2021
Warren County	100	0	0	0	0	0	5/11/2021	5/17/2021
Warren County	0	100	0	0	0	0	5/4/2021	5/10/2021
Warren County	0	100	0	0	0	0	4/27/2021	5/3/2021
Warren County	0	100	0	0	0	0	4/20/2021	4/26/2021
Warren County	100	0	0	0	0	0	4/13/2021	4/19/2021
Warren County	100	0	0	0	0	0	4/6/2021	4/12/2021
Warren County	100	0	0	0	0	0	3/30/2021	4/5/2021
Warren County	100	0	0	0	0	0	3/23/2021	3/29/2021
Warren County	100	0	0	0	0	0	3/16/2021	3/22/2021
Warren County	100	0	0	0	0	0	3/9/2021	3/15/2021
Warren County	100	0	0	0	0	0	3/2/2021	3/8/2021
Warren County	100	0	0	0	0	0	2/23/2021	3/1/2021
Warren County	100	0	0	0	0	0	2/16/2021	2/22/2021
Warren County	100	0	0	0	0	0	2/9/2021	2/15/2021
Warren County	100	0	0	0	0	0	2/2/2021	2/8/2021
Warren County	100	0	0	0	0	0	1/26/2021	2/1/2021
Warren County	100	0	0	0	0	0	1/19/2021	1/25/2021
Warren County	100	0	0	0	0	0	1/12/2021	1/18/2021
Warren County	100	0	0	0	0	0	1/5/2021	1/11/2021
Warren County	67.57	32.43	0	0	0	0	12/29/2020	1/4/2021
Warren County	67.57	32.43	0	0	0	0	12/22/2020	12/28/2020
Warren County	67.57	32.43	0	0	0	0	12/15/2020	12/21/2020
Warren County	67.57	32.43	0	0	0	0	12/8/2020	12/14/2020
Warren County	69.09	30.91	0	0	0	0	12/1/2020	12/7/2020
Warren County	69.09	30.91	0	0	0	0	11/24/2020	11/30/2020
Warren County	100	0	0	0	0	0	11/17/2020	11/23/2020
Warren County	100	0	0	0	0	0	11/10/2020	11/16/2020
Warren County	100	0	0	0	0	0	11/3/2020	11/9/2020
Warren County	100	0	0	0	0	0	10/27/2020	11/2/2020
Warren County	100	0	0	0	0	0	10/20/2020	10/26/2020

Warren County	100	0	0	0	0	0	10/13/2020	10/19/2020
Warren County	100	0	0	0	0	0	10/6/2020	10/12/2020
Warren County	100	0	0	0	0	0	9/29/2020	10/5/2020
Warren County	100	0	0	0	0	0	9/22/2020	9/28/2020
Warren County	100	0	0	0	0	0	9/15/2020	9/21/2020
Warren County	100	0	0	0	0	0	9/8/2020	9/14/2020
Warren County	100	0	0	0	0	0	9/1/2020	9/7/2020
Warren County	100	0	0	0	0	0	8/25/2020	8/31/2020
Warren County	100	0	0	0	0	0	8/18/2020	8/24/2020
Warren County	99.16	0.84	0	0	0	0	8/11/2020	8/17/2020
Warren County	92.44	7.56	0	0	0	0	8/4/2020	8/10/2020
Warren County	90.58	9.42	0	0	0	0	7/28/2020	8/3/2020
Warren County	90.58	9.42	0	0	0	0	7/21/2020	7/27/2020
Warren County	100	0	0	0	0	0	7/14/2020	7/20/2020
Warren County	100	0	0	0	0	0	7/7/2020	7/13/2020
Warren County	100	0	0	0	0	0	6/30/2020	7/6/2020
Warren County	100	0	0	0	0	0	6/23/2020	6/29/2020
Warren County	100	0	0	0	0	0	6/16/2020	6/22/2020
Warren County	100	0	0	0	0	0	6/9/2020	6/15/2020
Warren County	100	0	0	0	0	0	6/2/2020	6/8/2020
Warren County	100	0	0	0	0	0	5/26/2020	6/1/2020
Warren County	100	0	0	0	0	0	5/19/2020	5/25/2020
Warren County	100	0	0	0	0	0	5/12/2020	5/18/2020
Warren County	100	0	0	0	0	0	5/5/2020	5/11/2020
Warren County	100	0	0	0	0	0	4/28/2020	5/4/2020
Warren County	100	0	0	0	0	0	4/21/2020	4/27/2020
Warren County	100	0	0	0	0	0	4/14/2020	4/20/2020
Warren County	100	0	0	0	0	0	4/7/2020	4/13/2020
Warren County	100	0	0	0	0	0	3/31/2020	4/6/2020
Warren County	100	0	0	0	0	0	3/24/2020	3/30/2020
Warren County	100	0	0	0	0	0	3/17/2020	3/23/2020
Warren County	100	0	0	0	0	0	3/10/2020	3/16/2020
Warren County	100	0	0	0	0	0	3/3/2020	3/9/2020
Warren County	100	0	0	0	0	0	2/25/2020	3/2/2020
Warren County	100	0	0	0	0	0	2/18/2020	2/24/2020
Warren County	100	0	0	0	0	0	2/11/2020	2/17/2020
Warren County	100	0	0	0	0	0	2/4/2020	2/10/2020
Warren County	100	0	0	0	0	0	1/28/2020	2/3/2020
Warren County	100	0	0	0	0	0	1/21/2020	1/27/2020
Warren County	100	0	0	0	0	0	1/14/2020	1/20/2020
Warren County	100	0	0	0	0	0	1/7/2020	1/13/2020
Warren County	100	0	0	0	0	0	12/31/2019	1/6/2020
Warren County	100	0	0	0	0	0	12/24/2019	12/30/2019

Warren County	100	0	0	0	0	0	12/17/2019	12/23/2019
Warren County	75.79	24.21	0	0	0	0	12/10/2019	12/16/2019
Warren County	75.79	24.21	0	0	0	0	12/3/2019	12/9/2019
Warren County	9.66	90.34	0.12	0	0	0	11/26/2019	12/2/2019
Warren County	9.66	90.34	0.12	0	0	0	11/19/2019	11/25/2019
Warren County	0	100	78.3	0	0	0	11/12/2019	11/18/2019
Warren County	0	100	100	0	0	0	11/5/2019	11/11/2019
Warren County	0	100	100	86.16	0	0	10/29/2019	11/4/2019
Warren County	0	100	100	86.16	0	0	10/22/2019	10/28/2019
Warren County	0	100	100	97.77	3.13	0	10/15/2019	10/21/2019
Warren County	0	100	100	0	0	0	10/8/2019	10/14/2019
Warren County	0	100	12.64	0	0	0	10/1/2019	10/7/2019
Warren County	0	100	12.64	0	0	0	9/24/2019	9/30/2019
Warren County	78.98	21.02	0	0	0	0	9/17/2019	9/23/2019
Warren County	79.83	20.17	0	0	0	0	9/10/2019	9/16/2019
Warren County	100	0	0	0	0	0	9/3/2019	9/9/2019
Warren County	100	0	0	0	0	0	8/27/2019	9/2/2019
Warren County	100	0	0	0	0	0	8/20/2019	8/26/2019
Warren County	56.16	43.84	0	0	0	0	8/13/2019	8/19/2019
Warren County	100	0	0	0	0	0	8/6/2019	8/12/2019
Warren County	100	0	0	0	0	0	7/30/2019	8/5/2019
Warren County	100	0	0	0	0	0	7/23/2019	7/29/2019
Warren County	100	0	0	0	0	0	7/16/2019	7/22/2019
Warren County	100	0	0	0	0	0	7/9/2019	7/15/2019
Warren County	100	0	0	0	0	0	7/2/2019	7/8/2019
Warren County	100	0	0	0	0	0	6/25/2019	7/1/2019
Warren County	100	0	0	0	0	0	6/18/2019	6/24/2019
Warren County	0	100	0	0	0	0	6/11/2019	6/17/2019
Warren County	0	100	100	0	0	0	6/4/2019	6/10/2019
Warren County	0	100	4.62	0	0	0	5/28/2019	6/3/2019
Warren County	0	100	4.62	0	0	0	5/21/2019	5/27/2019
Warren County	0	100	0	0	0	0	5/14/2019	5/20/2019
Warren County	0	100	0	0	0	0	5/7/2019	5/13/2019
Warren County	0	100	0	0	0	0	4/30/2019	5/6/2019
Warren County	0	100	0	0	0	0	4/23/2019	4/29/2019
Warren County	0	100	0	0	0	0	4/16/2019	4/22/2019
Warren County	0	100	0	0	0	0	4/9/2019	4/15/2019
Warren County	0	100	0	0	0	0	4/2/2019	4/8/2019
Warren County	0	100	0	0	0	0	3/26/2019	4/1/2019
Warren County	10.36	89.64	0	0	0	0	3/19/2019	3/25/2019
Warren County	21.79	78.21	0	0	0	0	3/12/2019	3/18/2019
Warren County	100	0	0	0	0	0	3/5/2019	3/11/2019
Warren County	100	0	0	0	0	0	2/26/2019	3/4/2019

Warren County	100	0	0	0	0	0	2/19/2019	2/25/2019
Warren County	100	0	0	0	0	0	2/12/2019	2/18/2019
Warren County	100	0	0	0	0	0	2/5/2019	2/11/2019
Warren County	100	0	0	0	0	0	1/29/2019	2/4/2019
Warren County	100	0	0	0	0	0	1/22/2019	1/28/2019
Warren County	100	0	0	0	0	0	1/15/2019	1/21/2019
Warren County	100	0	0	0	0	0	1/8/2019	1/14/2019
Warren County	100	0	0	0	0	0	1/1/2019	1/7/2019
Warren County	100	0	0	0	0	0	12/25/2018	12/31/2018
Warren County	100	0	0	0	0	0	12/18/2018	12/24/2018
Warren County	100	0	0	0	0	0	12/11/2018	12/17/2018
Warren County	100	0	0	0	0	0	12/4/2018	12/10/2018
Warren County	100	0	0	0	0	0	11/27/2018	12/3/2018
Warren County	100	0	0	0	0	0	11/20/2018	11/26/2018
Warren County	100	0	0	0	0	0	11/13/2018	11/19/2018
Warren County	100	0	0	0	0	0	11/6/2018	11/12/2018
Warren County	100	0	0	0	0	0	10/30/2018	11/5/2018
Warren County	38.94	61.06	0	0	0	0	10/23/2018	10/29/2018
Warren County	38.94	61.06	0	0	0	0	10/16/2018	10/22/2018
Warren County	8.97	91.03	0	0	0	0	10/9/2018	10/15/2018
Warren County	8.97	91.03	0	0	0	0	10/2/2018	10/8/2018
Warren County	38.13	61.87	0	0	0	0	9/25/2018	10/1/2018
Warren County	98.26	1.74	0	0	0	0	9/18/2018	9/24/2018
Warren County	98.26	1.74	0	0	0	0	9/11/2018	9/17/2018
Warren County	98.26	1.74	0	0	0	0	9/4/2018	9/10/2018
Warren County	100	0	0	0	0	0	8/28/2018	9/3/2018
Warren County	100	0	0	0	0	0	8/21/2018	8/27/2018
Warren County	100	0	0	0	0	0	8/14/2018	8/20/2018
Warren County	100	0	0	0	0	0	8/7/2018	8/13/2018
Warren County	100	0	0	0	0	0	7/31/2018	8/6/2018
Warren County	100	0	0	0	0	0	7/24/2018	7/30/2018
Warren County	100	0	0	0	0	0	7/17/2018	7/23/2018
Warren County	100	0	0	0	0	0	7/10/2018	7/16/2018
Warren County	100	0	0	0	0	0	7/3/2018	7/9/2018
Warren County	100	0	0	0	0	0	6/26/2018	7/2/2018
Warren County	100	0	0	0	0	0	6/19/2018	6/25/2018
Warren County	100	0	0	0	0	0	6/12/2018	6/18/2018
Warren County	100	0	0	0	0	0	6/5/2018	6/11/2018
Warren County	100	0	0	0	0	0	5/29/2018	6/4/2018
Warren County	41.55	58.45	0	0	0	0	5/22/2018	5/28/2018
Warren County	0	100	53	0	0	0	5/15/2018	5/21/2018
Warren County	0	100	53	0	0	0	5/8/2018	5/14/2018
Warren County	0	100	5.04	0	0	0	5/1/2018	5/7/2018

Warren County	0	100	5.04	0	0	0	4/24/2018	4/30/2018
Warren County	0	100	97.42	0	0	0	4/17/2018	4/23/2018
Warren County	0	100	100	0	0	0	4/10/2018	4/16/2018
Warren County	0	100	0	0	0	0	4/3/2018	4/9/2018
Warren County	0	100	0	0	0	0	3/27/2018	4/2/2018
Warren County	0	100	0	0	0	0	3/20/2018	3/26/2018
Warren County	0	100	100	0	0	0	3/13/2018	3/19/2018
Warren County	0	100	48.35	0	0	0	3/6/2018	3/12/2018
Warren County	0	100	0	0	0	0	2/27/2018	3/5/2018
Warren County	0	100	0	0	0	0	2/20/2018	2/26/2018
Warren County	91.26	8.74	0	0	0	0	2/13/2018	2/19/2018
Warren County	18.39	81.61	0	0	0	0	2/6/2018	2/12/2018
Warren County	0	100	0	0	0	0	1/30/2018	2/5/2018
Warren County	0	100	17.93	0	0	0	1/23/2018	1/29/2018
Warren County	0	100	17.93	0	0	0	1/16/2018	1/22/2018
Warren County	0	100	17.93	0	0	0	1/9/2018	1/15/2018
Warren County	0	100	17.93	0	0	0	1/2/2018	1/8/2018
Warren County	0	100	17.93	0	0	0	12/26/2017	1/1/2018
Warren County	0	100	97.17	0	0	0	12/19/2017	12/25/2017
Warren County	0	100	97.16	0	0	0	12/12/2017	12/18/2017
Warren County	0	100	97.16	0	0	0	12/5/2017	12/11/2017
Warren County	0	100	26.82	0	0	0	11/28/2017	12/4/2017
Warren County	0	100	4.67	0	0	0	11/21/2017	11/27/2017
Warren County	0	100	4.67	0	0	0	11/14/2017	11/20/2017
Warren County	11.37	88.63	0	0	0	0	11/7/2017	11/13/2017
Warren County	11.37	88.63	0	0	0	0	10/31/2017	11/6/2017
Warren County	11.78	88.22	0	0	0	0	10/24/2017	10/30/2017
Warren County	0	100	0	0	0	0	10/17/2017	10/23/2017
Warren County	100	0	0	0	0	0	10/10/2017	10/16/2017
Warren County	100	0	0	0	0	0	10/3/2017	10/9/2017
Warren County	100	0	0	0	0	0	9/26/2017	10/2/2017
Warren County	100	0	0	0	0	0	9/19/2017	9/25/2017
Warren County	100	0	0	0	0	0	9/12/2017	9/18/2017
Warren County	100	0	0	0	0	0	9/5/2017	9/11/2017
Warren County	100	0	0	0	0	0	8/29/2017	9/4/2017
Warren County	100	0	0	0	0	0	8/22/2017	8/28/2017
Warren County	100	0	0	0	0	0	8/15/2017	8/21/2017
Warren County	100	0	0	0	0	0	8/8/2017	8/14/2017
Warren County	100	0	0	0	0	0	8/1/2017	8/7/2017
Warren County	100	0	0	0	0	0	7/25/2017	7/31/2017
Warren County	100	0	0	0	0	0	7/18/2017	7/24/2017
Warren County	100	0	0	0	0	0	7/11/2017	7/17/2017
Warren County	100	0	0	0	0	0	7/4/2017	7/10/2017

Warren County	1.14	98.86	0	0	0	0	6/27/2017	7/3/2017
Warren County	99.09	0.91	0	0	0	0	6/20/2017	6/26/2017
Warren County	99.09	0.91	0	0	0	0	6/13/2017	6/19/2017
Warren County	99.09	0.91	0	0	0	0	6/6/2017	6/12/2017
Warren County	99.09	0.91	0	0	0	0	5/30/2017	6/5/2017
Warren County	0	100	0	0	0	0	5/23/2017	5/29/2017
Warren County	0.03	99.97	0	0	0	0	5/16/2017	5/22/2017
Warren County	0.03	99.97	0	0	0	0	5/9/2017	5/15/2017
Warren County	0.03	99.97	0	0	0	0	5/2/2017	5/8/2017
Warren County	0.03	99.97	0	0	0	0	4/25/2017	5/1/2017
Warren County	0	100	0	0	0	0	4/18/2017	4/24/2017
Warren County	1.62	98.38	0	0	0	0	4/11/2017	4/17/2017
Warren County	1.62	98.38	5.46	0	0	0	4/4/2017	4/10/2017
Warren County	1.62	98.38	5.46	0	0	0	3/28/2017	4/3/2017
Warren County	7.65	92.35	5.46	0	0	0	3/21/2017	3/27/2017
Warren County	64.23	35.77	4.65	0	0	0	3/14/2017	3/20/2017
Warren County	64.44	35.56	4.65	0	0	0	3/7/2017	3/13/2017
Warren County	64.44	35.56	4.65	0	0	0	2/28/2017	3/6/2017
Warren County	64.44	35.56	4.65	0	0	0	2/21/2017	2/27/2017
Warren County	64.44	35.56	4.65	0	0	0	2/14/2017	2/20/2017
Warren County	7.52	92.48	10.49	0	0	0	2/7/2017	2/13/2017
Warren County	7.52	92.48	10.49	0	0	0	1/31/2017	2/6/2017
Warren County	7.52	92.48	10.49	0	0	0	1/24/2017	1/30/2017
Warren County	0	100	93.32	4.07	0	0	1/17/2017	1/23/2017
Warren County	0	100	93.32	4.07	0	0	1/10/2017	1/16/2017
Warren County	0	100	100	18.68	0	0	1/3/2017	1/9/2017
Warren County	0	100	100	100	100	14.68	12/27/2016	1/2/2017
Warren County	0	100	100	100	100	14.68	12/20/2016	12/26/2016
Warren County	0	100	100	100	100	14.68	12/13/2016	12/19/2016
Warren County	0	100	100	100	100	14.68	12/6/2016	12/12/2016
Warren County	0	100	100	100	99.31	9.42	11/29/2016	12/5/2016
Warren County	0	100	100	99.91	91.63	9.42	11/22/2016	11/28/2016
Warren County	0	100	100	94.03	50.12	0	11/15/2016	11/21/2016
Warren County	0	100	100	61.17	0	0	11/8/2016	11/14/2016
Warren County	0	100	100	61.17	0	0	11/1/2016	11/7/2016
Warren County	0	100	100	61.17	0	0	10/25/2016	10/31/2016
Warren County	0	100	100	61.17	0	0	10/18/2016	10/24/2016
Warren County	0	100	98.33	7.4	0	0	10/11/2016	10/17/2016
Warren County	0	100	64.19	7.33	0	0	10/4/2016	10/10/2016
Warren County	0	100	63.03	1.56	0	0	9/27/2016	10/3/2016
Warren County	5.8	94.2	58.86	1.56	0	0	9/20/2016	9/26/2016
Warren County	5.8	94.2	58.86	1.23	0	0	9/13/2016	9/19/2016
Warren County	5.8	94.2	44.12	0	0	0	9/6/2016	9/12/2016

Warren County	0	100	57.4	0	0	0	8/30/2016	9/5/2016
Warren County	0	100	57.4	0	0	0	8/23/2016	8/29/2016
Warren County	0	100	20.27	0	0	0	8/16/2016	8/22/2016
Warren County	0	100	0	0	0	0	8/9/2016	8/15/2016
Warren County	0	100	0	0	0	0	8/2/2016	8/8/2016
Warren County	0	100	0	0	0	0	7/26/2016	8/1/2016
Warren County	0	100	0	0	0	0	7/19/2016	7/25/2016
Warren County	1.17	98.83	0	0	0	0	7/12/2016	7/18/2016
Warren County	1.97	98.03	0	0	0	0	7/5/2016	7/11/2016
Warren County	1.97	98.03	0	0	0	0	6/28/2016	7/4/2016
Warren County	1.47	98.53	0	0	0	0	6/21/2016	6/27/2016
Warren County	1.47	98.53	0	0	0	0	6/14/2016	6/20/2016
Warren County	33.95	66.05	0	0	0	0	6/7/2016	6/13/2016
Warren County	33.95	66.05	0	0	0	0	5/31/2016	6/6/2016
Warren County	33.95	66.05	0	0	0	0	5/24/2016	5/30/2016
Warren County	33.95	66.05	0	0	0	0	5/17/2016	5/23/2016
Warren County	81.81	18.19	0	0	0	0	5/10/2016	5/16/2016
Warren County	77.93	22.07	0	0	0	0	5/3/2016	5/9/2016
Warren County	100	0	0	0	0	0	4/26/2016	5/2/2016
Warren County	100	0	0	0	0	0	4/19/2016	4/25/2016
Warren County	100	0	0	0	0	0	4/12/2016	4/18/2016
Warren County	100	0	0	0	0	0	4/5/2016	4/11/2016
Warren County	0	100	0	0	0	0	3/29/2016	4/4/2016
Warren County	14.82	85.18	0	0	0	0	3/22/2016	3/28/2016
Warren County	100	0	0	0	0	0	3/15/2016	3/21/2016
Warren County	100	0	0	0	0	0	3/8/2016	3/14/2016
Warren County	100	0	0	0	0	0	3/1/2016	3/7/2016
Warren County	100	0	0	0	0	0	2/23/2016	2/29/2016
Warren County	100	0	0	0	0	0	2/16/2016	2/22/2016
Warren County	100	0	0	0	0	0	2/9/2016	2/15/2016
Warren County	100	0	0	0	0	0	2/2/2016	2/8/2016
Warren County	100	0	0	0	0	0	1/26/2016	2/1/2016
Warren County	100	0	0	0	0	0	1/19/2016	1/25/2016
Warren County	100	0	0	0	0	0	1/12/2016	1/18/2016
Warren County	100	0	0	0	0	0	1/5/2016	1/11/2016
Warren County	100	0	0	0	0	0	12/29/2015	1/4/2016
Warren County	100	0	0	0	0	0	12/22/2015	12/28/2015
Warren County	100	0	0	0	0	0	12/15/2015	12/21/2015
Warren County	100	0	0	0	0	0	12/8/2015	12/14/2015
Warren County	100	0	0	0	0	0	12/1/2015	12/7/2015
Warren County	100	0	0	0	0	0	11/24/2015	11/30/2015
Warren County	100	0	0	0	0	0	11/17/2015	11/23/2015
Warren County	100	0	0	0	0	0	11/10/2015	11/16/2015

Warren County	100	0	0	0	0	0	11/3/2015	11/9/2015
Warren County	100	0	0	0	0	0	10/27/2015	11/2/2015
Warren County	100	0	0	0	0	0	10/20/2015	10/26/2015
Warren County	100	0	0	0	0	0	10/13/2015	10/19/2015
Warren County	100	0	0	0	0	0	10/6/2015	10/12/2015
Warren County	100	0	0	0	0	0	9/29/2015	10/5/2015
Warren County	100	0	0	0	0	0	9/22/2015	9/28/2015
Warren County	100	0	0	0	0	0	9/15/2015	9/21/2015
Warren County	85.68	14.32	0	0	0	0	9/8/2015	9/14/2015
Warren County	85.68	14.32	0	0	0	0	9/1/2015	9/7/2015
Warren County	5.73	94.27	15.4	0	0	0	8/25/2015	8/31/2015
Warren County	0	100	21.99	0	0	0	8/18/2015	8/24/2015
Warren County	0	100	21.99	0	0	0	8/11/2015	8/17/2015
Warren County	0	100	21.99	0	0	0	8/4/2015	8/10/2015
Warren County	40.05	59.95	0	0	0	0	7/28/2015	8/3/2015
Warren County	97.95	2.05	0	0	0	0	7/21/2015	7/27/2015
Warren County	100	0	0	0	0	0	7/14/2015	7/20/2015
Warren County	100	0	0	0	0	0	7/7/2015	7/13/2015
Warren County	100	0	0	0	0	0	6/30/2015	7/6/2015
Warren County	100	0	0	0	0	0	6/23/2015	6/29/2015
Warren County	100	0	0	0	0	0	6/16/2015	6/22/2015
Warren County	100	0	0	0	0	0	6/9/2015	6/15/2015
Warren County	100	0	0	0	0	0	6/2/2015	6/8/2015
Warren County	100	0	0	0	0	0	5/26/2015	6/1/2015
Warren County	100	0	0	0	0	0	5/19/2015	5/25/2015
Warren County	100	0	0	0	0	0	5/12/2015	5/18/2015
Warren County	100	0	0	0	0	0	5/5/2015	5/11/2015
Warren County	100	0	0	0	0	0	4/28/2015	5/4/2015
Warren County	100	0	0	0	0	0	4/21/2015	4/27/2015
Warren County	100	0	0	0	0	0	4/14/2015	4/20/2015
Warren County	100	0	0	0	0	0	4/7/2015	4/13/2015
Warren County	100	0	0	0	0	0	3/31/2015	4/6/2015
Warren County	100	0	0	0	0	0	3/24/2015	3/30/2015
Warren County	100	0	0	0	0	0	3/17/2015	3/23/2015
Warren County	100	0	0	0	0	0	3/10/2015	3/16/2015
Warren County	100	0	0	0	0	0	3/3/2015	3/9/2015
Warren County	99.51	0.49	0	0	0	0	2/24/2015	3/2/2015
Warren County	99.51	0.49	0	0	0	0	2/17/2015	2/23/2015
Warren County	99.51	0.49	0	0	0	0	2/10/2015	2/16/2015
Warren County	99.51	0.49	0	0	0	0	2/3/2015	2/9/2015
Warren County	99.51	0.49	0	0	0	0	1/27/2015	2/2/2015
Warren County	99.51	0.49	0	0	0	0	1/20/2015	1/26/2015
Warren County	99.51	0.49	0	0	0	0	1/13/2015	1/19/2015

Warren County	91.21	8.79	0	0	0	0	1/6/2015	1/12/2015
Warren County	91.21	8.79	0	0	0	0	12/30/2014	1/5/2015
Warren County	0	100	12.69	0	0	0	12/23/2014	12/29/2014
Warren County	0	100	12.69	0	0	0	12/16/2014	12/22/2014
Warren County	0	100	6.06	0	0	0	12/9/2014	12/15/2014
Warren County	0	100	5.72	0	0	0	12/2/2014	12/8/2014
Warren County	0	100	5.72	0	0	0	11/25/2014	12/1/2014
Warren County	0	100	5.72	0	0	0	11/18/2014	11/24/2014
Warren County	9.17	90.83	5.72	0	0	0	11/11/2014	11/17/2014
Warren County	9.17	90.83	5.72	0	0	0	11/4/2014	11/10/2014
Warren County	9.17	90.83	0	0	0	0	10/28/2014	11/3/2014
Warren County	9.17	90.83	0	0	0	0	10/21/2014	10/27/2014
Warren County	98.22	1.78	0	0	0	0	10/14/2014	10/20/2014
Warren County	97.51	2.49	0	0	0	0	10/7/2014	10/13/2014
Warren County	95.84	4.16	0	0	0	0	9/30/2014	10/6/2014
Warren County	95.84	4.16	0	0	0	0	9/23/2014	9/29/2014
Warren County	95.84	4.16	0	0	0	0	9/16/2014	9/22/2014
Warren County	95.84	4.16	0	0	0	0	9/9/2014	9/15/2014
Warren County	95.62	4.38	0	0	0	0	9/2/2014	9/8/2014
Warren County	100	0	0	0	0	0	8/26/2014	9/1/2014
Warren County	100	0	0	0	0	0	8/19/2014	8/25/2014
Warren County	100	0	0	0	0	0	8/12/2014	8/18/2014
Warren County	95.69	4.31	0	0	0	0	8/5/2014	8/11/2014
Warren County	95.69	4.31	0	0	0	0	7/29/2014	8/4/2014
Warren County	95.69	4.31	0	0	0	0	7/22/2014	7/28/2014
Warren County	0	100	0	0	0	0	7/15/2014	7/21/2014
Warren County	0	100	0	0	0	0	7/8/2014	7/14/2014
Warren County	21.56	78.44	0	0	0	0	7/1/2014	7/7/2014
Warren County	26.34	73.66	0	0	0	0	6/24/2014	6/30/2014
Warren County	100	0	0	0	0	0	6/17/2014	6/23/2014
Warren County	100	0	0	0	0	0	6/10/2014	6/16/2014
Warren County	100	0	0	0	0	0	6/3/2014	6/9/2014
Warren County	100	0	0	0	0	0	5/27/2014	6/2/2014
Warren County	100	0	0	0	0	0	5/20/2014	5/26/2014
Warren County	100	0	0	0	0	0	5/13/2014	5/19/2014
Warren County	100	0	0	0	0	0	5/6/2014	5/12/2014
Warren County	100	0	0	0	0	0	4/29/2014	5/5/2014
Warren County	100	0	0	0	0	0	4/22/2014	4/28/2014
Warren County	100	0	0	0	0	0	4/15/2014	4/21/2014
Warren County	100	0	0	0	0	0	4/8/2014	4/14/2014
Warren County	100	0	0	0	0	0	4/1/2014	4/7/2014
Warren County	100	0	0	0	0	0	3/25/2014	3/31/2014
Warren County	100	0	0	0	0	0	3/18/2014	3/24/2014

Warren County	100	0	0	0	0	0	3/11/2014	3/17/2014
Warren County	100	0	0	0	0	0	3/4/2014	3/10/2014
Warren County	100	0	0	0	0	0	2/25/2014	3/3/2014
Warren County	100	0	0	0	0	0	2/18/2014	2/24/2014
Warren County	100	0	0	0	0	0	2/11/2014	2/17/2014
Warren County	100	0	0	0	0	0	2/4/2014	2/10/2014
Warren County	100	0	0	0	0	0	1/28/2014	2/3/2014
Warren County	100	0	0	0	0	0	1/21/2014	1/27/2014
Warren County	100	0	0	0	0	0	1/14/2014	1/20/2014
Warren County	100	0	0	0	0	0	1/7/2014	1/13/2014
Warren County	100	0	0	0	0	0	12/31/2013	1/6/2014
Warren County	39.09	60.91	0	0	0	0	12/24/2013	12/30/2013
Warren County	0	100	0	0	0	0	12/17/2013	12/23/2013
Warren County	0	100	0	0	0	0	12/10/2013	12/16/2013
Warren County	0	100	0	0	0	0	12/3/2013	12/9/2013
Warren County	0	100	0	0	0	0	11/26/2013	12/2/2013
Warren County	0	100	0	0	0	0	11/19/2013	11/25/2013
Warren County	0	100	0	0	0	0	11/12/2013	11/18/2013
Warren County	0	100	0	0	0	0	11/5/2013	11/11/2013
Warren County	0	100	0	0	0	0	10/29/2013	11/4/2013
Warren County	5.22	94.78	0	0	0	0	10/22/2013	10/28/2013
Warren County	100	0	0	0	0	0	10/15/2013	10/21/2013
Warren County	100	0	0	0	0	0	10/8/2013	10/14/2013
Warren County	100	0	0	0	0	0	10/1/2013	10/7/2013
Warren County	100	0	0	0	0	0	9/24/2013	9/30/2013
Warren County	100	0	0	0	0	0	9/17/2013	9/23/2013
Warren County	100	0	0	0	0	0	9/10/2013	9/16/2013
Warren County	100	0	0	0	0	0	9/3/2013	9/9/2013
Warren County	100	0	0	0	0	0	8/27/2013	9/2/2013
Warren County	100	0	0	0	0	0	8/20/2013	8/26/2013
Warren County	100	0	0	0	0	0	8/13/2013	8/19/2013
Warren County	100	0	0	0	0	0	8/6/2013	8/12/2013
Warren County	100	0	0	0	0	0	7/30/2013	8/5/2013
Warren County	100	0	0	0	0	0	7/23/2013	7/29/2013
Warren County	100	0	0	0	0	0	7/16/2013	7/22/2013
Warren County	100	0	0	0	0	0	7/9/2013	7/15/2013
Warren County	100	0	0	0	0	0	7/2/2013	7/8/2013
Warren County	100	0	0	0	0	0	6/25/2013	7/1/2013
Warren County	100	0	0	0	0	0	6/18/2013	6/24/2013
Warren County	100	0	0	0	0	0	6/11/2013	6/17/2013
Warren County	100	0	0	0	0	0	6/4/2013	6/10/2013
Warren County	100	0	0	0	0	0	5/28/2013	6/3/2013
Warren County	100	0	0	0	0	0	5/21/2013	5/27/2013

Warren County	100	0	0	0	0	0	5/14/2013	5/20/2013
Warren County	100	0	0	0	0	0	5/7/2013	5/13/2013
Warren County	100	0	0	0	0	0	4/30/2013	5/6/2013
Warren County	15.26	84.74	0	0	0	0	4/23/2013	4/29/2013
Warren County	2.36	97.64	0	0	0	0	4/16/2013	4/22/2013
Warren County	2.36	97.64	0	0	0	0	4/9/2013	4/15/2013
Warren County	0	100	96.92	0	0	0	4/2/2013	4/8/2013
Warren County	0	100	96.92	0	0	0	3/26/2013	4/1/2013
Warren County	0	100	100	96.78	0	0	3/19/2013	3/25/2013
Warren County	0	100	100	100	0	0	3/12/2013	3/18/2013
Warren County	0	100	100	100	0	0	3/5/2013	3/11/2013
Warren County	0	100	100	100	0	0	2/26/2013	3/4/2013
Warren County	0	100	100	100	100	0	2/19/2013	2/25/2013
Warren County	0	100	100	100	100	0	2/12/2013	2/18/2013
Warren County	0	100	100	100	100	17.5	2/5/2013	2/11/2013
Warren County	0	100	100	100	100	17.5	1/29/2013	2/4/2013
Warren County	0	100	100	100	100	17.5	1/22/2013	1/28/2013
Warren County	0	100	100	100	100	17.5	1/15/2013	1/21/2013
Warren County	0	100	100	100	100	17.5	1/8/2013	1/14/2013
Warren County	0	100	100	100	100	17.5	1/1/2013	1/7/2013
Warren County	0	100	100	100	100	17.5	12/25/2012	12/31/2012
Warren County	0	100	100	100	100	17.5	12/18/2012	12/24/2012
Warren County	0	100	100	100	100	17.5	12/11/2012	12/17/2012
Warren County	0	100	100	100	100	17.5	12/4/2012	12/10/2012
Warren County	0	100	100	100	99.92	17.5	11/27/2012	12/3/2012
Warren County	0	100	100	100	99.92	17.5	11/20/2012	11/26/2012
Warren County	0	100	100	100	75.2	17.5	11/13/2012	11/19/2012
Warren County	0	100	100	100	75.2	17.5	11/6/2012	11/12/2012
Warren County	0	100	100	100	69.55	10	10/30/2012	11/5/2012
Warren County	0	100	100	100	69.55	10	10/23/2012	10/29/2012
Warren County	0	100	100	100	69.55	10	10/16/2012	10/22/2012
Warren County	0	100	100	100	69.55	10	10/9/2012	10/15/2012
Warren County	0	100	100	100	69.55	10	10/2/2012	10/8/2012
Warren County	0	100	100	100	69.55	8.18	9/25/2012	10/1/2012
Warren County	0	100	100	100	69.55	8.18	9/18/2012	9/24/2012
Warren County	0	100	100	100	69.55	8.18	9/11/2012	9/17/2012
Warren County	0	100	100	100	69.55	8.18	9/4/2012	9/10/2012
Warren County	0	100	100	100	93.2	8.18	8/28/2012	9/3/2012
Warren County	0	100	100	100	100	74.45	8/21/2012	8/27/2012
Warren County	0	100	100	100	100	74.45	8/14/2012	8/20/2012
Warren County	0	100	100	100	100	100	8/7/2012	8/13/2012
Warren County	0	100	100	100	100	100	7/31/2012	8/6/2012
Warren County	0	100	100	100	100	100	7/24/2012	7/30/2012

Warren County	0	100	100	100	100	100	7/17/2012	7/23/2012
Warren County	0	100	100	100	100	100	7/10/2012	7/16/2012
Warren County	0	100	100	100	100	100	7/3/2012	7/9/2012
Warren County	0	100	100	100	100	100	6/26/2012	7/2/2012
Warren County	0	100	100	100	100	35.53	6/19/2012	6/25/2012
Warren County	0	100	100	100	100	35.53	6/12/2012	6/18/2012
Warren County	0	100	100	100	100	35.53	6/5/2012	6/11/2012
Warren County	0	100	100	100	100	86.98	5/29/2012	6/4/2012
Warren County	0	100	100	100	100	86.98	5/22/2012	5/28/2012
Warren County	0	100	100	100	100	84.75	5/15/2012	5/21/2012
Warren County	0	100	100	100	100	0	5/8/2012	5/14/2012
Warren County	0	100	100	100	100	0	5/1/2012	5/7/2012
Warren County	0	100	100	100	100	0	4/24/2012	4/30/2012
Warren County	0	100	100	100	100	0	4/17/2012	4/23/2012
Warren County	0	100	100	100	100	0	4/10/2012	4/16/2012
Warren County	0	100	100	100	100	0	4/3/2012	4/9/2012
Warren County	0	100	100	100	100	0	3/27/2012	4/2/2012
Warren County	0	100	100	100	100	0	3/20/2012	3/26/2012
Warren County	0	100	100	100	100	0	3/13/2012	3/19/2012
Warren County	0	100	100	100	100	0	3/6/2012	3/12/2012
Warren County	0	100	100	100	100	0	2/28/2012	3/5/2012
Warren County	0	100	100	100	100	0	2/21/2012	2/27/2012
Warren County	0	100	100	100	100	0	2/14/2012	2/20/2012
Warren County	0	100	100	100	100	0	2/7/2012	2/13/2012
Warren County	0	100	100	100	100	0	1/31/2012	2/6/2012
Warren County	0	100	100	100	100	0	1/24/2012	1/30/2012
Warren County	0	100	100	100	100	0	1/17/2012	1/23/2012
Warren County	0	100	100	100	100	0	1/10/2012	1/16/2012
Warren County	0	100	100	100	100	0	1/3/2012	1/9/2012
Warren County	0	100	100	100	100	0	12/27/2011	1/2/2012
Warren County	0	100	100	100	100	0	12/20/2011	12/26/2011
Warren County	0	100	100	100	100	0	12/13/2011	12/19/2011
Warren County	0	100	100	100	100	0	12/6/2011	12/12/2011
Warren County	0	100	100	100	100	0	11/29/2011	12/5/2011
Warren County	0	100	100	100	100	0	11/22/2011	11/28/2011
Warren County	0	100	100	100	100	0	11/15/2011	11/21/2011
Warren County	0	100	100	100	69.29	0	11/8/2011	11/14/2011
Warren County	0	100	100	100	69.29	0	11/1/2011	11/7/2011
Warren County	0	100	100	100	69.29	0	10/25/2011	10/31/2011
Warren County	0	100	100	100	100	0	10/18/2011	10/24/2011
Warren County	0	100	100	100	100	0	10/11/2011	10/17/2011
Warren County	0	100	100	100	100	0	10/4/2011	10/10/2011
Warren County	0	100	100	100	100	0	9/27/2011	10/3/2011

Warren County	0	100	100	100	100	0	9/20/2011	9/26/2011
Warren County	0	100	100	100	100	0	9/13/2011	9/19/2011
Warren County	0	100	100	100	100	0	9/6/2011	9/12/2011
Warren County	0	100	100	100	100	0	8/30/2011	9/5/2011
Warren County	0	100	100	100	92.18	0	8/23/2011	8/29/2011
Warren County	0	100	100	100	92.18	0	8/16/2011	8/22/2011
Warren County	0	100	100	100	92.18	0	8/9/2011	8/15/2011
Warren County	0	100	100	100	97.14	0	8/2/2011	8/8/2011
Warren County	0	100	100	100	97.14	0	7/26/2011	8/1/2011
Warren County	0	100	100	100	97.14	0	7/19/2011	7/25/2011
Warren County	0	100	100	100	97.14	0	7/12/2011	7/18/2011
Warren County	0	100	100	100	97.14	0	7/5/2011	7/11/2011
Warren County	0	100	100	100	97.14	0	6/28/2011	7/4/2011
Warren County	0	100	100	100	97.14	0	6/21/2011	6/27/2011
Warren County	0	100	100	95.93	0	0	6/14/2011	6/20/2011
Warren County	0	100	100	95.93	0	0	6/7/2011	6/13/2011
Warren County	0	100	100	95.93	0	0	5/31/2011	6/6/2011
Warren County	0	100	100	11.67	0	0	5/24/2011	5/30/2011
Warren County	0	100	100	11.67	0	0	5/17/2011	5/23/2011
Warren County	0	100	71.78	0	0	0	5/10/2011	5/16/2011
Warren County	0	100	69.54	0	0	0	5/3/2011	5/9/2011
Warren County	0	100	69.54	0	0	0	4/26/2011	5/2/2011
Warren County	0	100	69.54	0	0	0	4/19/2011	4/25/2011
Warren County	0	100	69.54	0	0	0	4/12/2011	4/18/2011
Warren County	0.48	99.52	69.54	0	0	0	4/5/2011	4/11/2011
Warren County	0	100	54.45	0	0	0	3/29/2011	4/4/2011
Warren County	0	100	100	0	0	0	3/22/2011	3/28/2011
Warren County	0	100	100	0	0	0	3/15/2011	3/21/2011
Warren County	0	100	100	0	0	0	3/8/2011	3/14/2011
Warren County	0	100	100	0	0	0	3/1/2011	3/7/2011
Warren County	0	100	100	0	0	0	2/22/2011	2/28/2011
Warren County	0	100	100	0	0	0	2/15/2011	2/21/2011
Warren County	0	100	100	0	0	0	2/8/2011	2/14/2011
Warren County	0	100	100	0	0	0	2/1/2011	2/7/2011
Warren County	0	100	100	0	0	0	1/25/2011	1/31/2011
Warren County	0	100	100	0	0	0	1/18/2011	1/24/2011
Warren County	0	100	100	0	0	0	1/11/2011	1/17/2011
Warren County	0	100	100	0	0	0	1/4/2011	1/10/2011
Warren County	0	100	100	0	0	0	12/28/2010	1/3/2011
Warren County	0	100	100	0	0	0	12/21/2010	12/27/2010
Warren County	0	100	100	0	0	0	12/14/2010	12/20/2010
Warren County	0	100	100	0	0	0	12/7/2010	12/13/2010
Warren County	0	100	100	0	0	0	11/30/2010	12/6/2010

Warren County	0	100	100	0	0	0	11/23/2010	11/29/2010
Warren County	0	100	0	0	0	0	11/16/2010	11/22/2010
Warren County	0	100	0	0	0	0	11/9/2010	11/15/2010
Warren County	0	100	0	0	0	0	11/2/2010	11/8/2010
Warren County	0	100	0	0	0	0	10/26/2010	11/1/2010
Warren County	0	100	0	0	0	0	10/19/2010	10/25/2010
Warren County	0	100	0	0	0	0	10/12/2010	10/18/2010
Warren County	0	100	0	0	0	0	10/5/2010	10/11/2010
Warren County	0	100	0	0	0	0	9/28/2010	10/4/2010
Warren County	0	100	0	0	0	0	9/21/2010	9/27/2010
Warren County	0	100	0	0	0	0	9/14/2010	9/20/2010
Warren County	100	0	0	0	0	0	9/7/2010	9/13/2010
Warren County	100	0	0	0	0	0	8/31/2010	9/6/2010
Warren County	100	0	0	0	0	0	8/24/2010	8/30/2010
Warren County	10.3	89.7	0	0	0	0	8/17/2010	8/23/2010
Warren County	16.11	83.89	0	0	0	0	8/10/2010	8/16/2010
Warren County	16.11	83.89	0	0	0	0	8/3/2010	8/9/2010
Warren County	4.68	95.32	0	0	0	0	7/27/2010	8/2/2010
Warren County	8.56	91.44	0	0	0	0	7/20/2010	7/26/2010
Warren County	100	0	0	0	0	0	7/13/2010	7/19/2010
Warren County	100	0	0	0	0	0	7/6/2010	7/12/2010
Warren County	100	0	0	0	0	0	6/29/2010	7/5/2010
Warren County	100	0	0	0	0	0	6/22/2010	6/28/2010
Warren County	100	0	0	0	0	0	6/15/2010	6/21/2010
Warren County	100	0	0	0	0	0	6/8/2010	6/14/2010
Warren County	100	0	0	0	0	0	6/1/2010	6/7/2010
Warren County	100	0	0	0	0	0	5/25/2010	5/31/2010
Warren County	100	0	0	0	0	0	5/18/2010	5/24/2010
Warren County	100	0	0	0	0	0	5/11/2010	5/17/2010
Warren County	100	0	0	0	0	0	5/4/2010	5/10/2010
Warren County	100	0	0	0	0	0	4/27/2010	5/3/2010
Warren County	100	0	0	0	0	0	4/20/2010	4/26/2010
Warren County	100	0	0	0	0	0	4/13/2010	4/19/2010
Warren County	100	0	0	0	0	0	4/6/2010	4/12/2010
Warren County	100	0	0	0	0	0	3/30/2010	4/5/2010
Warren County	100	0	0	0	0	0	3/23/2010	3/29/2010
Warren County	100	0	0	0	0	0	3/16/2010	3/22/2010
Warren County	100	0	0	0	0	0	3/9/2010	3/15/2010
Warren County	100	0	0	0	0	0	3/2/2010	3/8/2010
Warren County	100	0	0	0	0	0	2/23/2010	3/1/2010
Warren County	100	0	0	0	0	0	2/16/2010	2/22/2010
Warren County	100	0	0	0	0	0	2/9/2010	2/15/2010
Warren County	100	0	0	0	0	0	2/2/2010	2/8/2010

Warren County	100	0	0	0	0	0	1/26/2010	2/1/2010
Warren County	100	0	0	0	0	0	1/19/2010	1/25/2010
Warren County	100	0	0	0	0	0	1/12/2010	1/18/2010
Warren County	100	0	0	0	0	0	1/5/2010	1/11/2010
Warren County	100	0	0	0	0	0	12/29/2009	1/4/2010
Warren County	100	0	0	0	0	0	12/22/2009	12/28/2009
Warren County	100	0	0	0	0	0	12/15/2009	12/21/2009
Warren County	100	0	0	0	0	0	12/8/2009	12/14/2009
Warren County	100	0	0	0	0	0	12/1/2009	12/7/2009
Warren County	100	0	0	0	0	0	11/24/2009	11/30/2009
Warren County	100	0	0	0	0	0	11/17/2009	11/23/2009
Warren County	100	0	0	0	0	0	11/10/2009	11/16/2009
Warren County	100	0	0	0	0	0	11/3/2009	11/9/2009
Warren County	100	0	0	0	0	0	10/27/2009	11/2/2009
Warren County	100	0	0	0	0	0	10/20/2009	10/26/2009
Warren County	100	0	0	0	0	0	10/13/2009	10/19/2009
Warren County	100	0	0	0	0	0	10/6/2009	10/12/2009
Warren County	100	0	0	0	0	0	9/29/2009	10/5/2009
Warren County	100	0	0	0	0	0	9/22/2009	9/28/2009
Warren County	2.83	97.17	0	0	0	0	9/15/2009	9/21/2009
Warren County	0	100	0	0	0	0	9/8/2009	9/14/2009
Warren County	0	100	0	0	0	0	9/1/2009	9/7/2009
Warren County	0	100	0	0	0	0	8/25/2009	8/31/2009
Warren County	0	100	0	0	0	0	8/18/2009	8/24/2009
Warren County	0	100	0	0	0	0	8/11/2009	8/17/2009
Warren County	0	100	0	0	0	0	8/4/2009	8/10/2009
Warren County	0	100	0	0	0	0	7/28/2009	8/3/2009
Warren County	0	100	0	0	0	0	7/21/2009	7/27/2009
Warren County	0	100	0	0	0	0	7/14/2009	7/20/2009
Warren County	0	100	0	0	0	0	7/7/2009	7/13/2009
Warren County	100	0	0	0	0	0	6/30/2009	7/6/2009
Warren County	100	0	0	0	0	0	6/23/2009	6/29/2009
Warren County	100	0	0	0	0	0	6/16/2009	6/22/2009
Warren County	100	0	0	0	0	0	6/9/2009	6/15/2009
Warren County	100	0	0	0	0	0	6/2/2009	6/8/2009
Warren County	100	0	0	0	0	0	5/26/2009	6/1/2009
Warren County	100	0	0	0	0	0	5/19/2009	5/25/2009
Warren County	100	0	0	0	0	0	5/12/2009	5/18/2009
Warren County	100	0	0	0	0	0	5/5/2009	5/11/2009
Warren County	100	0	0	0	0	0	4/28/2009	5/4/2009
Warren County	100	0	0	0	0	0	4/21/2009	4/27/2009
Warren County	100	0	0	0	0	0	4/14/2009	4/20/2009
Warren County	100	0	0	0	0	0	4/7/2009	4/13/2009

Warren County	0	100	0	0	0	0	3/31/2009	4/6/2009
Warren County	0	100	47.7	0	0	0	3/24/2009	3/30/2009
Warren County	0	100	47.7	0	0	0	3/17/2009	3/23/2009
Warren County	0	100	47.7	0	0	0	3/10/2009	3/16/2009
Warren County	0	100	47.7	0	0	0	3/3/2009	3/9/2009
Warren County	0	100	100	0	0	0	2/24/2009	3/2/2009
Warren County	0	100	0.9	0	0	0	2/17/2009	2/23/2009
Warren County	0	100	0	0	0	0	2/10/2009	2/16/2009
Warren County	81.07	18.93	0	0	0	0	2/3/2009	2/9/2009
Warren County	81.08	18.92	0	0	0	0	1/27/2009	2/2/2009
Warren County	80.7	19.3	0	0	0	0	1/20/2009	1/26/2009
Warren County	80.7	19.3	0	0	0	0	1/13/2009	1/19/2009
Warren County	3.51	96.49	19.01	0	0	0	1/6/2009	1/12/2009
Warren County	3.51	96.49	19.01	0	0	0	12/30/2008	1/5/2009
Warren County	3.51	96.49	19.01	0	0	0	12/23/2008	12/29/2008
Warren County	3.51	96.49	19.01	0	0	0	12/16/2008	12/22/2008
Warren County	0	100	100	95.48	18.45	0	12/9/2008	12/15/2008
Warren County	0	100	100	100	94	0	12/2/2008	12/8/2008
Warren County	0	100	100	100	94	0	11/25/2008	12/1/2008
Warren County	0	100	100	100	94	0	11/18/2008	11/24/2008
Warren County	0	100	100	100	100	0	11/11/2008	11/17/2008
Warren County	0	100	100	100	100	0	11/4/2008	11/10/2008
Warren County	0	100	100	100	100	0	10/28/2008	11/3/2008
Warren County	0	100	100	100	100	0	10/21/2008	10/27/2008
Warren County	0	100	100	100	100	0	10/14/2008	10/20/2008
Warren County	0	100	100	100	100	0	10/7/2008	10/13/2008
Warren County	0	100	100	100	100	0	9/30/2008	10/6/2008
Warren County	0	100	100	100	0	0	9/23/2008	9/29/2008
Warren County	0	100	100	100	0	0	9/16/2008	9/22/2008
Warren County	0	100	100	100	0	0	9/9/2008	9/15/2008
Warren County	0	100	100	100	0	0	9/2/2008	9/8/2008
Warren County	0	100	100	100	0	0	8/26/2008	9/1/2008
Warren County	0	100	100	100	62.61	0	8/19/2008	8/25/2008
Warren County	0	100	100	100	69.25	0	8/12/2008	8/18/2008
Warren County	0	100	100	100	7.39	0	8/5/2008	8/11/2008
Warren County	0	100	100	100	7.39	0	7/29/2008	8/4/2008
Warren County	0	100	100	100	7.39	0	7/22/2008	7/28/2008
Warren County	0	100	100	100	7.39	0	7/15/2008	7/21/2008
Warren County	0	100	100	100	7.39	0	7/8/2008	7/14/2008
Warren County	0	100	100	100	7.39	0	7/1/2008	7/7/2008
Warren County	0	100	100	6.05	0	0	6/24/2008	6/30/2008
Warren County	0	100	100	0.91	0	0	6/17/2008	6/23/2008
Warren County	0	100	100	0	0	0	6/10/2008	6/16/2008

Warren County	0	100	100	0	0	0	6/3/2008	6/9/2008
Warren County	0	100	98.87	0	0	0	5/27/2008	6/2/2008
Warren County	0	100	98.87	0.12	0	0	5/20/2008	5/26/2008
Warren County	0	100	98.87	0.12	0	0	5/13/2008	5/19/2008
Warren County	0	100	98.87	0.12	0	0	5/6/2008	5/12/2008
Warren County	0	100	98.87	0.12	0	0	4/29/2008	5/5/2008
Warren County	0	100	98.87	0.12	0	0	4/22/2008	4/28/2008
Warren County	0	100	98.87	0.12	0	0	4/15/2008	4/21/2008
Warren County	0	100	98.87	0.12	0	0	4/8/2008	4/14/2008
Warren County	0	100	98.87	0.12	0	0	4/1/2008	4/7/2008
Warren County	0	100	98.87	0.12	0	0	3/25/2008	3/31/2008
Warren County	0	100	98.87	0.12	0	0	3/18/2008	3/24/2008
Warren County	0	100	98.87	0.12	0	0	3/11/2008	3/17/2008
Warren County	0	100	100	100	0	0	3/4/2008	3/10/2008
Warren County	0	100	100	100	0	0	2/26/2008	3/3/2008
Warren County	0	100	100	100	63.29	0	2/19/2008	2/25/2008
Warren County	0	100	100	100	63.29	0	2/12/2008	2/18/2008
Warren County	0	100	100	100	63.29	0	2/5/2008	2/11/2008
Warren County	0	100	100	100	63.29	0	1/29/2008	2/4/2008
Warren County	0	100	100	100	63.29	0	1/22/2008	1/28/2008
Warren County	0	100	100	100	100	0	1/15/2008	1/21/2008
Warren County	0	100	100	100	100	0	1/8/2008	1/14/2008
Warren County	0	100	100	100	100	0	1/1/2008	1/7/2008
Warren County	0	100	100	100	100	100	12/25/2007	12/31/2007
Warren County	0	100	100	100	100	100	12/18/2007	12/24/2007
Warren County	0	100	100	100	100	100	12/11/2007	12/17/2007
Warren County	0	100	100	100	100	58.86	12/4/2007	12/10/2007
Warren County	0	100	100	100	100	19.33	11/27/2007	12/3/2007
Warren County	0	100	100	100	100	19.33	11/20/2007	11/26/2007
Warren County	0	100	100	100	100	19.33	11/13/2007	11/19/2007
Warren County	0	100	100	100	59.96	0	11/6/2007	11/12/2007
Warren County	0	100	100	100	59.96	0	10/30/2007	11/5/2007
Warren County	0	100	100	100	59.96	0	10/23/2007	10/29/2007
Warren County	0	100	100	100	59.96	0	10/16/2007	10/22/2007
Warren County	0	100	100	76.38	6.32	0	10/9/2007	10/15/2007
Warren County	0	100	100	39.15	0	0	10/2/2007	10/8/2007
Warren County	0	100	100	39.15	0	0	9/25/2007	10/1/2007
Warren County	0	100	100	39.15	0	0	9/18/2007	9/24/2007
Warren County	0	100	100	100	0	0	9/11/2007	9/17/2007
Warren County	0	100	100	98.14	0	0	9/4/2007	9/10/2007
Warren County	0	100	100	100	24.47	0	8/28/2007	9/3/2007
Warren County	0	100	100	100	30.33	0	8/21/2007	8/27/2007
Warren County	0	100	100	36.05	0	0	8/14/2007	8/20/2007

Warren County	0	100	100	21.97	0	0	8/7/2007	8/13/2007
Warren County	0	100	51.94	0	0	0	7/31/2007	8/6/2007
Warren County	0	100	51.94	0	0	0	7/24/2007	7/30/2007
Warren County	0	100	51.94	0	0	0	7/17/2007	7/23/2007
Warren County	0	100	51.94	0	0	0	7/10/2007	7/16/2007
Warren County	0	100	51.94	0	0	0	7/3/2007	7/9/2007
Warren County	0	100	94.02	0	0	0	6/26/2007	7/2/2007
Warren County	0	100	94.02	0	0	0	6/19/2007	6/25/2007
Warren County	0	100	94.02	0	0	0	6/12/2007	6/18/2007
Warren County	0	100	94.02	0	0	0	6/5/2007	6/11/2007
Warren County	0	100	100	65.45	0	0	5/29/2007	6/4/2007
Warren County	0	100	100	65.44	0	0	5/22/2007	5/28/2007
Warren County	0	100	100	0	0	0	5/15/2007	5/21/2007
Warren County	0	100	100	0	0	0	5/8/2007	5/14/2007
Warren County	0	100	100	0	0	0	5/1/2007	5/7/2007
Warren County	0	100	100	0	0	0	4/24/2007	4/30/2007
Warren County	0	100	0	0	0	0	4/17/2007	4/23/2007
Warren County	0	100	0	0	0	0	4/10/2007	4/16/2007
Warren County	0	100	0	0	0	0	4/3/2007	4/9/2007
Warren County	0	100	0	0	0	0	3/27/2007	4/2/2007
Warren County	0	100	0	0	0	0	3/20/2007	3/26/2007
Warren County	74.57	25.43	0	0	0	0	3/13/2007	3/19/2007
Warren County	100	0	0	0	0	0	3/6/2007	3/12/2007
Warren County	0	100	0	0	0	0	2/27/2007	3/5/2007
Warren County	0	100	0	0	0	0	2/20/2007	2/26/2007
Warren County	100	0	0	0	0	0	2/13/2007	2/19/2007
Warren County	100	0	0	0	0	0	2/6/2007	2/12/2007
Warren County	100	0	0	0	0	0	1/30/2007	2/5/2007
Warren County	100	0	0	0	0	0	1/23/2007	1/29/2007
Warren County	100	0	0	0	0	0	1/16/2007	1/22/2007
Warren County	0	100	0	0	0	0	1/9/2007	1/15/2007
Warren County	0	100	0	0	0	0	1/2/2007	1/8/2007
Warren County	0	100	0	0	0	0	12/26/2006	1/1/2007
Warren County	0	100	0	0	0	0	12/19/2006	12/25/2006
Warren County	0	100	0	0	0	0	12/12/2006	12/18/2006
Warren County	100	0	0	0	0	0	12/5/2006	12/11/2006
Warren County	100	0	0	0	0	0	11/28/2006	12/4/2006
Warren County	43.75	56.25	0	0	0	0	11/21/2006	11/27/2006
Warren County	0	100	48.05	0	0	0	11/14/2006	11/20/2006
Warren County	0	100	48.05	0	0	0	11/7/2006	11/13/2006
Warren County	0	100	48.05	0	0	0	10/31/2006	11/6/2006
Warren County	0	100	100	0	0	0	10/24/2006	10/30/2006
Warren County	0	100	100	0	0	0	10/17/2006	10/23/2006

Warren County	0	100	100	0	0	0	10/10/2006	10/16/2006
Warren County	0	100	100	0	0	0	10/3/2006	10/9/2006
Warren County	0	100	3.37	0	0	0	9/26/2006	10/2/2006
Warren County	0	100	3.37	0	0	0	9/19/2006	9/25/2006
Warren County	0	100	100	0	0	0	9/12/2006	9/18/2006
Warren County	0	100	100	0	0	0	9/5/2006	9/11/2006
Warren County	0	100	100	0	0	0	8/29/2006	9/4/2006
Warren County	0	100	100	0.23	0	0	8/22/2006	8/28/2006
Warren County	0	100	100	0	0	0	8/15/2006	8/21/2006
Warren County	0	100	100	0	0	0	8/8/2006	8/14/2006
Warren County	0	100	100	0	0	0	8/1/2006	8/7/2006
Warren County	0	100	100	0	0	0	7/25/2006	7/31/2006
Warren County	0	100	90.22	0	0	0	7/18/2006	7/24/2006
Warren County	0	100	88.76	0	0	0	7/11/2006	7/17/2006
Warren County	0	100	92.77	0	0	0	7/4/2006	7/10/2006
Warren County	0	100	92.69	0	0	0	6/27/2006	7/3/2006
Warren County	0	100	92.69	0	0	0	6/20/2006	6/26/2006
Warren County	0	100	100	0	0	0	6/13/2006	6/19/2006
Warren County	0	100	100	0	0	0	6/6/2006	6/12/2006
Warren County	0	100	0	0	0	0	5/30/2006	6/5/2006
Warren County	0	100	0	0	0	0	5/23/2006	5/29/2006
Warren County	0	100	0	0	0	0	5/16/2006	5/22/2006
Warren County	0	100	0	0	0	0	5/9/2006	5/15/2006
Warren County	0	100	0	0	0	0	5/2/2006	5/8/2006
Warren County	0	100	0	0	0	0	4/25/2006	5/1/2006
Warren County	0	100	0	0	0	0	4/18/2006	4/24/2006
Warren County	0	100	0	0	0	0	4/11/2006	4/17/2006
Warren County	0	100	0	0	0	0	4/4/2006	4/10/2006
Warren County	100	0	0	0	0	0	3/28/2006	4/3/2006
Warren County	100	0	0	0	0	0	3/21/2006	3/27/2006
Warren County	100	0	0	0	0	0	3/14/2006	3/20/2006
Warren County	100	0	0	0	0	0	3/7/2006	3/13/2006
Warren County	100	0	0	0	0	0	2/28/2006	3/6/2006
Warren County	100	0	0	0	0	0	2/21/2006	2/27/2006
Warren County	100	0	0	0	0	0	2/14/2006	2/20/2006
Warren County	100	0	0	0	0	0	2/7/2006	2/13/2006
Warren County	100	0	0	0	0	0	1/31/2006	2/6/2006
Warren County	100	0	0	0	0	0	1/24/2006	1/30/2006
Warren County	100	0	0	0	0	0	1/17/2006	1/23/2006
Warren County	100	0	0	0	0	0	1/10/2006	1/16/2006
Warren County	100	0	0	0	0	0	1/3/2006	1/9/2006
Warren County	100	0	0	0	0	0	12/27/2005	1/2/2006
Warren County	100	0	0	0	0	0	12/20/2005	12/26/2005

Warren County	100	0	0	0	0	0	12/13/2005	12/19/2005
Warren County	100	0	0	0	0	0	12/6/2005	12/12/2005
Warren County	100	0	0	0	0	0	11/29/2005	12/5/2005
Warren County	51.31	48.69	0	0	0	0	11/22/2005	11/28/2005
Warren County	59.97	40.03	0	0	0	0	11/15/2005	11/21/2005
Warren County	100	0	0	0	0	0	11/8/2005	11/14/2005
Warren County	100	0	0	0	0	0	11/1/2005	11/7/2005
Warren County	100	0	0	0	0	0	10/25/2005	10/31/2005
Warren County	100	0	0	0	0	0	10/18/2005	10/24/2005
Warren County	100	0	0	0	0	0	10/11/2005	10/17/2005
Warren County	100	0	0	0	0	0	10/4/2005	10/10/2005
Warren County	9.07	90.93	0	0	0	0	9/27/2005	10/3/2005
Warren County	100	0	0	0	0	0	9/20/2005	9/26/2005
Warren County	100	0	0	0	0	0	9/13/2005	9/19/2005
Warren County	100	0	0	0	0	0	9/6/2005	9/12/2005
Warren County	100	0	0	0	0	0	8/30/2005	9/5/2005
Warren County	100	0	0	0	0	0	8/23/2005	8/29/2005
Warren County	100	0	0	0	0	0	8/16/2005	8/22/2005
Warren County	100	0	0	0	0	0	8/9/2005	8/15/2005
Warren County	100	0	0	0	0	0	8/2/2005	8/8/2005
Warren County	100	0	0	0	0	0	7/26/2005	8/1/2005
Warren County	100	0	0	0	0	0	7/19/2005	7/25/2005
Warren County	100	0	0	0	0	0	7/12/2005	7/18/2005
Warren County	100	0	0	0	0	0	7/5/2005	7/11/2005
Warren County	100	0	0	0	0	0	6/28/2005	7/4/2005
Warren County	100	0	0	0	0	0	6/21/2005	6/27/2005
Warren County	100	0	0	0	0	0	6/14/2005	6/20/2005
Warren County	100	0	0	0	0	0	6/7/2005	6/13/2005
Warren County	100	0	0	0	0	0	5/31/2005	6/6/2005
Warren County	100	0	0	0	0	0	5/24/2005	5/30/2005
Warren County	100	0	0	0	0	0	5/17/2005	5/23/2005
Warren County	100	0	0	0	0	0	5/10/2005	5/16/2005
Warren County	100	0	0	0	0	0	5/3/2005	5/9/2005
Warren County	100	0	0	0	0	0	4/26/2005	5/2/2005
Warren County	100	0	0	0	0	0	4/19/2005	4/25/2005
Warren County	100	0	0	0	0	0	4/12/2005	4/18/2005
Warren County	100	0	0	0	0	0	4/5/2005	4/11/2005
Warren County	100	0	0	0	0	0	3/29/2005	4/4/2005
Warren County	100	0	0	0	0	0	3/22/2005	3/28/2005
Warren County	100	0	0	0	0	0	3/15/2005	3/21/2005
Warren County	100	0	0	0	0	0	3/8/2005	3/14/2005
Warren County	100	0	0	0	0	0	3/1/2005	3/7/2005
Warren County	100	0	0	0	0	0	2/22/2005	2/28/2005

Warren County	100	0	0	0	0	0	2/15/2005	2/21/2005
Warren County	100	0	0	0	0	0	2/8/2005	2/14/2005
Warren County	100	0	0	0	0	0	2/1/2005	2/7/2005
Warren County	100	0	0	0	0	0	1/25/2005	1/31/2005
Warren County	100	0	0	0	0	0	1/18/2005	1/24/2005
Warren County	100	0	0	0	0	0	1/11/2005	1/17/2005
Warren County	100	0	0	0	0	0	1/4/2005	1/10/2005
Warren County	100	0	0	0	0	0	12/28/2004	1/3/2005
Warren County	100	0	0	0	0	0	12/21/2004	12/27/2004
Warren County	100	0	0	0	0	0	12/14/2004	12/20/2004
Warren County	100	0	0	0	0	0	12/7/2004	12/13/2004
Warren County	100	0	0	0	0	0	11/30/2004	12/6/2004
Warren County	100	0	0	0	0	0	11/23/2004	11/29/2004
Warren County	100	0	0	0	0	0	11/16/2004	11/22/2004
Warren County	100	0	0	0	0	0	11/9/2004	11/15/2004
Warren County	100	0	0	0	0	0	11/2/2004	11/8/2004
Warren County	100	0	0	0	0	0	10/26/2004	11/1/2004
Warren County	100	0	0	0	0	0	10/19/2004	10/25/2004
Warren County	100	0	0	0	0	0	10/12/2004	10/18/2004
Warren County	100	0	0	0	0	0	10/5/2004	10/11/2004
Warren County	100	0	0	0	0	0	9/28/2004	10/4/2004
Warren County	100	0	0	0	0	0	9/21/2004	9/27/2004
Warren County	100	0	0	0	0	0	9/14/2004	9/20/2004
Warren County	100	0	0	0	0	0	9/7/2004	9/13/2004
Warren County	100	0	0	0	0	0	8/31/2004	9/6/2004
Warren County	0	100	0	0	0	0	8/24/2004	8/30/2004
Warren County	3.46	96.54	0	0	0	0	8/17/2004	8/23/2004
Warren County	0	100	0	0	0	0	8/10/2004	8/16/2004
Warren County	0	100	0	0	0	0	8/3/2004	8/9/2004
Warren County	0	100	0	0	0	0	7/27/2004	8/2/2004
Warren County	0	100	0	0	0	0	7/20/2004	7/26/2004
Warren County	0	100	0	0	0	0	7/13/2004	7/19/2004
Warren County	0	100	0	0	0	0	7/6/2004	7/12/2004
Warren County	0	100	91.53	0	0	0	6/29/2004	7/5/2004
Warren County	0	100	100	91.6	0	0	6/22/2004	6/28/2004
Warren County	0	100	100	100	0	0	6/15/2004	6/21/2004
Warren County	0	100	100	100	0	0	6/8/2004	6/14/2004
Warren County	0	100	100	100	0	0	6/1/2004	6/7/2004
Warren County	0	100	100	100	0	0	5/25/2004	5/31/2004
Warren County	0	100	100	0	0	0	5/18/2004	5/24/2004
Warren County	0	100	100	0	0	0	5/11/2004	5/17/2004
Warren County	0	100	100	0	0	0	5/4/2004	5/10/2004
Warren County	0	100	100	0	0	0	4/27/2004	5/3/2004

Warren County	0	100	100	0	0	0	4/20/2004	4/26/2004
Warren County	0	100	0	0	0	0	4/13/2004	4/19/2004
Warren County	0	100	0	0	0	0	4/6/2004	4/12/2004
Warren County	0	100	0	0	0	0	3/30/2004	4/5/2004
Warren County	0	100	0	0	0	0	3/23/2004	3/29/2004
Warren County	100	0	0	0	0	0	3/16/2004	3/22/2004
Warren County	100	0	0	0	0	0	3/9/2004	3/15/2004
Warren County	100	0	0	0	0	0	3/2/2004	3/8/2004
Warren County	100	0	0	0	0	0	2/24/2004	3/1/2004
Warren County	100	0	0	0	0	0	2/17/2004	2/23/2004
Warren County	100	0	0	0	0	0	2/10/2004	2/16/2004
Warren County	100	0	0	0	0	0	2/3/2004	2/9/2004
Warren County	100	0	0	0	0	0	1/27/2004	2/2/2004
Warren County	100	0	0	0	0	0	1/20/2004	1/26/2004
Warren County	100	0	0	0	0	0	1/13/2004	1/19/2004
Warren County	100	0	0	0	0	0	1/6/2004	1/12/2004
Warren County	100	0	0	0	0	0	12/30/2003	1/5/2004
Warren County	100	0	0	0	0	0	12/23/2003	12/29/2003
Warren County	100	0	0	0	0	0	12/16/2003	12/22/2003
Warren County	100	0	0	0	0	0	12/9/2003	12/15/2003
Warren County	100	0	0	0	0	0	12/2/2003	12/8/2003
Warren County	100	0	0	0	0	0	11/25/2003	12/1/2003
Warren County	100	0	0	0	0	0	11/18/2003	11/24/2003
Warren County	100	0	0	0	0	0	11/11/2003	11/17/2003
Warren County	100	0	0	0	0	0	11/4/2003	11/10/2003
Warren County	100	0	0	0	0	0	10/28/2003	11/3/2003
Warren County	100	0	0	0	0	0	10/21/2003	10/27/2003
Warren County	100	0	0	0	0	0	10/14/2003	10/20/2003
Warren County	100	0	0	0	0	0	10/7/2003	10/13/2003
Warren County	100	0	0	0	0	0	9/30/2003	10/6/2003
Warren County	100	0	0	0	0	0	9/23/2003	9/29/2003
Warren County	100	0	0	0	0	0	9/16/2003	9/22/2003
Warren County	100	0	0	0	0	0	9/9/2003	9/15/2003
Warren County	100	0	0	0	0	0	9/2/2003	9/8/2003
Warren County	100	0	0	0	0	0	8/26/2003	9/1/2003
Warren County	100	0	0	0	0	0	8/19/2003	8/25/2003
Warren County	100	0	0	0	0	0	8/12/2003	8/18/2003
Warren County	100	0	0	0	0	0	8/5/2003	8/11/2003
Warren County	100	0	0	0	0	0	7/29/2003	8/4/2003
Warren County	100	0	0	0	0	0	7/22/2003	7/28/2003
Warren County	100	0	0	0	0	0	7/15/2003	7/21/2003
Warren County	100	0	0	0	0	0	7/8/2003	7/14/2003
Warren County	100	0	0	0	0	0	7/1/2003	7/7/2003

Warren County	100	0	0	0	0	0	6/24/2003	6/30/2003
Warren County	100	0	0	0	0	0	6/17/2003	6/23/2003
Warren County	100	0	0	0	0	0	6/10/2003	6/16/2003
Warren County	100	0	0	0	0	0	6/3/2003	6/9/2003
Warren County	100	0	0	0	0	0	5/27/2003	6/2/2003
Warren County	100	0	0	0	0	0	5/20/2003	5/26/2003
Warren County	100	0	0	0	0	0	5/13/2003	5/19/2003
Warren County	100	0	0	0	0	0	5/6/2003	5/12/2003
Warren County	100	0	0	0	0	0	4/29/2003	5/5/2003
Warren County	100	0	0	0	0	0	4/22/2003	4/28/2003
Warren County	100	0	0	0	0	0	4/15/2003	4/21/2003
Warren County	100	0	0	0	0	0	4/8/2003	4/14/2003
Warren County	100	0	0	0	0	0	4/1/2003	4/7/2003
Warren County	100	0	0	0	0	0	3/25/2003	3/31/2003
Warren County	90.56	9.44	0	0	0	0	3/18/2003	3/24/2003
Warren County	92.5	7.5	0	0	0	0	3/11/2003	3/17/2003
Warren County	92.58	7.42	0	0	0	0	3/4/2003	3/10/2003
Warren County	67.18	32.82	0	0	0	0	2/25/2003	3/3/2003
Warren County	69.24	30.76	0	0	0	0	2/18/2003	2/24/2003
Warren County	82.82	17.18	0	0	0	0	2/11/2003	2/17/2003
Warren County	81.01	18.99	0	0	0	0	2/4/2003	2/10/2003
Warren County	100	0	0	0	0	0	1/28/2003	2/3/2003
Warren County	100	0	0	0	0	0	1/21/2003	1/27/2003
Warren County	100	0	0	0	0	0	1/14/2003	1/20/2003
Warren County	100	0	0	0	0	0	1/7/2003	1/13/2003
Warren County	100	0	0	0	0	0	12/31/2002	1/6/2003
Warren County	0	100	0	0	0	0	12/24/2002	12/30/2002
Warren County	0	100	0	0	0	0	12/17/2002	12/23/2002
Warren County	0	100	100	0	0	0	12/10/2002	12/16/2002
Warren County	0	100	100	0	0	0	12/3/2002	12/9/2002
Warren County	0	100	100	0	0	0	11/26/2002	12/2/2002
Warren County	0	100	100	0	0	0	11/19/2002	11/25/2002
Warren County	0	100	100	0	0	0	11/12/2002	11/18/2002
Warren County	0	100	100	100	0	0	11/5/2002	11/11/2002
Warren County	0	100	100	100	0	0	10/29/2002	11/4/2002
Warren County	0	100	100	100	0	0	10/22/2002	10/28/2002
Warren County	0	100	100	100	0	0	10/15/2002	10/21/2002
Warren County	0	100	100	100	0	0	10/8/2002	10/14/2002
Warren County	0	100	100	100	0	0	10/1/2002	10/7/2002
Warren County	0	100	100	100	0	0	9/24/2002	9/30/2002
Warren County	0	100	100	100	100	0	9/17/2002	9/23/2002
Warren County	0	100	100	100	100	100	9/10/2002	9/16/2002
Warren County	0	100	100	100	100	100	9/3/2002	9/9/2002

Warren County	0	100	100	100	100	100	8/27/2002	9/2/2002
Warren County	0	100	100	100	100	100	8/20/2002	8/26/2002
Warren County	0	100	100	100	100	100	8/13/2002	8/19/2002
Warren County	0	100	100	100	100	0	8/6/2002	8/12/2002
Warren County	0	100	100	100	100	0	7/30/2002	8/5/2002
Warren County	0	100	100	100	100	0	7/23/2002	7/29/2002
Warren County	0	100	100	100	98.36	0	7/16/2002	7/22/2002
Warren County	0	100	100	100	100	0	7/9/2002	7/15/2002
Warren County	0	100	100	100	90.22	0	7/2/2002	7/8/2002
Warren County	0	100	100	100	98.17	0	6/25/2002	7/1/2002
Warren County	0	100	100	100	26.97	0	6/18/2002	6/24/2002
Warren County	0	100	100	100	0.91	0	6/11/2002	6/17/2002
Warren County	0	100	100	100	5.8	0	6/4/2002	6/10/2002
Warren County	0	100	100	100	20.32	0	5/28/2002	6/3/2002
Warren County	0	100	100	100	100	0	5/21/2002	5/27/2002
Warren County	0	100	100	100	100	0	5/14/2002	5/20/2002
Warren County	0	100	100	100	100	0	5/7/2002	5/13/2002
Warren County	0	100	100	100	100	0	4/30/2002	5/6/2002
Warren County	0	100	100	100	0	0	4/23/2002	4/29/2002
Warren County	0	100	100	100	0	0	4/16/2002	4/22/2002
Warren County	0	100	100	100	13.51	0	4/9/2002	4/15/2002
Warren County	0	100	100	100	14.32	0	4/2/2002	4/8/2002
Warren County	0	100	100	100	100	0	3/26/2002	4/1/2002
Warren County	0	100	100	100	100	0	3/19/2002	3/25/2002
Warren County	0	100	100	100	100	0	3/12/2002	3/18/2002
Warren County	0	100	100	100	100	0	3/5/2002	3/11/2002
Warren County	0	100	100	100	100	0	2/26/2002	3/4/2002
Warren County	0	100	100	100	100	0	2/19/2002	2/25/2002
Warren County	0	100	100	100	100	0	2/12/2002	2/18/2002
Warren County	0	100	100	100	100	0	2/5/2002	2/11/2002
Warren County	0	100	100	100	56.99	0	1/29/2002	2/4/2002
Warren County	0	100	100	100	42.64	0	1/22/2002	1/28/2002
Warren County	0	100	100	100	40.39	0	1/15/2002	1/21/2002
Warren County	0	100	100	100	65.26	0	1/8/2002	1/14/2002
Warren County	0	100	100	100	100	0	1/1/2002	1/7/2002
Warren County	0	100	100	100	0	0	12/25/2001	12/31/2001
Warren County	0	100	100	100	0	0	12/18/2001	12/24/2001
Warren County	0	100	100	100	0	0	12/11/2001	12/17/2001
Warren County	0	100	100	100	0	0	12/4/2001	12/10/2001
Warren County	0	100	100	100	0	0	11/27/2001	12/3/2001
Warren County	0	100	100	100	0	0	11/20/2001	11/26/2001
Warren County	0	100	100	100	0	0	11/13/2001	11/19/2001
Warren County	0	100	100	100	0	0	11/6/2001	11/12/2001

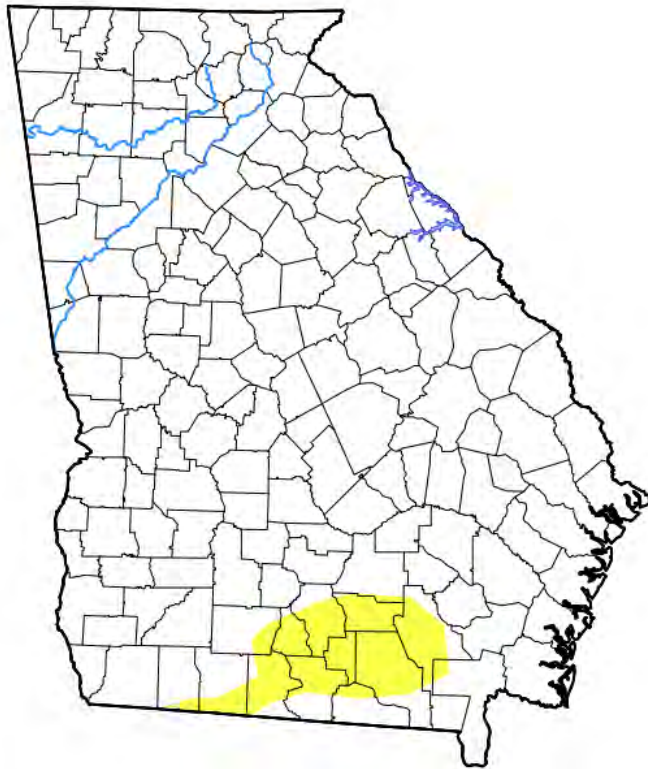
Warren County	0	100	100	100	0	0	10/30/2001	11/5/2001
Warren County	0	100	100	0	0	0	10/23/2001	10/29/2001
Warren County	0	100	100	0	0	0	10/16/2001	10/22/2001
Warren County	0	100	100	0	0	0	10/9/2001	10/15/2001
Warren County	0	100	100	0	0	0	10/2/2001	10/8/2001
Warren County	0	100	0	0	0	0	9/25/2001	10/1/2001
Warren County	0	100	0	0	0	0	9/18/2001	9/24/2001
Warren County	9.85	90.15	0	0	0	0	9/11/2001	9/17/2001
Warren County	9.85	90.15	0	0	0	0	9/4/2001	9/10/2001
Warren County	9.86	90.14	0	0	0	0	8/28/2001	9/3/2001
Warren County	94.94	5.06	0	0	0	0	8/21/2001	8/27/2001
Warren County	94.49	5.51	0	0	0	0	8/14/2001	8/20/2001
Warren County	36.32	63.68	0	0	0	0	8/7/2001	8/13/2001
Warren County	0	100	0	0	0	0	7/31/2001	8/6/2001
Warren County	0	100	0	0	0	0	7/24/2001	7/30/2001
Warren County	0	100	0	0	0	0	7/17/2001	7/23/2001
Warren County	0	100	0	0	0	0	7/10/2001	7/16/2001
Warren County	0	100	0	0	0	0	7/3/2001	7/9/2001
Warren County	0	100	0	0	0	0	6/26/2001	7/2/2001
Warren County	0	100	0	0	0	0	6/19/2001	6/25/2001
Warren County	0	100	100	100	0	0	6/12/2001	6/18/2001
Warren County	0	100	100	100	0	0	6/5/2001	6/11/2001
Warren County	0	100	100	100	0	0	5/29/2001	6/4/2001
Warren County	0	100	100	100	0	0	5/22/2001	5/28/2001
Warren County	0	100	100	100	0	0	5/15/2001	5/21/2001
Warren County	0	100	100	0	0	0	5/8/2001	5/14/2001
Warren County	0	100	100	0	0	0	5/1/2001	5/7/2001
Warren County	0	100	100	0	0	0	4/24/2001	4/30/2001
Warren County	0	100	100	0	0	0	4/17/2001	4/23/2001
Warren County	0	100	100	0	0	0	4/10/2001	4/16/2001
Warren County	0	100	100	0	0	0	4/3/2001	4/9/2001
Warren County	0	100	100	0	0	0	3/27/2001	4/2/2001
Warren County	0	100	100	0	0	0	3/20/2001	3/26/2001
Warren County	0	100	100	0	0	0	3/13/2001	3/19/2001
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Warren County	0	100	100	72.27	0	0	2/13/2001	2/19/2001
Warren County	0	100	100	72.19	0	0	2/6/2001	2/12/2001
Warren County	0	100	100	72.23	0	0	1/30/2001	2/5/2001
Warren County	0	100	100	72.23	0	0	1/23/2001	1/29/2001
Warren County	0	100	100	34.92	0	0	1/16/2001	1/22/2001
Warren County	0	100	100	34.92	0	0	1/9/2001	1/15/2001

Warren County	0	100	100	88.92	0	0	1/2/2001	1/8/2001
Warren County	0	100	100	0	0	0	12/26/2000	1/1/2001
Warren County	0	100	100	1.79	0	0	12/19/2000	12/25/2000
Warren County	0	100	100	100	0	0	12/12/2000	12/18/2000
Warren County	0	100	100	100	0	0	12/5/2000	12/11/2000
Warren County	0	100	100	100	0	0	11/28/2000	12/4/2000
Warren County	0	100	100	100	0	0	11/21/2000	11/27/2000
Warren County	0	100	100	100	27.84	0	11/14/2000	11/20/2000
Warren County	0	100	100	100	27.87	0	11/7/2000	11/13/2000
Warren County	0	100	100	100	27.87	0	10/31/2000	11/6/2000
Warren County	0	100	100	100	0	0	10/24/2000	10/30/2000
Warren County	0	100	100	100	0	0	10/17/2000	10/23/2000
Warren County	0	100	100	100	0	0	10/10/2000	10/16/2000
Warren County	0	100	100	100	0	0	10/3/2000	10/9/2000
Warren County	0	100	100	100	0	0	9/26/2000	10/2/2000
Warren County	0	100	100	100	100	0	9/19/2000	9/25/2000
Warren County	0	100	100	100	100	0	9/12/2000	9/18/2000
Warren County	0	100	100	100	100	0	9/5/2000	9/11/2000
Warren County	0	100	100	100	100	43.8	8/29/2000	9/4/2000
Warren County	0	100	100	100	100	43.83	8/22/2000	8/28/2000
Warren County	0	100	100	100	100	43.8	8/15/2000	8/21/2000
Warren County	0	100	100	100	100	43.8	8/8/2000	8/14/2000
Warren County	0	100	100	100	100	100	8/1/2000	8/7/2000
Warren County	0	100	100	100	100	100	7/25/2000	7/31/2000
Warren County	0	100	100	100	100	100	7/18/2000	7/24/2000
Warren County	0	100	100	100	100	100	7/11/2000	7/17/2000
Warren County	0	100	100	100	100	100	7/4/2000	7/10/2000
Warren County	0	100	100	100	100	53.85	6/27/2000	7/3/2000
Warren County	0	100	100	100	100	49.96	6/20/2000	6/26/2000
Warren County	0	100	100	100	100	52.42	6/13/2000	6/19/2000
Warren County	0	100	100	100	100	0	6/6/2000	6/12/2000
Warren County	0	100	100	100	100	0	5/30/2000	6/5/2000
Warren County	0	100	100	100	0	0	5/23/2000	5/29/2000
Warren County	0	100	100	100	0	0	5/16/2000	5/22/2000
Warren County	0	100	100	21.94	0	0	5/9/2000	5/15/2000
Warren County	0	100	100	21.95	0	0	5/2/2000	5/8/2000
Warren County	0	100	100	21.95	0	0	4/25/2000	5/1/2000
Warren County	0	100	100	94.4	0	0	4/18/2000	4/24/2000
Warren County	0	100	100	0	0	0	4/11/2000	4/17/2000
Warren County	0	100	100	0	0	0	4/4/2000	4/10/2000
Warren County	0	100	100	0	0	0	3/28/2000	4/3/2000
Warren County	0	100	100	0	0	0	3/21/2000	3/27/2000
Warren County	0	100	100	0	0	0	3/14/2000	3/20/2000







Warren County	0	100	100	0	0	0	3/7/2000	3/13/2000
Warren County	0	100	100	0	0	0	2/29/2000	3/6/2000
Warren County	0	100	100	0	0	0	2/22/2000	2/28/2000
Warren County	0	100	100	0	0	0	2/15/2000	2/21/2000
Warren County	0	100	100	0	0	0	2/8/2000	2/14/2000
Warren County	0	100	100	0	0	0	2/1/2000	2/7/2000
Warren County	0	100	100	0	0	0	1/25/2000	1/31/2000
Warren County	0	100	100	0	0	0	1/18/2000	1/24/2000
Warren County	0	100	100	0	0	0	1/11/2000	1/17/2000
Warren County	0	100	100	0	0	0	1/4/2000	1/10/2000

U.S. Drought Monitor Georgia

June 22, 2021
(Released Thursday, Jun. 24, 2021)
Valid 8 a.m. EDT



Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu

WILDFIRE

A wildfire is any uncontrolled fire occurring on undeveloped land that needs fire suppression. The potential for wildfire is influenced by three factors: the presence of fuel, the area's topography and air mass. There are three different classes of wildland fires. A surface fire is the most common type and burns along the floor of a forest, moving slowly and killing or damaging trees. A ground fire is usually started by lightning and burns on or below the forest floor. Crown fires spread rapidly by wind and move quickly by jumping along the tops of trees. Wildfires are usually signaled by dense smoke that fills the area for miles around. Wildfires by lightning have a very strong probability of occurring during drought conditions. Drought conditions make natural fuels (grass, brush, trees, dead vegetation) more fire-prone.

Warren County consists of 287 square miles with 2.4 of these miles being water. The county is comprised of 183,680 acres with 172,843 (94.1%) acres dedicated to agricultural and forestry. Given the right weather conditions and variables, wildfire due to natural causes creates a potential threat to the lives and property of residents in the planning area. According to Georgia Forestry data, from 1957 to 2018, there have been 1,357 fire events burning a total of 8,374 acres. Based on a 20-year hazard cycle there is a 2,560% chance of an annual wildfire due to a natural hazard event.

The GMIS has five facilities with a hazard score of four (high), 40 with a hazard score of three (moderate), seven with a hazard score of two (low), and 14 with a hazard score of one. The remaining ten critical facilities have a hazard score of zero. The 66 facilities with a hazard score greater than zero have an estimated potential loss of more than \$113 million. The replacement value for all critical facilities is approximately \$115,474,055.

Commented [AT1]: Where?

ACRES BURNED

FY	TOTAL	LIGHT	MACHI	CAMP	SMOKE	DEBRI	ARSON	RAIL	CHILD
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	212.3	0	0	0	0	134.9	2.8	74.6	0
1967	60.75	1.2	0	0	5.5	10	0	44.05	0
1968	167.3	0	6.03	0	115.02	24.77	4.92	16.56	0
1969	48.05	0.06	11.27	0	20.3	0	0	16.42	0
1970	79.95	0	4	0	16.41	58.49	0.53	0.52	0
1971	39.97	0	17.6	0	14.66	5.4	0.11	2.2	0
1972	39.77	0	27.62	0	6.8	3.25	0.43	1.67	0
1973	102.77	0	0	0	0	20.2	0	82.57	0
1974	166.25	0	1.26	0	116.71	28.79	0	19.49	0
1975	81.9	0	0	1.75	9.96	3.6	37.35	25.94	0
1976	101.09	0	0	0	7.3	28.26	24.5	0	0
1977	100.9	0	0	0	2.87	31.15	4	0	4.82
1978	104.79	0	2.19	0	11.72	21.62	8	0	2.52
1979	168.65	1.13	4.3	0	30.01	22.89	65.13	0	0
1980	56.37	0	0	0	14.9	6.05	1.21	0	0
1981	295.16	31.53	21.33	0	88.65	98.21	0.29	0	1.09
1982	65.36	0	0	0	27.1	18.93	0	0	0
1983	16.26	0	5.52	0	2.25	0	6.48	0	0
1984	129.95	2.1	9.66	0	36.03	56.28	21.92	3.53	0.38
1985	375.35	0	7.8	0	21.81	98.73	179.96	1.05	0
1986	568.75	110	1.08	0	5.55	257.9	168.5	11.09	1.25
1987	169.22	50.81	0	0	13.5	86.96	0	0	0
1988	136.54	1.32	2.64	0	15.72	48.37	50.78	4.45	1.92
1989	61.99	0	29.4	0	1.82	30.75	0	0	0
1990	86.99	2.04	0	0	6.46	42.94	4.55	30.72	0
1991	62.27	1.48	12.26	0	0	47.88	0.65	0	0
1992	189.39	0	20.34	12.04	18.47	61.94	10.09	38.9	21.81
1993	48.76	0	29.48	0	0	0.56	0.25	0	5.93
1994	162.98	100.76	0.02	0	0.82	55.32	3.09	1.89	0
1995	57.71	0	0.31	3.65	10.5	40.04	0	0	0
1996	107.56	33.48	0.01	0	18.01	47.84	0.01	0	4.8

1997	306.27	0	67.64	0	15.26	44.37	0.96	170.56	0.92
1998	42.54	0	20.9	0	0	16.24	2.38	0.02	0
1999	93.85	1.41	2.49	0	0.4	8.62	35.04	0	43.85
1987	169.22	50.81	0	0	13.5	86.96	0	0	0
1988	136.54	1.32	2.64	0	15.72	48.37	50.82	4.45	1.88
1989	61.99	0	29.4	0	1.82	30.75	0	0	0
1990	86.99	2.04	0	0	5.25	42.94	5.76	30.72	0
1991	62.27	1.48	12.26	0	0	47.88	0.65	0	0
1992	189.39	0	20.34	12.04	18.47	61.94	10.09	38.9	21.81
1993	48.76	0	29.48	0	0	0.56	0.25	0	5.93
1994	162.98	100.76	0.02	0	0.82	55.32	3.09	1.89	0
1995	57.71	0	0.31	3.65	10.5	35.19	4.85	0	0
1996	107.56	33.48	0.01	0	18.01	47.84	3.42	0	4.8
1997	306.27	0	67.64	0	15.26	44.37	1.88	170.56	0
1998	42.54	0	20.9	0	0	16.24	2.38	0.02	0
1999	93.85	1.41	2.49	0	0.4	8.62	35.94	0	43.85
2000	334.33	35.83	0.76	0.01	116.63	167.07	9.34	0.7	0
2001	163.49	1.01	14.08	0	12.97	114.4	2.22	0.63	0
2002	162.08	15.9	18.14	0	29.99	47.54	4.28	15.96	0.01
2003	38.73	19.32	1	0	0	13.33	0	3.33	0.99
2004	136.07	5.13	35.33	0.02	10.28	34.99	7.75	0	0
2005	38.01	3.37	0.8	0	0	11.79	15.05	0	0.18
2006	66.21	0	8.87	8.26	4.44	40.24	1.73	0	0
2007	47.47	1.99	2.88	0.23	3.47	36.64	2.16	0	0
2008	67.59	22.73	6.38	0	5.05	31.83	0.77	0	0
2009	77.32	67.66	5.66	0	1.03	1.51	0	0	1.45
2010	63.17	22.16	10.47	0	6.7	11.09	5.95	0	0
2011	257.27	5	81.72	0	0.06	161.6	7	0	0
2012	191.54	142.26	11.29	0	0	10.87	21.8	0	0.1
2013	247.18	0.4	133.98	1.73	0	66.28	0	0.35	0
2014	111.98	0	0.7	0	6.9	58.95	0	0	0
2015	32.07	0	0.1	0.4	0.3	20.6	0	0	0
2016	59.15	0.5	0.1	3.74	0	40.49	1.35	3.77	0
2017	56.74	0.27	0.84	1.3	0	31.55	1.4	0	0
2018	94.74	2.8	1.9	0	1	62.57	0	0	0
2019	27.96	0.1	7.6	0	0	9.91	0	2.15	0
2020	16.52	0.1	7.42	0	0	8.7	0	0	0
2021	49.24	0.5	5.53	0	0	30.55	10.35	0	0

Number of Wildfires

FY	TOTAL	LIGHT	MACHI	CAMP	SMOKE	DEBRI	ARSON	RAIL	CHILD
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	10	0	0	0	0	4	1	5	0
1967	15	1	0	0	5	3	0	6	0
1968	22	0	2	0	8	6	3	3	0
1969	17	1	6	0	7	0	0	3	0
1970	17	0	1	0	5	9	1	1	0
1971	15	0	7	0	2	2	2	2	0
1972	16	0	5	0	2	4	1	4	0
1973	18	0	1	0	0	4	0	13	0
1974	22	1	1	0	7	6	0	7	0
1975	18	0	2	1	3	3	2	6	0
1976	17	0	0	0	6	2	2	0	0
1977	23	0	0	0	2	5	1	0	1
1978	28	0	3	0	7	8	1	0	1
1979	47	1	3	0	7	10	13	0	0
1980	24	0	0	0	3	2	1	0	0
1981	45	2	5	0	7	8	2	0	3
1982	20	0	0	0	3	6	0	0	0
1983	9	0	2	0	1	0	3	0	0
1984	19	1	1	0	3	7	3	2	1
1985	37	0	1	0	7	17	8	1	0
1986	43	2	7	0	6	15	6	1	2
1987	21	8	0	0	3	5	2	0	0
1988	38	1	3	0	7	11	8	1	1
1989	11	0	1	0	2	6	0	0	0
1990	20	1	0	0	2	11	2	1	0
1991	18	4	3	0	0	9	1	0	0
1992	41	0	4	2	8	18	3	1	2
1993	7	0	1	0	0	2	1	0	1
1994	24	4	2	0	1	12	1	1	0
1995	19	0	1	1	1	13	1	0	0
1996	17	3	1	0	2	8	2	0	1

1997	25	0	2	0	3	12	3	1	0
1998	14	0	6	0	0	4	1	1	0
1999	28	1	4	0	2	12	4	0	1
2000	43	4	2	1	3	22	2	1	0
2001	37	2	3	0	5	16	3	1	0
2002	41	2	9	0	5	10	5	4	1
2003	15	2	1	0	0	6	0	1	1
2004	34	2	5	1	4	13	2	0	0
2005	21	1	3	0	0	10	2	0	1
2006	35	0	5	1	2	20	3	0	0
2007	41	1	5	1	3	25	4	0	0
2008	33	3	8	0	4	15	2	0	0
2009	17	4	4	0	2	4	0	0	2
2010	21	2	5	0	4	4	5	0	0
2011	43	1	12	0	1	19	4	0	0
2012	38	8	9	0	0	14	3	0	1
2013	46	2	2	1	0	34	0	1	0
2014	23	0	1	0	2	9	0	0	0
2015	14	0	1	1	1	6	0	0	0
2016	19	1	1	1	0	10	1	2	0
2017	17	1	2	1	0	6	1	0	0
2018	15	1	2	0	1	7	0	0	0
2019	12	1	2	0	0	2	0	1	0
2020	14	1	2	0	0	7	0	0	0
2021	13	1	2	0	0	5	2	0	0

Jurisdiction	Name	Hazard Score	Value	Replacement Value Year	Content value
Camak town	Camack City Hall and Fire Station	3	\$ 300,000	2022	\$ 15,000
Camak town	Camak Water System	3	\$ 800,000	2022	\$ 7,500
Camak town	Camakn Lift Station 1	3	\$ 200,000	2022	\$ 200,000
Camak town	Camak Lift Station 2	4	\$ 200,000	2022	\$ 200,000
Norwood town	Norwood City Hall	3	\$ 175,000	2022	\$ 15,750
Norwood town	Warren County Fire Dept, Norwood Station	2	\$ 140,000	2022	\$ 350,000
Norwood town	Norwood Water System	0	\$ 650,000	2022	\$ 550,000
Norwood town	Norwood LAS	1	\$ 38,000	2022	\$ 4,000

Norwood town	Norwood Lift Station #1	3	\$ 350,000	2022	
Norwood town	Norwood Lift Station #2	3	\$ 350,000	2022	
Norwood town	Norwood Well #1	3	\$ 157,000	2022	
Norwood town	Norwood Well #3 and 4	1	\$ 193,201	2022	\$ 218,500
Norwood town	Norwood Well #2	2	\$ 17,506	2022	
Warren County	Brianwood Academy	3	\$ 950,000	2022	\$ 200,000
Warren County	Warren County High / Middle School	2	\$ 19,000,000	2022	\$ 1,000,000
Warren County	Warren County Courthouse	3	\$ 6,500,000	2022	\$ 1,000,000
Warren County	Tri- county Health	3	\$ 2,600,000	2022	\$ 450,000
Warren County	Childs World	3	\$ 50,000	2022	\$ 15,000

Warren County	Warren County Emergency Management Services	0	\$ 1,400,000	2022	\$ 750,000
Warren County	Warren County Fire DeptBealle Springs Station	3	\$ 190,000	2022	\$ 250,000
Warren County	Warren County Fire Dept. Ricketson Station	1	\$ 190,000	2022	\$ 300,000
Warren County	Warren County Fire Dept .Panhandle Station	2	\$ 250,000	2022	\$ 25,000
Warren County	Mildred Freeman	3	\$ 900,000	2017	\$ 38,000
Warren County	Warren Co Chamber of Commerce/Dev. Authority	3	\$ 345,000	2022	\$ 100,000
Warren County	Warren County Public Library	3	\$ 785,130	2022	\$ 185,000
Warren County	Macedonia Church	0	\$ 2,100,000	2022	\$ 20,000
Warren County	Warren County Health Department	3	\$ 760,000	2022	\$ 82,000
Warren County	Warren County Health Rehab	3	\$ 4,600,000	2022	\$ 12,500

Warrenton City	Warrenton City Hall	3	\$ 1,300,000	2022	\$ 30,000
Warrenton City	Rainbow Beginners	3	\$ 105,000	2022	\$ 25,000
Warrenton City	Warrenton Water treatment plant(OMI)	2	\$ 11,000,000	2022	\$ 50,000
Warrenton City	Warrenton Southside WPCP	3	\$ 1,500,000	2022	\$ 30,000
Warrenton City	Warrenton Police Dept.	3	\$ 85,000	2022	\$ 30,000
Warrenton City	Warrenton Fire Dept	3	\$ 250,000	2022	\$ 450,000
Warrenton City	First Baptist Church	3	\$ 3,300,000	2022	\$ 60,000
Warrenton City	Community Service Building	3	\$ 1,800,000	2022	\$ 55,000
			\$ 63,530,837		\$ 6,718,250

Jurisdiction	Name	Content value year	Facility type	Risk	Day Occupancy	Night Occupancy
Camak town	Camack City Hall and Fire Station	2022	Emergency Services, Emergency Services, Government, City Hall, City Hall, Fire Fighters, Fire Fighters, Government Offices, Government Offices	Important	1	0
Camak town	Camak Water System	2022	Government, Government, Water/Sewer, Water/Sewer	Economic Assets, Essential, High Potential Loss	2	0
Camak town	Camakn Lift Station 1	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, High Potential Loss	0	0

Camak town	Camak Lift Station 2	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, High Potential Loss	0	0
Norwood town	Norwood City Hall	2022	Government, Government, Private, Private	Important	1	0
Norwood town	Warren County Fire Dept, Norwood Station	2022	Emergency Services, Emergency Services, Government, Government, Fire Fighters, Fire Fighters	Essential	0	0
Norwood town	Norwood Water System	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, High Potential Loss	1	0
Norwood town	Norwood LAS	2022	Government, Government, Water/Sewer, Water/Sewer	Economic Assets, Essential, Hazardous Materials	1	0

Norwood town	Norwood Lift Station #1		Emergency Services, Emergency Services, Government, Government, Water/Sewer, Water/Sewer		0	0
Norwood town	Norwood Lift Station #2		Government, Government, Water/Sewer, Water/Sewer		0	0
Norwood town	Norwood Well #1		Government, Government, Water/Sewer, Water/Sewer	Essential, High Potential Loss	0	0
Norwood town	Norwood Well #3 and 4	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, High Potential Loss	0	0

Norwood town	Norwood Well #2		Government, Government, Water/Sewer, Water/Sewer	Essential, High Potential Loss	0	0
Warren County	Brianwood Academy	2022	Education, Education, Private, Private	Important, Vulnerable Population	458	4
Warren County	Warren County High / Middle School	2022	Education, Education, K - 12, K - 12	Essential, Important	387	2
Warren County	Warren County Courthouse	2022	Government, Government, Court House, Court House, Government Offices, Government Offices	Historic Consideration	20	0
Warren County	Tri- county Health	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential, Important	75	30

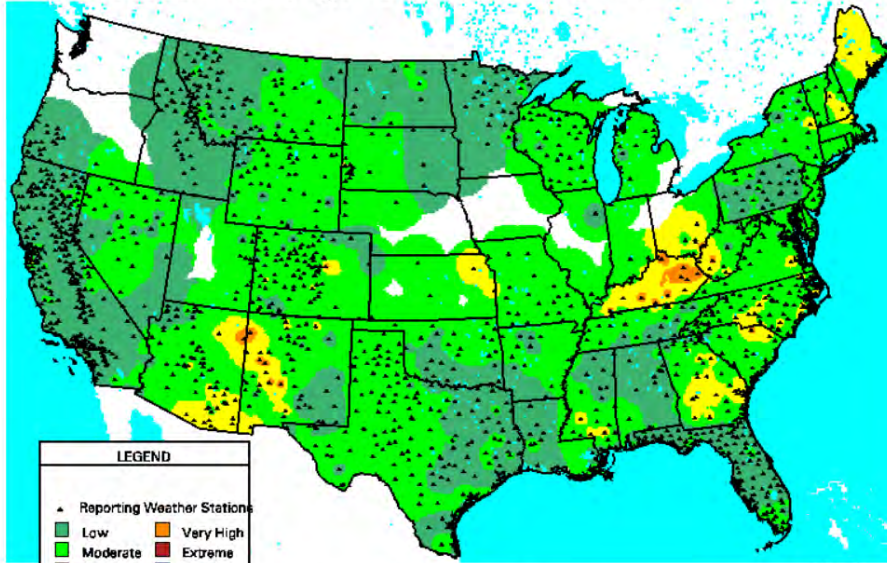
Warren County	Childs World	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Important, Vulnerable Population	20	0
Warren County	Warren County Emergency Management Services	2022	Emergency Services, Emergency Services, Government, Government, Law Enforcement, Law Enforcement, EMA, EMA, EMS, EMS, Fire Fighters, Fire Fighters, Government Offices, Government Offices	Essential, Lifeline, Transportation	3	2

Warren County	Warren County Fire Dept Bealle Springs Station	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential	0	0
Warren County	Warren County Fire Dept. Ricketson Station	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential	0	0
Warren County	Warren County Fire Dept .Panhandle Station	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential	0	0
Warren County	Mildred Freeman	2017	Education, Education, K - 12, K - 12	Essential, Important, Vulnerable Population	425	3

Warren County	Warren Co Chamber of Commerce/Dev. Authority	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Important	4	0
Warren County	Warren County Public Library	2022	Education, Education, Library, Library	Important	15	0
Warren County	Macedonia Church	2022	Medical, Medical, Hospital, Hospital	Essential	150	0
Warren County	Warren County Health Department	2022	Medical, Medical, Hospital, Hospital	Important	10	0
Warren County	Warren County Health Rehab	2022	Medical, Medical, Hospital, Hospital	Vulnerable Population	130	120
Warrenton City	Warrenton City Hall	2022	Government, Government, Private, Private	Important	5	0
Warrenton City	Rainbow Beginners	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Important, Vulnerable Population	15	0

Warrenton City	Warrenton Water treatment plant(OMI)	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, Lifeline	4	1
Warrenton City	Warrenton Southside WPCP	2022	Government, Government, Water/Sewer, Water/Sewer	Lifeline	1	0
Warrenton City	Warrenton Police Dept.	2022	Law Enforcement, Law Enforcement, Police, Police	Essential	5	2
Warrenton City	Warrenton Fire Dept	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential, High Potential Loss	2	0
Warrenton City	First Baptist Church	2022	Medical, Medical, Hospital, Hospital	Essential	300	0
Warrenton City	Community Service Building	2022	Medical, Medical, Hospital, Hospital	Essential	20	0
					2055	164

Forecast Fire Danger Class: 08-NOV-22



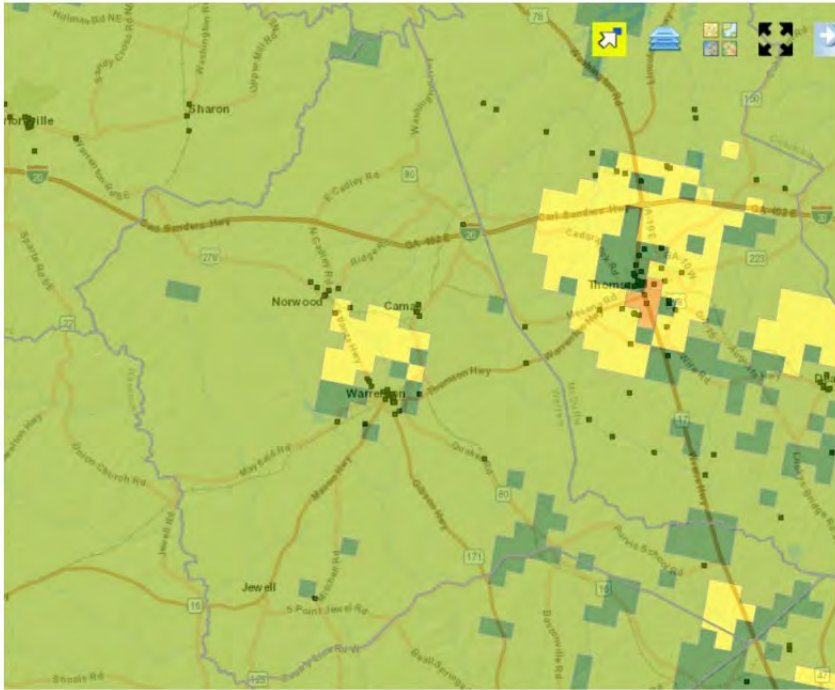
LEGEND	
▲ Reporting Weather Stations	
Low	Very High
Moderate	Extreme
High	Water

(Inv. Dist.² Interp.)

WFAS-MAPS Graphics FIRE BEHAVIOR RESEARCH MISSOULA, MT



Warren County Wildfire Risk Map from GMIS



Score	Description
4	High
3	Moderate
2	Low
1	Very Low
0	No Houses
	Agriculture
	Water
	City

Camak Wildfire Risk Map from GMIS



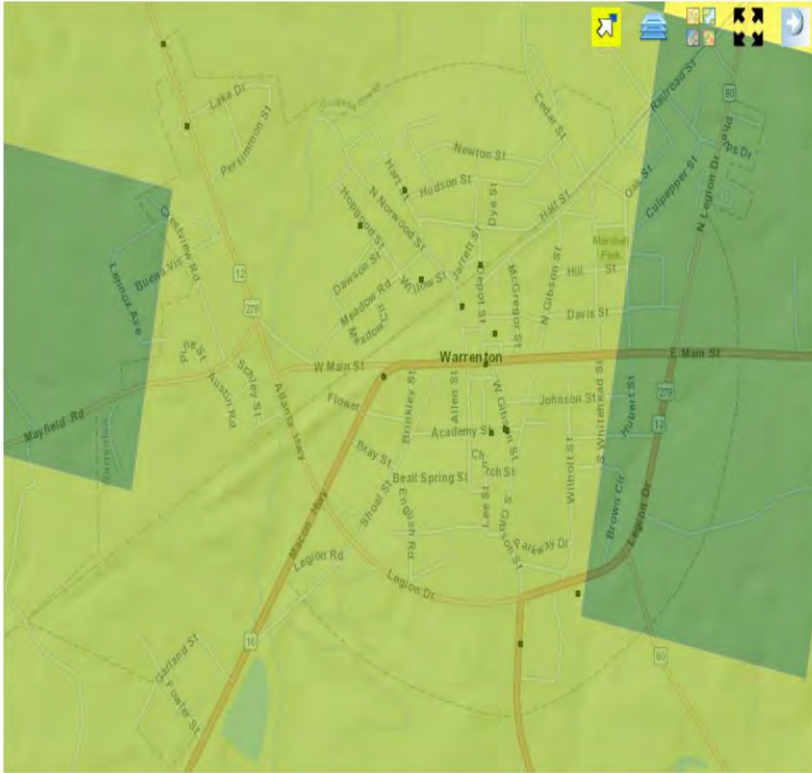
Score	Description
4	High
3	Moderate
2	Low
1	Very Low
0	No Houses
	Agriculture
	Water
	City

Norwood Wildfire Risk Map GMIS



Score	Description
4	High
3	Moderate
2	Low
1	Very Low
0	No Houses
	Agriculture
	Water
	City

Warrenton Wildfire Risk Map GMIS



Score	Description
4	High
3	Moderate
2	Low
1	Very Low
0	No Houses
	Agriculture
	Water
	City

TORNADO

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. It is spawned by a thunderstorm or the result of a hurricane and is produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. Tornadoes are among the most unpredictable and destructive of weather phenomena and can strike at any time of the year if the essential conditions are present.

The damage from a tornado is a result of the high wind velocity and wind-blown debris. The positions of the subtropical and polar jet streams often are conducive to the formation of storms in the Gulf region. The table below shows the original Fujita Scale and the Enhanced Fujita Scale (in use since 2007) to rate the intensity of a tornado by examining the damage caused by the tornado after it has passed over a manmade structure.

Tornadoes do not touch down frequently; however, the unpredictability and the potential for excessive damage caused by tornadoes makes it imperative that mitigation measures identified in this plan receive full consideration. Based on historical data, there have been nine reported tornadoes in the planning area.

There have not been any reports of tornadoes since the last update. Since 1950, there has been approximately \$1.7 million in property damage and crop damage. Tornadoes tend to strike in somewhat random fashion, making the task of calculating a recurrence interval extremely difficult. There is a 20% annual chance of a tornado event at for Warren County as a whole.

Location	Date	Event	Magnitude	Deaths	Injuries	Property Damage	Description
Countywide	3/20/1875	Tornado	F4	6	Unknwon	Unknown	A tornado tore a damage path from Hancock County through Columbia County. At least 6 people were killed in Warren County
Warren County	2/2/1973	Tornado	F1	0	0	\$ 2,500.00	
Warren County	5/26/1978	Tornado		0	0	\$ 28,000.00	Several buildings destroyed at Cason's Cabin

WARRENTON	3/1/2007	Tornado	EF2	0	3	\$ 700,000.00	<p>A damage survey conducted by the National Weather Service in Peachtree City, GA concluded that an EF2 tornado tracked across eastern Warren county, touching down about four miles east-northeast of Warrenton, and continued into McDuffie county, terminating about 6 miles northeast of Thomson near Interstate-20. The overall tornado path length was 15 miles, but only about 2.5 miles of the path occurred within Warren county. The maximum path width was 448 yards or about one-quarter nautical mile. The tornado tracked very close to U.S. Highway 278 or Georgia Highway 12, the main highway between Warrenton and Thomson. The most significant damage occurred to the Briarwood Academy on U.S. Highway 278. In addition, a number of homes, mostly double-wide mobile homes, sustained significant damage between Warrenton and the McDuffie county line, especially on the northeast side of Warrenton. Most of the damage was in the Camak Road and Thomson Highway area. One double-wide mobile home was completely destroyed with only the base slab left standing. There were eight homes with major damage, 13 with moderate damage, and 17 with minor damage. Three individuals sustained minor injuries from flying glass and debris. Dozens of trees and power lines were down along the path of the tornado.</p>
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FOUR POINTS	2/18/2009	Tornado	EF1	0	0	\$ 25,000.00	A damage survey conducted by the National Weather Service Forecast Office in Peachtree City, Georgia confirmed that the EF3 tornado which originated in Hancock county, continued across extreme southern Warren county and then into extreme northwest Glascock county. The tornado weakened to an EF1 as it crossed into Warren county with a maximum path width of 100 yards. While the total path length of the tornado was nearly 11 miles, just a little over one mile of this path was within Warren county. Since the tornado traveled through an extremely rural part of Warren county, damage was confined to around 100 downed trees.
JEWEL	3/28/2010	Funnel		0	0	\$ -	A funnel cloud was spotted near Beall Springs in far southwestern Warren County
NORWOOD	4/28/2011	Tornado	EF1	0	0	\$ 1,000,000.00	A damage survey conducted by the National Weather Service Forecast Office in Peachtree City, Georgia confirmed that the final tornado to touch down within the county warning area of the April 27th and April 28th outbreak was in Warren county. This was yet again another EF1 tornado. The tornado touched down four miles southwest of Norwood and tracked nearly eight miles on an east-northeastward path across northern Warren county lifting one mile northeast of Camak. The maximum path width was determined to be 1/4 mile with maximum winds estimated to be 105 mph. Eight homes sustained moderate to major damage along the path of the

							tornado, mostly from large fallen trees on the structures. Hundreds of trees and several power lines were down along the path of the tornado. There were no fatalities or injuries with the final tornado of this historical outbreak. [04/27-04/28/11: Tornado #15, County #1-1, EF1, Warren, 2011:024].
						\$	1,753,000.00

Location	Date	Event Narrative	Injuries	Deaths	Mag.	\$
Warren County	3/20/1875	25 people were killed and 65 were injured in a tornado that formed Hancock County, moved across McDuffie County and dissipated in Columbia County.	*	6	F4	Unknown
Warren County	02/02/1973	The tornado damaged several houses and knocked trees over onto Hwy 278 east of Norwood.	*	*	F1	3K
Warren County	05/23/1978	At Cason's Cabins, several building damaged and trees uprooted.	*	*	Unknown	28K
Warrenton	03/01/2007	An EF2 tornado tracked across eastern Warren county, touching down about four miles east-northeast of Warrenton, and continued into Warren county, terminating about 6 miles northeast of Thomson near Interstate-20. The overall tornado path length was 15 miles, but only about 2.5 miles of the path occurred within Warren County. In addition, a number of homes, mostly double-wide mobile homes, especially on the northeast	3	0	F2	700K

Location	Date	Event Narrative	Injuries	Deaths	Mag.	\$
		side of Warrenton. Most of the damage was in the Camak Road and Thomson Highway area. One double-wide mobile home was completely destroyed with only the base slab left standing. There were eight homes with major damage, 13 with moderate damage, and 17 with minor damage. Three individuals sustained minor injuries from flying glass and debris. Dozens of trees and power lines were down along the path of the tornado.				
Warren County (Four Points)	12/18/2009	EF1 as it crossed into Warren County with a maximum path width of 100 yards. While the total path length of the tornado was nearly 11 miles, just a little over one mile of this path was within Warren County. Since the tornado traveled through an extremely rural part of Warren County, damage was confined to around 100 downed trees.	0	0	F1	25K
Warren County (Jewell)	03/28/2010	The public observed a funnel cloud in the Beall Springs area in far southwestern Warren County. A tornado warning was in effect at the time and there was clear indication of a strong circulation on the Doppler radar.	0	0	Unknown	0K
Norwood	04/28/2011	The tornado touched down four miles southwest of Norwood and tracked nearly eight miles on an east-northeastward path across northern Warren County lifting one mile northeast of Camak. Eight homes sustained moderate to major damage along the path of the tornado, mostly from large fallen trees on the structures. Hundreds of trees and several power lines were down. There were no fatalities or injuries.	0	0	F1	1.0M

Jurisdiction	Name	Hazard Score	Value	Replacement Value Year	Content value
Camak town	Camack City Hall and Fire Station	0	\$ 300,000.00	2022	15000
Camak town	Camak Water System	1	\$ 800,000.00	2022	7500
Camak town	Camakn Lift Station 1	1	\$ 200,000.00	2022	200000
Camak town	Camak Lift Station 2	1	\$ 200,000.00	2022	200000
Norwood town	Norwood City Hall	1	\$ 175,000.00	2022	15750
Norwood town	Warren County Fire Dept, Norwood Station	1	\$ 140,000.00	2022	350000
Norwood town	Norwood Water System	2	\$ 650,000.00	2022	550000
Norwood town	Norwood LAS	1	\$ 38,000.00	2022	4000
Norwood town	Norwood Lift Station #1	1	\$ 350,000.00	2022	
Norwood town	Norwood Lift Station #2	1	\$ 350,000.00	2022	
Norwood town	Norwood Well #1	1	\$ 157,000.00	2022	
Norwood town	Norwood Well #3 and 4	1	\$ 193,201.00	2022	218500

Norwood town	Norwood Well #2	1	\$ 17,506.00	2022	
Warren County	Brianwood Academy	2	\$ 950,000.00	2022	200000
Warren County	Warren County High / Middle School	2	\$ 19,000,000.00	2022	1000000
Warren County	Warren County Courthouse	2	\$ 6,500,000.00	2022	1000000
Warren County	Tri- county Health	2	\$ 2,600,000.00	2022	450000
Warren County	Childs World	2	\$ 50,000.00	2022	15000
Warren County	Warren County Emergency Management Services	2	\$ 1,400,000.00	2022	750000
Warren County	Warren County Fire DeptBealle Springs Station	2	\$ 190,000.00	2022	250000
Warren County	Warren County Fire Dept. Ricketson Station	2	\$ 190,000.00	2022	300000
Warren County	Warren County Fire Dept .Panhandle Station	2	\$ 250,000.00	2022	25000
Warren County	Mildred Freeman	2	\$ 900,000.00	2017	38000
Warren County	Warren Co Chamber of Commerce/Dev. Authority	2	\$ 345,000.00	2022	100000
Warren County	Warren County Public Library	2	\$ 785,130.00	2022	185000

Warren County	Macedonia Church	1	\$ 2,100,000.00	2022	20000
Warren County	Warren County Health Department	2	\$ 760,000.00	2022	82000
Warren County	Warren County Health Rehab	2	\$ 4,600,000.00	2022	12500
Warrenton City	Warrenton City Hall	2	\$ 1,300,000.00	2022	30000
Warrenton City	Rainbow Beginners	2	\$ 105,000.00	2022	25000
Warrenton City	Warrenton Water treatment plant(OMI)	2	\$ 11,000,000.00	2022	50000
Warrenton City	Warrenton Southside WPCP	2	\$ 1,500,000.00	2022	30000
Warrenton City	Warrenton Police Dept.	2	\$ 85,000.00	2022	30000
Warrenton City	Warrenton Fire Dept	2	\$ 250,000.00	2022	450000
Warrenton City	First Baptist Church	2	\$ 3,300,000.00	2022	60000
Warrenton City	Community Service Building	2	\$ 1,800,000.00	2022	55000
			\$ 63,530,837.00		

Jurisdiction	Name	Content value year	Facility type	Risk	Day Occupancy	Night Occupancy
Camak town	Camack City Hall and Fire Station	2022	Emergency Services, Emergency Services, Government, City Hall, City Hall, Fire Fighters, Fire Fighters, Government Offices, Government Offices	Important	1	0
Camak town	Camak Water System	2022	Government, Government, Water/Sewer, Water/Sewer	Economic Assets, Essential, High Potential Loss	2	0
Camak town	Camakn Lift Station 1	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, High Potential Loss	0	0

Camak town	Camak Lift Station 2	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, High Potential Loss	0	0
Norwood town	Norwood City Hall	2022	Government, Government, Private, Private	Important	1	0
Norwood town	Warren County Fire Dept, Norwood Station	2022	Emergency Services, Emergency Services, Government, Government, Fire Fighters, Fire Fighters	Essential	0	0
Norwood town	Norwood Water System	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, High Potential Loss	1	0
Norwood town	Norwood LAS	2022	Government, Government, Water/Sewer, Water/Sewer	Economic Assets, Essential, Hazardous Materials	1	0

Norwood town	Norwood Lift Station #1		Emergency Services, Emergency Services, Government, Government, Water/Sewer, Water/Sewer		0	0
Norwood town	Norwood Lift Station #2		Government, Government, Water/Sewer, Water/Sewer		0	0
Norwood town	Norwood Well #1		Government, Government, Water/Sewer, Water/Sewer	Essential, High Potential Loss	0	0
Norwood town	Norwood Well #3 and 4	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, High Potential Loss	0	0

Norwood town	Norwood Well #2		Government, Government, Water/Sewer, Water/Sewer	Essential, High Potential Loss	0	0
Warren County	Brianwood Academy	2022	Education, Education, Private, Private	Important, Vulnerable Population	458	4
Warren County	Warren County High / Middle School	2022	Education, Education, K - 12, K - 12	Essential, Important	387	2
Warren County	Warren County Courthouse	2022	Government, Government, Court House, Court House, Government Offices, Government Offices	Historic Consideration	20	0
Warren County	Tri-county Health	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential, Important	75	30

Warren County	Childs World	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Important, Vulnerable Population	20	0
Warren County	Warren County Emergency Management Services	2022	Emergency Services, Emergency Services, Government, Government, Law Enforcement, Law Enforcement, EMA, EMA, EMS, EMS, Fire Fighters, Fire Fighters, Government Offices, Government Offices	Essential, Lifeline, Transportation	3	2

Warren County	Warren County Fire DeptBeall e Springs Station	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential	0	0
Warren County	Warren County Fire Dept. Ricketson Station	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential	0	0
Warren County	Warren County Fire Dept .Panhandle Station	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential	0	0
Warren County	Mildred Freeman	2017	Education, Education, K - 12, K - 12	Essential, Important, Vulnerable Population	425	3

Warren County	Warren Co Chamber of Commerce/Dev. Authority	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Important	4	0
Warren County	Warren County Public Library	2022	Education, Education, Library, Library	Important	15	0
Warren County	Macedonia Church	2022	Medical, Medical, Hospital, Hospital	Essential	150	0
Warren County	Warren County Health Department	2022	Medical, Medical, Hospital, Hospital	Important	10	0
Warren County	Warren County Health Rehab	2022	Medical, Medical, Hospital, Hospital	Vulnerable Population	130	120
Warrenton City	Warrenton City Hall	2022	Government, Government, Private, Private	Important	5	0
Warrenton City	Rainbow Beginners	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Important, Vulnerable Population	15	0

Warrenton City	Warrenton Water treatment plant(OMI)	2022	Government, Government, Water/Sewer, Water/Sewer	Essential, Hazardous Materials, Lifeline	4	1
Warrenton City	Warrenton Southside WPCP	2022	Government, Government, Water/Sewer, Water/Sewer	Lifeline	1	0
Warrenton City	Warrenton Police Dept.	2022	Law Enforcement, Law Enforcement, Police, Police	Essential	5	2
Warrenton City	Warrenton Fire Dept	2022	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential, High Potential Loss	2	0
Warrenton City	First Baptist Church	2022	Medical, Medical, Hospital, Hospital	Essential	300	0
Warrenton City	Community Service Building	2022	Medical, Medical, Hospital, Hospital	Essential	20	0

TROPICAL STORMS

Tropical storms begin as tropical depressions over warm oceanic water, then develop into tropical cyclones. A tropical cyclone life span can last from a few hours to close to three weeks. Most tropical cyclones last approximately five to ten days. If the winds are under or up to 39 mph, it is a tropical depression. If winds speeds are between 39 to 73 mph, it is considered a tropical storm. Any storm with over 74 mph wind speed is called a hurricane.

As a rule, hurricanes occur in the western Atlantic Ocean when warm, humid conditions are prevailing. Hurricanes are usually accompanied by excessive rain, thunder and lightning. When hurricanes make landfall, they typically slow down. Unfortunately, at that time, another danger often appears – tornados. A storm surge, which is an abnormal rise in water levels in a coastal area, usually occurs with tropical storms.

McDuffie County is not likely to experience a hurricane or storm surges. In the last 70 years there have been 81 tropical storms that have affected the county with heavy rainfall and strong wind. Although there has been no property or crop damage, roads have been flooded and downed trees have caused widespread power outages across the county. Based on a 20-year hazard frequency cycle, there is a 95% chance of an annual tropical storm event for all jurisdictions

County	Date	Event	Deaths	Injuries	Property Damage	Crop Damage	Narrative
WARREN (ZONE)	6/2/1959	Remnants of Arlene	0	0	0	0	
WARREN (ZONE)	8/30/1964	Remnants of Cleo	0	0	0	0	
WARREN (ZONE)	6/16/1965	Remnants of Unnamed Storm	0	0	0	0	
WARREN (ZONE)	6/8/1968	Remnants of Abby	0	0	0	0	
WARREN (ZONE)	6/20/1972	Remnants of Agnes	0	0	0	0	
WARREN (ZONE)	10/12/1990	Remnants of Marc0	0	0	0	0	
WARREN (ZONE)	8/27/1995	Remnants of Jerry	0	0	0	0	
WARREN (ZONE)	9/23/2000	Remnants of Helene	0	0	0	0	
WARREN (ZONE)	6/13/2001	Remnants of Allison	0	0	0	0	
WARREN (ZONE)	9/14/2002	Remnants of Hannah	0	0	0	0	
WARREN (ZONE)	7/1/2003	Remnants of Bill	0	0	0	0	
WARREN (ZONE)	9/6/2004	Remnants of Frances	0	0	0	0	
WARREN (ZONE)	9/16/2004	Remnants of Ivan	0	0	0	0	
WARREN (ZONE)	9/26/2004	Remnants of Jeanne	0	0	0	0	
WARREN (ZONE)	6/12/2005	Remnants of Arlene	0	0	0	0	
WARREN (ZONE)	7/10/2005	Remnants of Dennis	0	0	0	0	
WARREN (ZONE)	8/29/2005	Remnants of Katrina	0	0	0	0	
WARREN (ZONE)	10/5/2005	Remnants of Tammy	0	0	0	0	
WARREN (ZONE)	8/21/2008	Remnants of Fay	0	0	0	0	

WARREN (ZONE)	11/10/2009	Remnants of Ida	0	0	0	0	<p>Hurricane Ida moved inland near Mobile, Alabama early on the 10th and then tracked east-northeast across southern Alabama, southern Georgia, and the Florida Panhandle before emerging off the east coast as a strong low pressure system. The remnants of the hurricane combined with a cold air wedge across north Georgia to bring abundant Atlantic and Gulf moisture into the region. Twelve to 18-hour rainfall totals of 4-5 inches across north Georgia aggravated totally saturated soils from an on of the wettest September and October periods on record to result in widespread creek, stream, and river flooding. The generally light to moderate intensity of the rainfall and its persistence over a long period of time resulted in limited flash flooding. Damages from Hurricane Ida to Georgia were confined to minor flooding, mostly adjacent to rivers, creeks, and streams. Some locations experienced flooding subsequently for several days.</p>
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							Only 15 to 20 mph winds with some gusts to 25 mph were observed with the remnants of Ida as the tightly concentric wind field weakened rapidly with the inland movement. In addition, no tornadoes were observed with the remnants of Ida as it tracked across the region. Total damages from Ida within the Peachtree City, Georgia forecast area were well less than \$100,000.
WARREN (ZONE)	9/4/2011	Remnants of Lee	0	0	0	0	The remnants of Tropical Storm Lee impact north and central Georgia.

WARREN (ZONE)	9/11/2017	Remnants of Irma	0	0	50000	0	Local news media reported many trees and power lines blown down across the county. Many customers were without electricity for varying periods of time. No injuries were reported.
WARREN (ZONE)	10/11/2018	Remnants of Michael	0	0	0	0	A National Weather Service survey consisting of an analysis of measured wind data, along with reports from Emergency Managers and various other local, state and federal officials, found that tropical storm conditions occurred in the county. There were numerous reports of trees and power lines blown down. Wind speeds were estimated between 30 and 40 mph.
WARREN (ZONE)	7/7/2020	Remnants of Fay	0	0	0	0	
WARREN (ZONE)	9/18/2020	Remnants of Sally	0	0	0	0	
WARREN (ZONE)	10/29/2020	Remnants of Zeda	0	0	0	0	Winds gusted between 30 and 40 mph for several hours.
WARREN (ZONE)	6/20/2021	Remnants of Claudette	0	0	0	0	

SEVERE THUNDERSTORM (Wind, Hail, & Lightning)

The first severe weather event, thunderstorm winds, can cause death, injury, power outages, property damage, disrupt telephone service, and severely affect radio communications which may seriously impair the emergency management capabilities of the affected jurisdictions. Thunderstorm winds arise as a result from convection (with or without lightning), with speeds of at least 50 knots (58 mph), or winds of any speed producing a fatality, injury, or damage. Severe thunderstorms develop powerful updrafts and downdrafts. An updraft of warm, moist air helps to fuel a towering cumulonimbus cloud reaching tens of thousands of feet into the atmosphere. A downdraft of relatively cool, dense air develops as precipitation begins to fall through the cloud. Winds in the downdraft can reach in excess of 100 miles per hour. When the downdraft reaches the ground, it spreads out forming a gust front: the strong wind that kicks up just before the storm hits. As the thunderstorm moves through the area, the full force of the downdraft in a severe thunderstorm can be felt as horizontal, straight-line winds with speeds well over 50 miles per hour. Straight-line winds are often responsible for most of the damage associated with a severe thunderstorm. Damaging straight-line winds occur over a range of scales. At one extreme, a severe single-cell thunderstorm may cause localized damage from a microburst, a severe downdraft extending not more than about two miles across. In contrast, a powerful thunderstorm complex that develops as a squall line can produce damaging winds that carve a path as much as 100 miles wide and 500 miles long.

The second severe weather event is hail. Hailstones are created when strong rising currents of air called updrafts carry water droplets high into the upper reaches of thunderstorms where they freeze. These frozen water droplets fall back toward the earth in downdrafts. In their descent, these frozen droplets bump into and coalesce with unfrozen water droplets and are then carried back up high within the storm where they refreeze into larger frozen drops. This cycle may repeat itself several times until the frozen water droplets become so large and heavy that the updraft can no longer support their weight. Eventually, the frozen water droplets fall back to earth as hailstones. Hail can also be a destructive aspect of severe thunderstorms. Hail causes more monetary loss than any other type of thunderstorm-spawned severe weather in the United States, annually producing about one billion dollars in crop damage.

Storms that produce hailstones only the size of a dime can produce dents in the tops of vehicles, damage roofs, break windows and cause significant injury or even death. The third type of severe weather events is lightning. Lightning is a giant spark of electricity in the atmosphere between clouds, the air, or the ground. In the early stages of development, air acts as an insulator between the positive and negative charges in the cloud and between the cloud and the ground. When the opposite charges build up enough, this insulating capacity of the air breaks down and there is a rapid discharge of electricity that we know as lightning. The flash of lightning temporarily equalizes the charged regions in the atmosphere until the opposite charges build up again.

Location	Date	Type	Deaths	Injuries	Property Damage	Crop Damage	Description
COUNTYWIDE	7/19/1955	Thunderstorm Wind	0	0	0	0	
COUNTYWIDE	3/21/1974	Thunderstorm Wind	0	0	0	0	
COUNTYWIDE	5/24/1978	Thunderstorm Wind	0	0	0	0	
COUNTYWIDE	4/26/1982	Thunderstorm Wind	0	0	0	0	
COUNTYWIDE	7/15/1983	Thunderstorm Wind	0	0	0	0	
COUNTYWIDE	12/28/1983	Thunderstorm Wind	0	0	0	0	
Warrenton	2/12/1993	Thunderstorm Wind	0	0	5000	0	Several large trees were blown down.
Warrenton	6/24/1994	Thunderstorm Wind	0	0	5000	0	Several large trees were downed at Nayfield and East Warrenton roads on the east side of Warrenton.
Warrenton	6/26/1994	Thunderstorm Wind	0	0	5000	0	Numerous large trees were downed by thunderstorm winds along Georgia Highway 278.
Mayfield	7/26/1995	Thunderstorm Wind	0	0	500	0	Thunderstorm winds knocked numerous trees down on power lines.
Warrenton	7/26/1995	Thunderstorm Wind	0	0	500	0	Thunderstorm winds knocked trees down on the Eastern part of Briarcreek Church Road.
NORWOOD	4/22/1997	Thunderstorm Wind	0	0	5000	0	
WARRENTON	7/27/1997	Thunderstorm Wind	0	0	1500	0	Two tree limbs were knocked down on power lines along Georgia Highway 278 in Warrenton.
WARRENTON	6/9/1998	Thunderstorm Wind	0	0	5000	0	Warren county 911 reported numerous trees were blown down county-wide.
NORWOOD	5/6/1999	Thunderstorm Wind	0	0	1000	0	Warren county 911 reported numerous trees knocked down by thunderstorm winds.
WARRENTON	7/6/1999	Thunderstorm Wind	0	0	1000	0	Warren county 911 reported several trees blown down.
CAMAK	7/31/1999	Thunderstorm Wind	0	0	2000	0	Warren county 911 reported trees and power lines down on highway 80 between Camak and Warrenton. Trees were also knocked down on power lines near Barnett.

WARRENTON	6/29/2000	Thunderstorm Wind	0	0	5000	0	The Jefferson County Emergency Management Center reported trees down on power lines throughout the southern part of Warren county.
COUNTYWIDE	7/23/2000	Thunderstorm Wind	0	0	25000	0	The Warren county 911 center reported trees down throughout the county.
COUNTYWIDE	7/23/2000	Thunderstorm Wind	0	0	20000	0	The Warren county 911 center reported more trees down countywide.
NORWOOD	1/19/2001	Thunderstorm Wind	0	0	2000	0	The Warren county 911 center reported that trees were down.
JEWELL	8/1/2002	Thunderstorm Wind	0	0	1000	0	The Warren county 911 center reported that power lines were down in the Jewell/Jewells Mill area.
WARRENTON	2/22/2003	Thunderstorm Wind	0	0	3000	0	The Warren county 911 center reported that several trees were blown down.
COUNTYWIDE	5/2/2003	Thunderstorm Wind	0	0	5000	0	The Warren county 911 center reported that a number of trees were blown down across the county.
WARRENTON	9/4/2003	Thunderstorm Wind	0	0	1000	0	The Warren county Emergency Management Director reported that a shed was blown over at a gasoline service station.
CADLEY	6/11/2007	Thunderstorm Wind	0	0	3000	0	The Warren County Emergency Management Director and the Warren County 911 Center reported that a number of trees were down on Interstate-20 in the northern part of the county. Other trees were down in other areas of the county, including at least two trees down on U.S. Highway 278 north of Warrenton.
WARRENTON	6/30/2007	Thunderstorm Wind	0	0	3000	0	The Warren County Emergency Management Director reported that an apparent thunderstorm downburst from a small thunderstorm resulted in six to nine trees being

							blown down in the area south and east of Warrenten.
NORWOOD	5/20/2008	Thunderstorm Wind	0	0	5000	0	The Warren County 911 Center reported that several trees and power lines were down in the Norwood area. It appeared to them to have possibly been a downburst.
NORRIS	4/10/2009	Thunderstorm Wind	0	0	1000	0	The Warren County 911 Center reported that a few trees were blown down in the far western portion of the county near the Hancock county line.
BARNETT	12/9/2009	Thunderstorm Wind	0	0	1000	0	The Warren County 911 Center reported that a few trees were down, scattered about the county.
CAMAK	6/25/2010	Thunderstorm Wind	0	0	3000	0	The Warren County 911 reported that six trees and one power line were down near Camak.
BARNETT	4/5/2011	Thunderstorm Wind	0	0	100000	0	The Warren County 911 Center reported that dozens of trees and power lines were down throughout the county. Five homes in the county sustained minor damage from downed trees.
NORWOOD	2/24/2012	Thunderstorm Wind	0	0	3000	0	The Warren County Emergency Manager reported that a couple of trees were blown down in Norwood and a few trees were blown down in Camak.
EAST WARRENTON	11/23/2014	Thunderstorm Wind	0	0	6000	0	The Warren County 911 Center reported trees blown down across the county.
CAMAK	6/9/2015	Thunderstorm Wind	0	0	8000	0	The Warren County 911 Center reported multiple trees down along I-20 and along Ridge Road.

CAMAK	7/6/2016	Thunderstorm Wind	0	0	5000	0	The Warren County Emergency Manager reported trees and power lines blown down along Highway 278.
NORWOOD	7/8/2016	Thunderstorm Wind	0	0	2000	0	The Warren County 911 center reported trees blown down along Highway 278 in Norwood and along Washington Highway in Camak.
JEWELL	4/5/2017	Thunderstorm Wind	0	0	10000	0	The Warren County Emergency Manager reported trees blown down across the county.
CEDAR ROCK	7/23/2017	Thunderstorm Wind	0	0	6000	0	The Warren County 911 center reported trees blown down from north of Norwood to near Warrenton including along I-20 around mile marker 158 and around Durham Road, and near the intersection of Elam Church Road and Jack Ray Road.
ANSLEY	6/24/2018	Thunderstorm Wind	0	0	4000	0	The Warren County 911 center reported multiple trees blown down southwest of Warrenton, along Long Creek Road.
WARRENTON	6/22/2019	Thunderstorm Wind	0	0	2000	0	The Warren County Emergency Manager reported trees blown down around the intersection of Mayfield Road and Atlanta Highway.
CADLEY	4/13/2020	Thunderstorm Wind	0	0	2000	0	Large tree down on the 5000 block of E Cadley Road.
CADLEY	4/13/2020	Thunderstorm Wind	0	0	1000	0	Large tree down at the intersection of Hwy 80 and Indian Hill Road.
WARRENTON	4/13/2020	Thunderstorm Wind	0	0	4000	0	Power lines down at the intersection of W Elam Church Road and Jack Ray Road.
			0	0	\$262,500	0	

WINTER STORMS

Southeastern snow or ice storms often form when an area of low pressure moves eastward across the northern Gulf of Mexico. To produce a significant winter storm in the south, not only must temperatures be cold enough, but there must also be enough moisture in the atmosphere to produce adequate precipitation. A major winter storm can last for several days and be accompanied by ice and freezing rain, high winds, heavy snowfall, and cold temperatures.

These conditions can make driving very dangerous, as well as bring down trees and power lines. There have been 28 winter storm events recorded in the county over the last 70 years with no property damaged reported. Damage from these events totals over \$133 thousand. There is a 45% chance of an annual winter storm event. Winter storms can be more accurately predicted than most other natural hazards, making it possible to give advance warning to communities.

The National Weather Service issues winter storm warnings and advisories as these storms make their way south. Given the infrequency of these types of storms, southern communities are still not properly equipped to sustain the damage and destruction caused by severe winter storms. To summarize, there are approximately 14,474 structures/properties in the county valued at slightly more \$573 million. The committee recognized the dangers posed by winter storms and identified specific mitigation actions in Chapter III, Section VI.

Location	Date	Event	Damage	Description
Warren County	2/25/1914	Heavy Snow		11 inches of snow fell.
Warren County	3/2/1960	Winter Weather		None Reported
Warren County	1/26/1961	Winter Weather		None Reported
Warren County	12/13/1962	Winter Weather		None Reported
Warren County	1/25/1963	Winter Weather		None Reported
Warren County	12/31/1963	Winter Weather		None Reported
Warren County	1/13/1964	Winter Weather		None Reported
Warren County	3/31/1964	Winter Weather		None Reported
Warren County	1/16/1965	Winter Weather		None Reported
Warren County	1/25/1966	Winter Weather		None Reported
Warren County	1/31/1966	Winter Weather		None Reported
Warren County	2/9/1968	Winter Weather		None Reported
Warren County	1/10/1970	Winter Weather		None Reported
Warren County	2/9/1973	Heavy Snow		14 inches of snow fell. Schools were closed; power outages across county, trees limbs down. Cows had to be feed by helicopters.
Warren County	1/31/1977	Winter Weather		None Reported
Warren County	2/18/1979	Winter Weather		None Reported
Warren County	2/6/1980	Winter Weather		None Reported
Warren County	1/21/1983	Winter Weather		None Reported
Warren County	1/15/1994	Winter Weather		None Reported
Warren County	1/28/2000	Ice Storm	33,000	1/4 to 1/2 inch of ice accumulation icing roads and bridges minimal power outages across.
Warren County	1/2/2002	Heavy Snow		6.5 inches of snow; schools closed; trees and limbs were broken; several roads impassable due to ice; power outages were minimal.
Warren County	2/28/2003	Ice Storm		Power outages, trees down near Pine Avenue

Warren County	1/28/2005	Winter Storm	100,000	1/4 inch of glaze ice. Power outages for up to three days for parts of the county.
Warren County	2/12/2010	Heavy Snow, Winter Weather		An average of 2.0 inches, with a range of 0.5 in the far southeast to 4.0 inches in the extreme north.
Warren County	12/25/2010	Heavy Snow, Winter Weather		4.0 inches of snow
Warren County	1/10/2011	Winter Storm		1.5 inches of snow north to a trace south, 0.5 inch or less of sleet, and 0.10 inch of ice accumulation from freezing rain/freezing drizzle
Warren County	1/28/2014	Winter Storm		
Warren County	2/13/2014	Ice Storm		The most recent ice storm on February 11-13, 2014, had freezing rain and sleet with accumulations of up to 1½ inches of ice and 2 inches of snow and sleet across the area.
Warren County	1/17/2018	Winter Weather		1/4 inch of snow reported in Warren County
			\$ 133,000.00	

APPENDIX B
GROWTH AND DEVELOPMENT
TRENDS
COMMUNITY INFORMATION



WARREN COUNTY

Joint Comprehensive Plan 2019-2029

Including the municipalities of
Camak
Norwood
Warrenton



PREPARED FOR:

The Chairman and County Board of Commissioners
Warren County, Georgia
P.O. Box 46
Warrenton, Georgia 30828
Adopted: June 17, 2019

The Mayor and Town Council
Camak, Georgia
P.O. Box 24
Camak, Georgia 30807
Adopted: June 10, 2019

The Mayor and City Council
Norwood, Georgia
P.O. Box 64
Norwood, Georgia 30821
Adopted: June 24, 2019

The Mayor and City Council
Warrenton, Georgia
P.O. Box 109
Warrenton, Georgia 30828
Adopted: June 27, 2019

The elected officials of Warren County and the municipalities of Camak, Norwood, and Warrenton have recognized the significance of a comprehensive planning process to coordinate the needs each community has regarding development, housing vitality and maintaining of character. These officials and leaders recognize the efforts and input of all individuals who contributed to the creation of this comprehensive plan document, which will provide information for decision making and guidance for activities over the next decade.

Staff exhibited a commitment toward the development of this comprehensive plan, in part by dedicating numerous hours to information compilation and data review, information dissemination, and idea generation.

This document represents the culmination of meetings and conversations in which area leaders assembled to discuss the future of Warren County and its contained municipalities.

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Prepared by the CSRA Regional Commission



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INTRODUCTION



PLAN OVERVIEW

Counties, cities, and towns in Georgia all desire to provide residents of all ages and backgrounds with a safe, affordable, healthy and beautiful place to live and thrive. These communities, large and small, all experience change at various points in their existence, whether it be environmental, political, geographic, economic, or demographic. For example, rapid, uncontrolled development can lead to sprawl, and declining or stagnant development can lead to dilapidated buildings and increased blight. Change is inevitable, and the long-term viability of every community is affected by it. Community stabilization is a vital factor in remaining viable and encouraging quality growth. For a community to remain strong in an ever-changing world, it must accommodate its current needs, anticipate future needs, and take advantage of critical opportunities. It also requires adaptation in the face of unforeseen circumstances or emergencies. *It is critical to recognize that the effects of change are different for communities that can anticipate, plan for and accommodate it. Communities that fail to plan can face negative effects that could have been prevented or mitigated with proper planning.*

A vision which is consistent and locally generated, in conjunction with an implementation plan, can ignite economic opportunities and encourage social cohesiveness in any jurisdiction. Warren County, Camak, Norwood, and Warrenton officials recognize the need for a coordinated and comprehensive planning process to address multiple community needs and opportunities, not least of which will address concerns of economic stability, housing conditions and population reduction. This document consolidates those identified issues and locally agreed-upon solutions. The Warren County Joint Comprehensive Plan is the official guiding document for the future of Warren County and its contained municipal jurisdictions. The comprehensive plan serves the following functions:

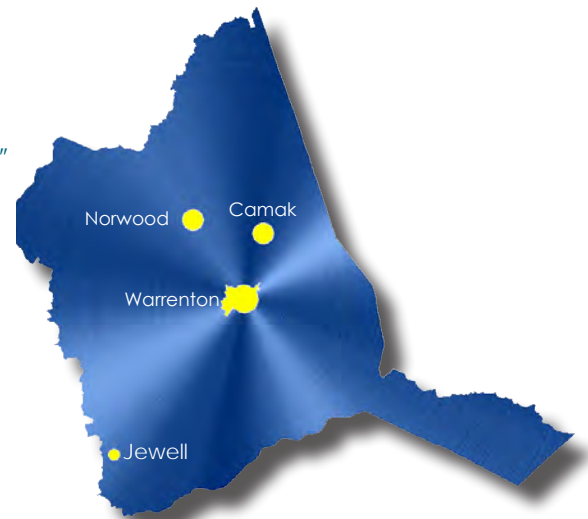
- Outline a desired future
- Provide a guide for how to achieve that future
- Formulate a coordinated long-term plan

The comprehensive plan coordinates areas of significance in economic development, housing, community facilities, cultural/natural resources and land use in a guide for:

- Land development in relationship with the environment
- Retention and attraction of employment opportunities
- Continued maintenance and access to public services and facilities
- Recreational services created and improved

Comprehensive plans prepared in Georgia that are consistent with the DCA standards include a strategic planning component called the “community work program.” Each community’s five-year community work program lists measurable projects that will be undertaken within the applicable community’s geographic area consistent with their stated comprehensive plan goals. This document includes data at a variety of scales, from the state and region, down to the municipal level. All of which provide valuable context and comparison information for plan users.

In conjunction with the Warren County Service Delivery Strategy, this document is a resource to provide a road map for each jurisdiction. Appointed and elected officials should use this resource as they deliberate land development issues and help their respective citizenry understand the benefits of proper community planning.



COMMUNITIES IN CONTEXT

Warren County was established by the Georgia General Assembly on December 19, 1793 - becoming Georgia's 16th county. The county was named in honor of Major General Joseph H. Warren of the Colonial Patriot Militia. General Warren's death at the Battle of Bunker Hill in 1775 was noted for galvanizing colonial forces and turning the war in favor of the colonies. As with most early Georgia counties, the land area of Warren County has been reduced over time as new counties were created during the course of the last 200 plus years. Within Warren County's current 287 square miles of land area are located the following three (3) incorporated municipal jurisdictions:

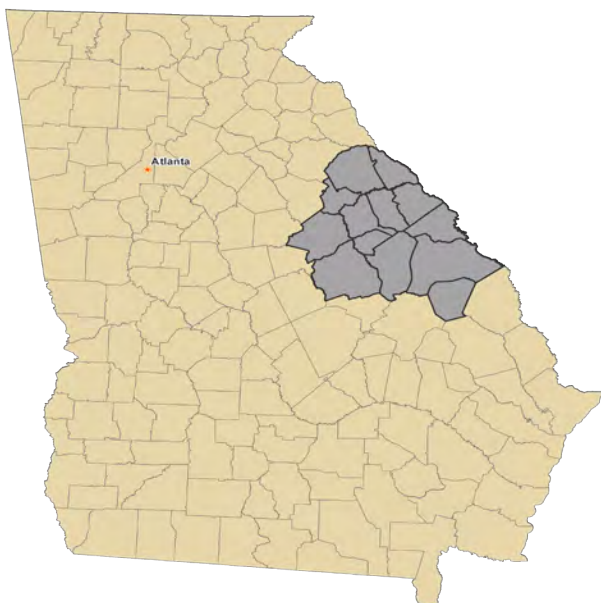
- Town of Camak (incorporated January 1, 1898)
- City of Norwood (incorporated January 1, 1888)
- City of Warrenton (incorporated December 8, 1810)

In addition to these municipalities, other crossroad settlements have existed in Warren County – the most prominent of which is the mill community of Jewell located on the Ogeechee River at the border with Hancock County.

The Governor's Office of Planning and Budget projects that Warren County, like many other rural CSRA counties, will experience gradual population decline heading into the year 2030. Counties with larger urbanized areas such as Richmond and Columbia are expected to increase in population due to the recent announcement of a key expansion at Fort Gordon and associated private sector growth in cyber-related technologies. It is possible, however, that congestion and housing affordability will make some rural communities more attractive than is presently anticipated. Anecdotally, Warren residents already indicate a recent up-tick in "large tract" acquisitions. They cite the appeal of the slower-paced lifestyle to recent retirees, proximity to the urban amenities of Augusta and Atlanta, and affordable land costs as the main reason that more people are choosing to make a home in Warren County. Warren County and its contained cities and towns comprise what has been described as a "mosaic of distinctive places" providing a window into Georgia's rural heritage - remaining ideal for outdoor recreation and historic tourism opportunities.

While the county's "rural heritage" remains as a tangible community asset – with its many acres of rolling farm and woodland, and inventory of historic buildings – this condition is largely a pleasant accident. Development patterns have changed with increasing speed – with regional and national economies attracting and concentrating jobs and people into urbanized areas. Rural communities left behind by the demographic shifts that have followed this prosperity become silhouettes of their former selves. Warren County is no exception. How can those empty buildings be filled again, and vibrancy and activity return to the streets of Warrenton, Camak, and Norwood? How can inactive fields be made productive again? How can the ruins of abandoned homes be removed on a shrinking tax base, and new investment attracted in its place? What will it take to return jobs to rural population centers?

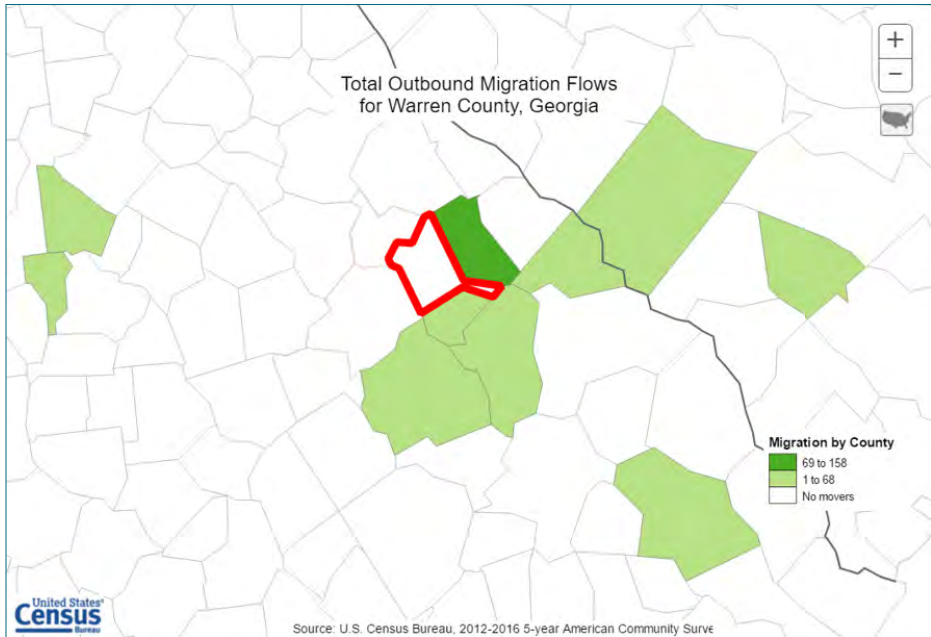
It is in this context, and these questions, under which the Warren County joint comprehensive plan has been initiated. Reinvigorating – or at least stabilizing – communities that have declined over time through locally generated ideas is one of the overarching goal of this planning process.



WARREN COUNTY BY THE NUMBERS

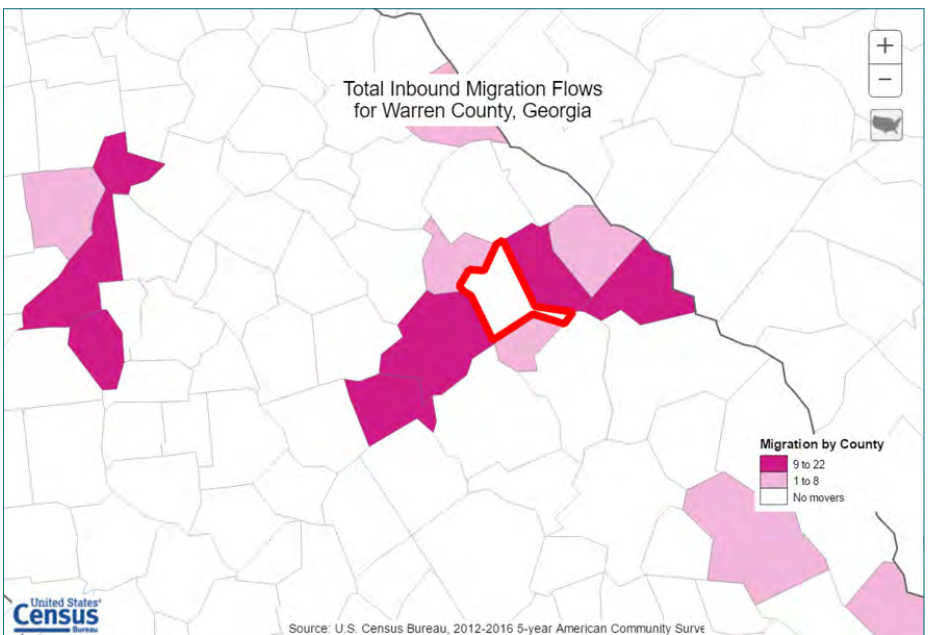
According to the American Community Survey (ACS), the county has seen its population decline in the period from 2000 to 2017. The majority of this exodus appears to have been from the unincorporated county. All three contained jurisdictions had lost population at the time of the 2010 census, but have since seen small rebounds in the years that followed. The City of Warrenton is estimated to have experienced a net loss of only about 1% of its population. The relative stability of the City populations could carry implications for the importance of a compact pattern of development and resulting proximity to business and services.

Census migration data reveals that those leaving Warren County in recent years have departed most frequently for next door neighbor McDuffie County. To a lesser extent, out-migrants have also taken up residence in Jefferson, Glascock, Washington and Richmond County when relocating



within the region. Alternatively, Warren County has received the largest numbers of in-migrants from Richmond, McDuffie, and Hancock Counties within the region, and from Baldwin, Fulton and Clayton Counties outside the region. Demographics Changes in the County's demographics have occurred, which speak to new needs that should be addressed through the comprehensive planning process. Two trends are evident: the loss of young adults aged 35-44 and families with young children, and an increase in retirement-age residents.

Though speculative, the loss of young adults and families with young children could be associated with factors like primary and secondary school quality, an increasing desire for suburban or urban amenities, or scarcity of jobs meeting the needs of young professionals. Alternatively, an increase in retirement-age population could be the result of a desired rural lifestyle and relatively low cost of living. Each community should assess its changing demographics, consider its priorities, and adopt policies that will move the community and its residents closer to a desired end.



2000-2017 Population Change in Warren County

Population	2000	2010	2017	2000-2017 Population Change	2000-2017 Population Percent Change
Warren County	6,336	5,834	5,410	-926	-14.6%
Unincorporated Warren County	3,859	3,520	3,011	-848	-22.0%
Camak	165	138	148	-17	-10.3%
Norwood	299	239	257	-42	-14.0%
Warrenton	2,013	1,937	1,994	-19	-0.9%
Georgia	8,186,453	9,687,653	10,201,635	2,015,182	24.6%

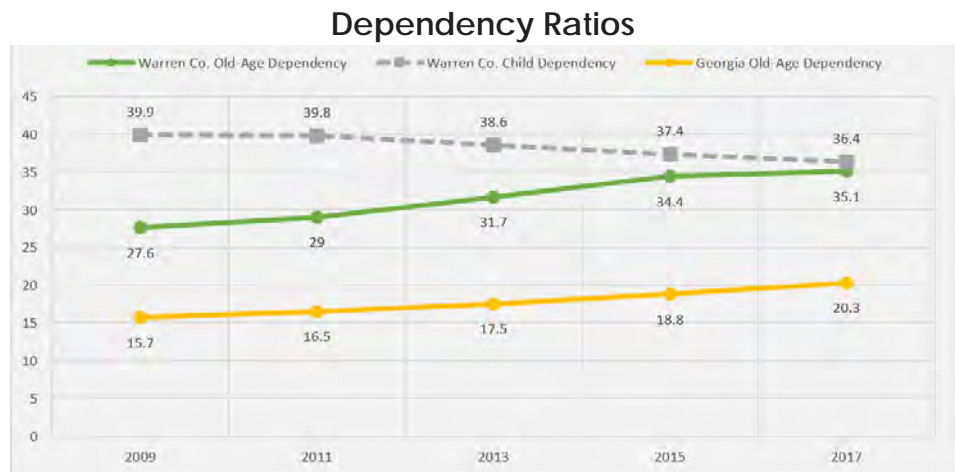
Source: U.S. Census Bureau

Aging Population

Warren County has seen a marked increase in the share of the population aged 55-74. There is also a corresponding decline in the share of population aged 45 to 59. This suggests that while some population change between these age groups is due to aging in place, others can only be new entrants to the community. This supports anecdotal evidence of the desirability of Warren County for recent retirees leaving more urban areas of the region. Of 13 counties in the CSRA region, only 3 have a similarly high proportion of population aged 65 and older: Taliaferro, Lincoln and Wilkes. These 4 counties all have approximately 20%, while the regional average is approximately 13.2%.

The aging of America's population is a phenomenon that the Planning field has anticipated for many years as the Baby Boomers, those born between 1946 and 1964, edged toward retirement. Now, as this group enters its twilight years, many communities are faced with the task of ensuring adequate facilities and services are in place to care for the growing senior population and their unique needs. Often limited in income, limited in mobility and having a relatively high dependence on health and other social services, this population will require an increasing share of local attention and resources in the coming years.

The following chart illustrates the rate at which Warren County's demographic gap is widening. The Old-Age Dependency Ratio is a measure that looks at the population aged 65 and older as a proportion of the working-age population, aged 18-64. Essentially, it is a metric reflecting the number of residents 65 and older supported by younger, working-age residents. As of 2017, this ratio had risen to 35.1 from 27.6 in 2009. Warren County's population is older than the State of Georgia, and the rate of old-age dependency has increased at a faster pace than the State. Added to this, the County's child-dependency ratio has declined steadily since 2009, signaling a decline in population under 18 in relation to those aged 18 to 64.



Educational Attainment

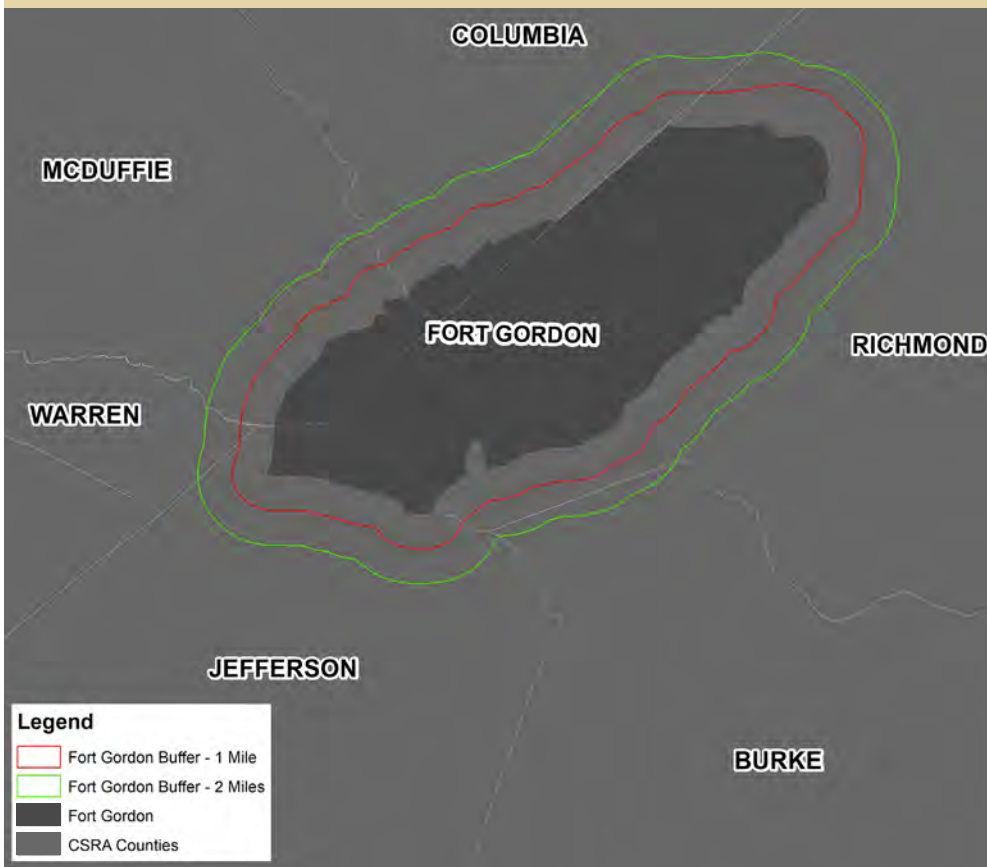
Though shrinking, Warren County's population has become more educated. Those failing to obtain at least a high school diploma now make up a smaller proportion of the population than they did in the year 2000. Also, the county has gained residents possessing both Bachelor's and advanced degrees. Overall, more than 75% of residents now have at least a high school diploma, up from 57.1% in 2000.

A FORT GORDON NEIGHBOR

Fort Gordon is the Augusta area's largest employer and drives the regional economy. Occupying approximately 55,600 acres in four counties (Jefferson, Augusta-Richmond, McDuffie, and Columbia), Fort Gordon is the largest communications training facility in the Armed Forces and is the focal point for the development of tactical communications and information systems. Fort Gordon is also home to members of the other Armed Forces and is a center for joint forces training and operations. According to the Fort Gordon Alliance, Fort Gordon accounts for about 24,000 civilian and military jobs and generates over \$2.4 billion dollars in economic activity and tax revenue annually.

Fort Gordon was recently designated the Army Cyber Center of Excellence, and several thousand new soldiers and contractors are expected to our area in the coming years. This growth at Fort Gordon will directly affect the counties adjacent to Fort Gordon and will likely have extended effects across the region as these new residents search for housing, recreation, and retail opportunities and require local public services. The region is working to provide a skilled workforce capable of occupying some of the jobs that will be associated with growth in cyber and in Fort missions in general.

The relationship between military installations and surrounding communities has become strongly interrelated, and it is no longer possible for either entity to avoid one another when particular challenges arise. Neither local governments nor Fort Gordon can afford the costs associated with poor land use compatibility. Both need to work collaboratively in order to address issues that affect the localities' ability to grow in an orderly and organized manner, enabling it to provide adequate services to residents, and Fort Gordon's ability to adequately operate and train its troops.



Currently, local governments are required to inform Fort Gordon and take comment on rezoning requests within 3,000 feet of the installation per the State Zoning Procedures Law. To address impacts of land use and encroachment on Fort missions, McDuffie, Augusta-Richmond, Burke, Columbia, and Jefferson counties are participating in a Joint Land Use Study (JLUS). Recommendations from the forthcoming final JLUS report will be included in a future version of this document as implementation activities as deemed appropriate.

PRIOR PLANS

The comprehensive plan is a living document that should be updated as the community it describes changes. The Georgia Department of Community Affairs (DCA) requires 5-year updates of the plan and community work program to ensure community needs are met.

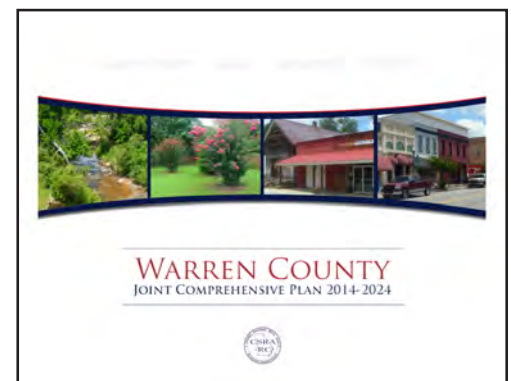
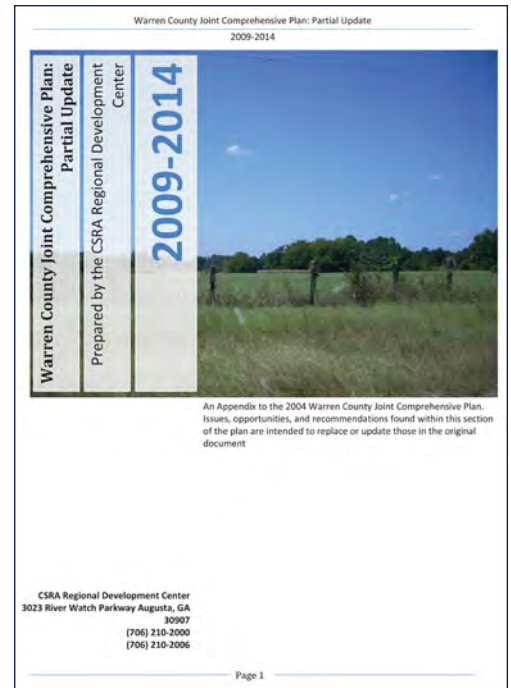
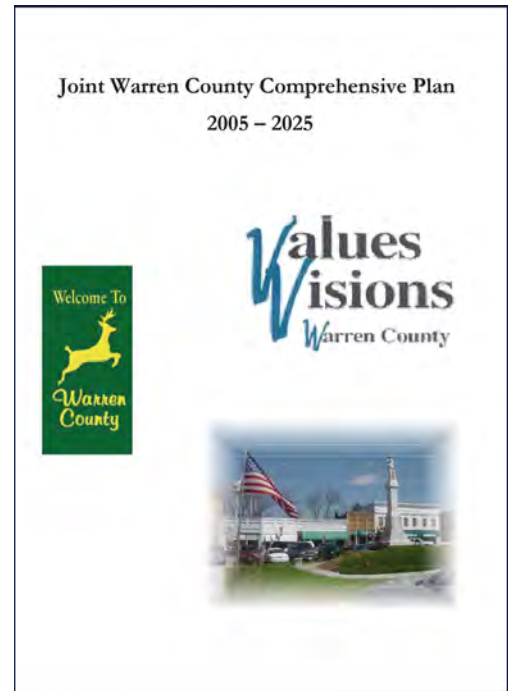
Prior versions of Warren County comprehensive plans have diminished in relevance as implementation recommendations have either been completed or, due the passage of time, the importance of certain recommendations are not longer important. This new comprehensive plan document addresses relative community changes since the prior plan was adopted.

The Joint Warren County Comprehensive Plan 2005-2025 was prepared by the Central Savannah Area Regional Development Center (CSRA - RDC) and adopted in 2005, in a format consistent with standards established by the Georgia Department of Community Affairs (DCA) prior to 2005. The document outlined county and municipal conditions that existed at the time, and formulated goals regarding housing, land-use, economic development, and transportation systems. Data provided in the document was to be used by community leaders to make coordinated decisions regarding public expenditures and land use.

Warren County Joint Comprehensive Plan: Partial Update 2009-2014 was generated in 2009 - once again with the assistance of the now titled, Central Savannah River Area Regional Commission (CSRA-RC). Prepared in response to changes to DCA requirements, this partial update included a "Quality Community Objectives Assessment" and an "Analysis of Areas Requiring Special Needs" in conjunction with the identification of new issues and opportunities and an updated plan implementation program.

Continuing the trend, the Warren County Joint Comprehensive Plan 2014-2024 was created with assistance from CSRA-RC. This plan updated the previous 2009 plan, including new Character Areas and maintaining the Special Areas previously developed in 2009 (despite them no longer being required).

These and other locally coordinated community planning documents serve as the initial reference point for the new comprehensive plan which will supersede all prior plans.



PLAN COORDINATION, COMPONENTS AND PROCESS

The CSRA-RC is the county's selected planning coordinator for the Warren County Comprehensive Plan 2019-2029. This document has been prepared to exceed the minimum requirements of Georgia Department of Community Affairs' 2018 Minimum Standards and Procedures For Local Comprehensive Planning which became effective in October 2018.

The Comprehensive Plan includes the following state-required and elective components:

- Community Goals
- Community Needs and Opportunities
- Community Work Program
- Community Involvement Overview
- Broadband Services
- Economic Development
- Land Use
- Housing
- Natural and Cultural Resources
- Community Facilities and Services

All state-required comprehensive planning components and additional electives listed are distributed throughout the Warren County Comprehensive Plan in different sections.

A comprehensive plan should be composed to reflect the shared vision, goals and objectives for all communities involved in the process. The Georgia Department of Community Affairs requires the planning process for comprehensive plan to follow a set of minimum procedures to ensure that the public has the opportunity to provide input and review the comprehensive plan document as it is created. Figure 1 (on page 10) provides a list of the required procedures and provides a brief description of each.

PUBLIC INVOLVEMENT

Consistent public input is a necessary component for the creation and completion of this comprehensive plan document. One significant part of the process is forming a stakeholder committee of community members. This group of people is critical to the plan creation and informs the decision-making process. A committee of stakeholders was created and was comprised of community leaders from a cross-section of the county. The primary purpose of this committee was assuring that CSRA-RC staff reflected the aforementioned shared vision, goals, and objectives of the community.

Two public hearings were also held as a part of this process. Public hearings were held jointly at the Warren County Community Services Building on the following dates:

February 11, 2019

May 13, 2019

Additional public input involved additional communication channels including social media, website, community newsletter, and physical posting in the community services building.

The members of the Warren County stakeholder committee for this planning process were:

John Graham - Chairman, Warren County BoC
Pamela Lester - Clerk, Warren County BoC
Jamie Sikes - Mayor, Town of Camak
Margaret Pinion - Clerk, Town of Camak
Lonnie Drake - Mayor, City of Norwood
Pamela McCord - Clerk, City of Norwood
Chris McCorkle - Mayor, City of Warrenton
Marry Ann Mosley - Administrator, City of Warrenton
O.B. McCorkle - Executive Director, Warren Co. Development Authority & Chamber of Commerce
Michael Thigpen - Warren County Planning & Zoning
Ron Sellers - Chief of Police, City of Warrenton Police Department
Sammy Purvis - Chief Deputy, Warren County Sheriff's Office
Emma Sinkfield - Executive Director, Warren County Quality of Life
Antonio Hill - Assistant Superintendent, Warren County Board of Education
Tiffany Walker - Nurse Manager, Warren County Health Department
Tammy Cheely - County Extension Agent, Warren County Extension Office

Stakeholder meetings were held on the following dates to provide information, review data, and gain community perspective:

- January 22, 2019
- February 26, 2019
- March 18, 2019
- April 29, 2019

FIGURE 1: PLANNING PROCESS FOR THE WARREN COUNTY COMPREHENSIVE PLAN

Procedure		Description
A	First Required Public Hearing	The purpose is to brief public on the process and provide opportunities to participate.
B	Plan Development	This must include opportunity for involvement from stakeholders and community members.
C	Second Public Hearing	Once plan is drafted it must be made available for public review and comment.
D	Submittal for Review	A completed draft must be submitted to CSRA-RC and DCA.
E	Notification of Interested Parties	The CSRA-RC will notify all interested parties of the availability of the plan for review and comment.
F	Regional Commission Review	CSRA-RC will review the plan for potential conflicts.
G	Department Review	DCA will review for compliance with their "Rules"
H	Report of Findings and Recommendations	A report of findings and recommendations must be transmitted within 40 days after submittal.
I	Plan Revisions	If the plan is not in compliance, revisions may be made to the plan to meet requirements.
J	Adoption of Plan	Once the plan is found in compliance the plan can be adopted within a certain time frame.
K	Notification of Local Adoption	The CSRA-RC must be notified of adoption within 7 days and forward to DCA in another 7 days.
L	Qualified Local Government Certification	DCA will notify communities their QLGC has been extended.
M	Publicizing the Plan	Publication of plan after adoption must occur and citizenry informed of the availability of plan for review.

NEEDS and OPPORTUNITIES



The stakeholder committee members met several times with CSRA-RC staff over the course of the plan creation process and actively participated in facilitated discussions to help define community needs, establish community goals, and create community work program activities. One key item created during the process was the SWOT analysis (strengths, opportunities, weaknesses, and threats) for the county and each municipality. Combined with data collected by Regional Commission staff, the SWOT analysis directly informed the crafting of the county needs and opportunities. It also provided support for long-term goals and work program activities developed further along in the process.

This section of the Plan contains the locally agreed upon list of [needs and opportunities](#) the communities intend to address and will be updated every five (5) years. In contrast to the long-term focus of the Community Goals element, the Needs and Opportunities element conveys the relatively short-term imperatives which will require direct attention from the community in the following five years.

STRENGTHS

- Available, affordably-priced land
 - Jurisdictions work together
 - Location
- BoE and technical college partnership
- Available water/sewer inside city limits
 - Presence of historic resources
 - Supportive citizens
- TSPLOST, especially the 25% discretionary funds
 - Charming small town feel

WEAKNESSES

- Blighted areas
 - Lack of code enforcement
- Aging or non-existent infrastructure (water/sewer, broadband, etc.)
 - Small tax base
- Lack of industry and commercial business and associated jobs
- Lack of adequate and affordable housing for ownership or rental



OPPORTUNITIES

- Broadband deployment
- Consolidation of services
- Water/Sewer expansion in unincorporated areas and improvement in incorporated areas
 - TSPLOST renewal
- Business recruitment near the interstate
 - Established industry expansion

THREATS

- Unfunded mandates
 - Drug trafficking
- Declining population
 - Loss of jobs



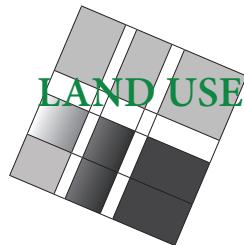
ECONOMIC DEVELOPMENT

Needs

- More job opportunities
- Increased downtown retail/commercial in municipalities
- Terrestrial broadband access
- Workforce development

Opportunities

- Existing sites with access to sewer and water in incorporated areas that could support commercial development/redevelopment or industrial/warehousing
- Available land close to interstate interchanges which could support industrial/warehousing activities
- To expand the farm-to-school program
- Increased course offerings at Oconee Fall Line Technical College and Warren County Career Academy
- Growing agri-tourism sector
- Presence of resource extraction industries
- Telemedicine development to improve healthcare for residents with limited resources and limited transportation
- Collaborate at a multi-jurisdictional level to promote tourism throughout the county
- City center buildings that may be structurally sound and can be renovated



Needs

- Improve code enforcement to address vacant, dilapidated, and abandoned housing

Opportunities

- Land within Warren County that has the potential to be used as farmland, silva-culture, kaolin mining, and other uses
- Special areas provide the community an opportunity to focus on the particular needs of defined areas
- Utilize character areas to help guide development of certain land uses in designated areas throughout the county



HOUSING

Needs

- Review land use ordinances for consistency and impediments to providing housing in areas where its needed
- Examine the condition of vacant housing to determine rehab/reuse ability
- Removal or renovation of abandoned and dilapidated housing
- Reinvestment in neighborhoods
- Assess housing conditions throughout Warren County
- Address absentee property owners who neglect their properties through fines, code enforcement, etc.
- Repair and rehabilitation of aging homes

Opportunities

- Create mixed-use buildings, with residences on the second floor, in downtown areas
- Develop a streamlined and coordinated code enforcement system



COMMUNITY FACILITIES and SERVICES

Needs

- Expand or improve infrastructure in areas identified for potential for industrial development
- Consistent transportation services' access to major metropolitan areas
- Ensure staff receive proper training to enable them to enforce ordinances
- Increased north-south transportation links via highways
- Review the Solid Waste Management Plan (including the land suitability map) and make changes as needed
- Increased level of service and physical facilities for aging residents

Opportunities

- Reuse options for vacant or underutilized public buildings
- Expand utilities beyond municipal limits and increase service area
- Combine water/sewer systems between Warrenton and Warren County
- A perceived lack of law enforcement presence in areas allows for increased drug activity
- Increase recreational options for all county residents
- Utilize Tree City USA designations and associated funds for new city/town projects
- Regional TSPLOST initiative reauthorization in 2022
- Increase pedestrian facilities like sidewalks in municipal limits where necessary and appropriate, particularly in Camak and Norwood
- Expand current rail transportation to serve additional warehouse or manufacturing needs
- Expand course offerings at the local schools and technical college to meet needs of local and regional employers and new technology



NATURAL and CULTURAL
RESOURCES

Needs

- Fully inventory historic resources and develop preservation plans for high priority sites
- Renovate the Knox Theater and other event spaces in order to provide the community with additional attractors and potential revenue generators

Opportunities

- The Ogeechee River is a natural resource as a regional recreational attraction
- Promote the Scenic Byway designation of Highway 16
- Utilize potential greenspaces to create additional parks and recreation area
- Expand the activity of the Warren County School System's teaching garden program

COMMUNITY GOALS



This section of the Plan includes the following:

- A *List of Community Goals, divided by topic area*, that represent the long-term, overarching concepts which should guide day-to-day decision-making for years into the future, beyond the community work program. These goals include broad statements of understanding and intent regarding the communities' long-term growth and development vision.
- A *List of Supporting Policies* that accompany each goal, which serves as ongoing guidance and direction for local officials for making decisions consistent with achieving that goal.

Goals and policies were developed jointly for the county and cities.

ECONOMIC DEVELOPMENT

Goal - To have a diverse local economy built on a prepared workforce, business attraction and retention, creation of new employment opportunities and utilization of natural and cultural resources

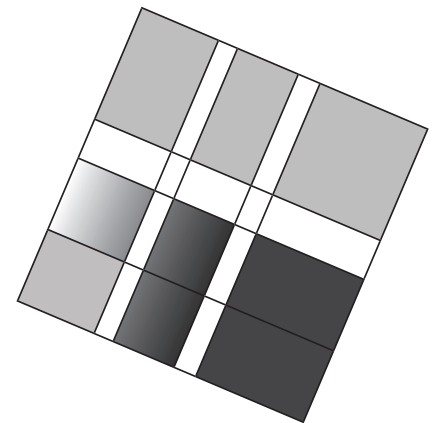
- Focus on upgrading infrastructure for and attracting new industry to the industrial parks.
- Work with the Development Authority and other strategic partners to further develop the tourism side of the economy.
- Maintain an updated list of available sites suitable for development.
- Promote the sustainability and expansion of existing agri-tourism efforts.
- Encourage business development in established Enterprise Zones.
- Market properties to industries that extract natural resources.
- Implement applicable strategies from the regional CEDS.



LAND USE

Goal - To promote preferred land uses and development patterns, while ensuring efficient and effective use of available land throughout the County

- Periodically review land use ordinances and update as needed.
- Maintain updated digital and paper zoning maps.
- Encourage staff and planning commissioner attendance at planning and zoning trainings.
- Periodically review zoning ordinance provisions and other regulatory tools to ensure that they do not restrict infill or redevelopment by creating barriers to the development of affordable housing. Such regulations include minimum floor areas, minimum lot sizes and standards, garage stall requirements, permit fees, etc.
- Coordinate new development with siting of public facilities and utilities.
- Annually review the Comprehensive Plan character areas and update if desired development patterns have changed.
- Update GIS data as changes (like rezonings) occur.



BROADBAND SERVICES

Goal - To ensure that all residents, businesses and institutions have access to quality, affordable high speed Internet throughout the county

- Provide residents, businesses and institutions with opportunities to discuss their broadband.
- Pursue funding opportunities to expand and/or improve access
- Pursue the "Broadband Ready" site designation for important community buildings, as defined in the 2018 ACE Act.
- Seek opportunities to partner with neighboring jurisdictions to create or expand high speed Internet infrastructure where feasible.

HOUSING

Goal - To guarantee that development and redevelopment provides housing opportunities that meets the needs of all citizens regardless of age, ethnicity, race, gender, physical ability or income

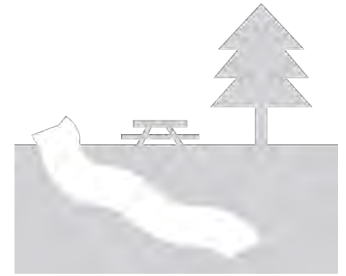
- Maintain an adequate supply of residential land, providing opportunities for various housing types, consistent with policies for annexation, transportation, land use and the environment.
- Promote new infill housing development consistent with the style and type of housing in the surrounding neighborhood by developing underutilized or undeveloped lots within existing developed neighborhoods.
- Encourage joint public and private participation through local, state and federal programs to help cover the financial gap between affordable housing and the actual cost of developing housing.
- Facilitate the development of low-interest loan programs to assist low-to-moderate income homeowners with housing maintenance.
- Promote redevelopment projects that will add to the diversity in terms of housing types and price ranges of housing supply.
- Promote housing rehabilitation and adaptive re-use in appropriate areas.
- Eliminate land use conflicts through code enforcement and housing maintenance assistance and redevelopment to ensure the integrity and long-term viability of residential neighborhoods is protected.
- Integrate and disperse affordable housing units throughout the municipalities so that they are not concentrated in one area.
- Promote creative mixed-use development in and near downtowns that integrates housing with public places, retail and service commercial.
- Utilize incentives where appropriate to promote development of desired housing types.



NATURAL and CULTURAL RESOURCES

Goal - To adequately protect sensitive natural areas and cultural resources while encouraging public access and visitation

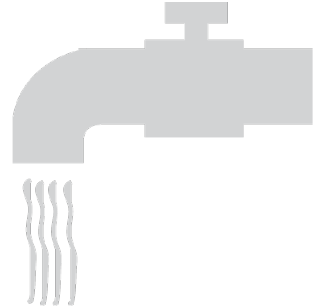
- Monitor naturally sensitive areas for pollution and or degradation.
- Create, review and update natural resource protection ordinances as needed.
- Prevent landfills from being developed near or adjacent to streams, rivers, and/or creeks.
- Encourage development away from naturally sensitive areas.
- Consider the negative effects of development on cultural resources during the planning process.
- Promote the Scenic Byway and other scenic views and sites.
- Periodically update historic resource surveys.
- Encourage expansion of existing trails and parks where feasible.
- Conduct activities to maintain the "Tree City" certification.



COMMUNITY FACILITIES and SERVICES

Goal - To provide for the delivery of public services to the residents of Warren County and its municipalities in a more uniform and efficient manner

- Support infrastructure improvements that contribute to a strong and healthy neighborhood identity.
- Update and renovate public buildings and look for opportunities to reuse vacant ones.
- Replace road, fire protection, public works and public safety equipment as needed.
- Pave roads within municipal limits and in designated county areas.
- Maintain quality water and sewer infrastructure and make improvements as needed.
- Maintain adequate water, sewer, flood and drainage throughout the county.
- Pave roads within municipal limits and in designated county areas.
- Identify potential passive and active recreation opportunities and apply for funding to develop them.
- Maintain and update e911 maps regularly.





Warren

County



Area Labor Profile

Updated: Dec 2021

Labor Force Activity - 2020

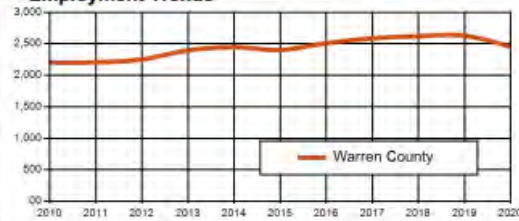
2020 ANNUAL AVERAGES

	Labor Force	Employed	Unemployed	Rate
Warren	2,635	2,456	179	6.8%
Glascock	1,244	1,193	51	4.1%
Hancock	2,532	2,309	223	8.8%
Jefferson	6,658	6,209	449	6.7%
McDuffie	8,695	8,016	679	7.8%
Taliaferro	530	492	38	7.2%
Wilkes	3,712	3,464	248	6.7%
Warren Area	26,006	24,139	1,867	7.2%
Georgia	5,072,155	4,741,191	330,964	6.5%
United States	160,742,000	147,795,000	12,947,000	8.1%

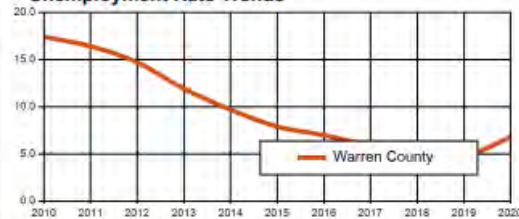
Note: This series reflects the latest information available. Labor Force includes residents of the county who are employed or actively seeking employment.

Source: Georgia Department of Labor; U.S. Bureau of Labor Statistics.

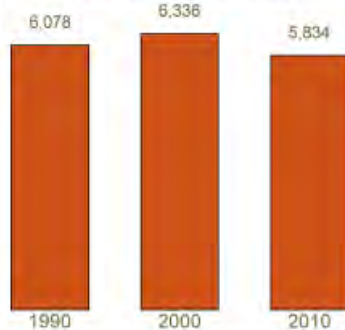
Employment Trends



Unemployment Rate Trends



Population Estimates



Population

	2010 Census	2020 Rank	2020 Estimate	% Change 2010-2020	2025 Projected*	% Change 2010-2025
Warren	5,834	151	5,232	-10.3	5,067	-13.1
City of Warrenton	1,937					
Warren Area	69,460		64,395	-7.3	63,537	-8.5
Georgia	9,687,653		10,710,017	10.6	11,335,283	17.0
United States	308,745,538		329,484,123	6.7	349,439,199	13.2

Source: Population Division, U.S. Census Bureau, *Governor's Office of Planning and Budget.

MARK BUTLER - COMMISSIONER, GEORGIA DEPARTMENT OF LABOR
Equal Opportunity Employer/Program
Auxiliary Aids and Services Available upon Request to Individuals with Disabilities

Workforce Statistics & Economic Research; E-mail: Workforce_Info@gdol.ga.gov Phone: (404) 232-3875

Industry Mix - 2nd Quarter of 2021

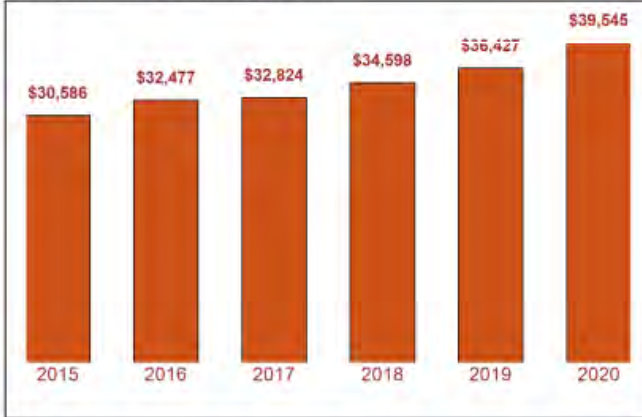
INDUSTRY	Warren				Warren Area			
	NUMBER OF FIRMS	EMPLOYMENT NUMBER	PERCENT	WEEKLY WAGE	NUMBER OF FIRMS	EMPLOYMENT NUMBER	PERCENT	WEEKLY WAGE
Goods-Producing	21	633	45.6	1,132	277	5,908	33.3	1,001
Agriculture, Forestry, Fishing and Hunting	2	*	*	*	64	657	3.7	868
Mining, Quarrying, and Oil and Gas Extraction	4	88	6.3	1,276	16	497	2.8	1,227
Construction	8	31	2.2	1,149	104	1,016	5.7	1,067
Manufacturing	7	489	35.2	1,111	93	3,740	21.1	977
Wood Product	4	366	26.4	1,136	22	1,081	6.1	1,130
Machinery	1	*	*	*	7	108	0.6	1,216
Electrical Equipment, Appliance, and Component	1	*	*	*	1	*	*	*
Transportation Equipment	1	*	*	*	6	318	1.8	986
Beverage and Tobacco Product	0	0	0.0	0	1	*	*	*
Apparel	0	0	0.0	0	1	*	*	*
Primary Metal	0	0	0.0	0	1	*	*	*
Computer and Electronic Product	0	0	0.0	0	1	*	*	*
Textile Product Mills	0	0	0.0	0	2	*	*	*
Textile Mills	0	0	0.0	0	3	*	*	*
Paper	0	0	0.0	0	3	*	*	*
Miscellaneous	0	0	0.0	0	3	6	0.0	332
Printing and Related Support Activities	0	0	0.0	0	3	12	0.1	770
Nonmetallic Mineral Product	0	0	0.0	0	5	*	*	*
Plastics and Rubber Products	0	0	0.0	0	5	426	2.4	1,166
Furniture and Related Product	0	0	0.0	0	6	32	0.2	790
Food	0	0	0.0	0	8	228	1.3	634
Fabricated Metal Product	0	0	0.0	0	15	251	1.4	786
Service-Providing	60	494	35.6	748	909	7,855	44.3	700
Utilities	0	0	0.0	0	7	154	0.9	1,435
Wholesale Trade	5	*	*	*	45	329	1.9	890
Retail Trade	17	89	6.4	526	239	2,092	11.8	546
Transportation and Warehousing	8	*	*	*	50	364	2.1	981
Information	1	*	*	*	12	97	0.5	1,142
Finance and Insurance	1	*	*	*	63	663	3.7	1,427
Real Estate and Rental and Leasing	4	10	0.7	1,043	31	102	0.6	617
Professional, Scientific, and Technical Services	6	15	1.1	2,064	67	255	1.4	918
Management of Companies and Enterprises	0	0	0.0	0	2	*	*	*
Administrative and Support and Waste Management and Remediation Services	3	29	2.1	668	41	493	2.8	627
Educational Services	1	*	*	*	5	118	0.7	566
Health Care and Social Assistance	6	126	9.1	619	115	1,579	8.9	630
Arts, Entertainment, and Recreation	0	0	0.0	0	8	*	*	*
Accommodation and Food Services	3	*	*	*	106	1,135	6.4	301
Other Services (except Public Administration)	5	8	0.6	731	67	265	1.5	614
Unclassified - industry not assigned	7	4	0.3	768	51	32	0.2	1,065
Total - Private Sector	88	1,131	81.5	963	1,186	13,763	77.7	829
Total - Government	18	256	18.4	670	165	3,956	22.3	752
Federal Government	6	21	1.5	725	33	141	0.8	1,072
State Government	3	*	*	*	63	512	2.9	815
Local Government	9	230	16.6	661	69	3,303	18.6	728
ALL INDUSTRIES	106	1,388	100.0	909	1,351	17,721	100.0	812
ALL INDUSTRIES - Georgia					336,630	4,430,045		1,139

Note: *Denotes confidential data relating to individual employers and cannot be released. These data use the North American Industrial Classification System (NAICS) categories. Average weekly wage is derived by dividing gross payroll dollars paid to all employees - both hourly and salaried - by the average number of employees who had earnings; average earnings are then divided by the number of weeks in a reporting period to obtain weekly figures. Figures in other columns may not sum accurately due to rounding. All figures are 2nd Quarter of 2021.

Source: Georgia Department of Labor. These data represent jobs that are covered by unemployment insurance laws.

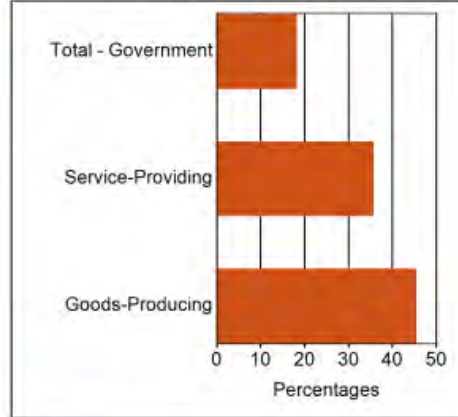
Warren Per Capita Income

Source: U.S. Bureau of Economic Analysis



Warren Industry Mix 2021

Source: See Industry Mix data on Page 2.



Top Ten Largest Employers - 2021*

Warren

ACM Georgia, LLC
 Briarwood Academy, Inc.
 Crm Of Warrenton, LLC
 Georgia-Pacific Wood Products, LLC
 Hawkins Logging & Timber Co, LLC
 Heart Wood Products, LLC
 OLD CASTLE INDUSTRIAL MINERALS
 The Timbermen, Inc.
 Tyler Johnson Enterprises, Inc.
 United Parcel Service

*Note: Represents employment covered by unemployment insurance excluding all government agencies except correctional institutions, state and local hospitals, state colleges and universities. Data shown for the Second Quarter of 2021. Employers are listed alphabetically by area, not by the number of employees.
 Source: Georgia Department of Labor

Warren Area

Battle Lumber Co, Inc.
 Coastal Processing, LLC
 Family Care, Inc.
 Georgia Department of Corrections
 Georgia-Pacific Wood Products, LLC
 Oldcastle Infrastructure, Inc.
 SGD Manufacturing, Inc.
 Shaw Industries Group, Inc.
 Thomson Plastics, Inc.
 Walmart

COUNTY

Jefferson
 Jefferson
 McDuffie
 Hancock
 Warren
 Jefferson
 Hancock
 McDuffie
 McDuffie
 McDuffie

Education of the Labor Force

Warren Area

PERCENT DISTRIBUTION BY AGE

	PERCENT OF TOTAL	PERCENT DISTRIBUTION BY AGE				
		18-24	25-34	35-44	45-64	65+
Elementary	11.0%	2.4%	6.5%	7.3%	8.6%	27.2%
Some High School	18.7%	25.6%	16.5%	15.4%	19.2%	18.3%
High School Grad/GED	40.1%	39.3%	43.1%	43.3%	42.0%	31.8%
Some College	15.7%	26.0%	18.4%	14.9%	14.4%	10.8%
College Grad 2 Yr	4.7%	2.6%	6.4%	6.9%	4.9%	2.3%
College Grad 4 Yr	6.4%	4.0%	5.7%	8.5%	6.9%	5.6%
Post Graduate Studies	3.4%	0.1%	3.4%	3.7%	4.0%	3.9%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Totals are based on the portion of the labor force between ages 18 - 65+. Some College category represents workers with some college with no degree less than two years.

Source: U.S. Census Bureau - 2010 Decennial Census.

High School Graduates - 2020

	PUBLIC SCHOOLS	PRIVATE SCHOOLS*	TOTAL
Glascock	35	--	35
Hancock	54	--	54
Jefferson	180	--	180
McDuffie	226	--	226
Taliaferro	11	--	11
Warren	40	--	40
Wilkes	81	--	81
Warren Area	627	--	627



Note: Public schools include city as well as county schools systems.

* Private schools data is not available for 2020 from Georgia Independent School Association.

Source: The Governor's Office of Student Achievement of Georgia.

Colleges and Universities

Warren Area

McDuffie

Thomson Campus (Satellite campus of Augusta Technical College) www.augustatech.edu

Hancock

Hancock County Center (Satellite campus of Oconee Fall Line Technical College) www.oftc.edu

Jefferson

Jefferson County Center (Satellite campus of Oconee Fall Line Technical College) www.oftc.edu

Note: The colleges and universities listed include public and private institutions. This list is updated periodically as information becomes available.

Source: Integrated Postsecondary Education Data System (IPEDS).

Technical College Graduates - 2020*

PROGRAMS	TOTAL GRADUATES			PERCENT CHANGE	
	2018	2019	2020	2018-2019	2019-2020
Accounting Technology/Technician and Bookkeeping ^o	167	177	169	6.0	-4.5
Administrative Assistant and Secretarial Science, General	62	65	33	4.8	-49.2
Aesthetician/Esthetician and Skin Care Specialist ^o	17	11	15	-35.3	36.4
Aircraft Powerplant Technology/Technician ^o	5	7	9	40.0	28.6
Airframe Mechanics and Aircraft Maintenance Technology/Technician ^o	8	10	9	25.0	-10.0
Allied Health and Medical Assisting Services, Other ^o	56	75	64	33.9	-14.7
Autobody/Collision and Repair Technology/Technician ^o	49	70	48	42.9	-31.4
Automobile/Automotive Mechanics Technology/Technician ^o	337	362	274	7.4	-24.3
Barbering/Barber ^o	25	20	35	-20.0	75.0
Biology Technician/Biotechnology Laboratory Technician ^o	13	19	9	46.2	-52.6
Business Administration and Management, General ^o	128	140	149	9.4	6.4
Business Administration, Management and Operations, Other	5	3	2	-40.0	-33.3
CAD/CADD Drafting and/or Design Technology/Technician ^o	18	19	6	5.6	-68.4

Technical College Graduates - 2020*

PROGRAMS	TOTAL GRADUATES			PERCENT CHANGE	
	2018	2019	2020	2018-2019	2019-2020
Cardiovascular Technology/Technologist	7	6	6	-14.3	0.0
Carpentry/Carpenter ^o	7	4	20	-42.9	400.0
Child Care Provider/Assistant ^o	174	205	195	17.8	-4.9
Computer Installation and Repair Technology/Technician ^o	237	193	98	-18.6	-49.2
Computer Programming Special Applications ^o	32	48	20	50.0	-58.3
Computer Programming, Specific Applications ^o	22	29	26	31.8	-10.3
Computer Programming/Programmer, General ^o	21	13	18	-38.1	38.5
Cosmetology/Cosmetologist, General ^o	255	274	188	7.5	-31.4
Criminal Justice/Police Science ^o	40	27	36	-32.5	33.3
Criminal Justice/Safety Studies ^o	128	132	85	3.1	-35.6
Culinary Arts/Chef Training	29	27	9	-6.9	-66.7
Customer Service Support/Call Center/Teleservice Operation	4	4	2	0.0	-50.0
Data Entry/Microcomputer Applications, General ^o	30	15	3	-50.0	-80.0
Data Processing and Data Processing Technology/Technician ^o	118	107	101	-9.3	-5.6
Dental Assisting/Assistant	33	19	26	-42.4	36.8
Dental Hygiene/Hygienist	12	11	8	-8.3	-27.3
Design and Visual Communications, General ^o	105	97	88	-7.6	-9.3
Diesel Mechanics Technology/Technician ^o	61	83	33	36.1	-60.2
Drafting and Design Technology/Technician, General ^o	27	20	9	-25.9	-55.0
Early Childhood Education and Teaching	102	70	95	-31.4	35.7
Electrical, Electronic and Communications Engineering Technology/Technician	16	7	13	-56.3	85.7
Electrical/Electronics Equipment Installation and Repair, General ^o	7	13	9	85.7	-30.8
Electrician ^o	227	233	144	2.6	-38.2
Emergency Medical Technology/Technician (EMT Paramedic) ^o	88	125	74	42.0	-40.8
Entrepreneurship/Entrepreneurial Studies ^o	6	3	11	-50.0	266.7
Fire Science/Fire-fighting ^o	24	20	27	-16.7	35.0
Food Preparation/Professional Cooking/Kitchen Assistant ^o	74	42	36	-43.2	-14.3
General Office Occupations and Clerical Services ^o	52	33	21	-36.5	-36.4
Golf Course Operation and Grounds Management ^o	15	5	12	-66.7	140.0
Graphic Design ^o	21	20	17	-4.8	-15.0
Health Information/Medical Records Technology/Technician	9	2	8	-77.8	300.0
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology ^o	95	105	99	10.5	-5.7
Hospitality Administration/Management, General ^o	20	64	26	220.0	-59.4
Hotel/Motel Administration/Management ^o	3	15	7	400.0	-53.3
Human Resources Management and Services, Other ^o	2	11	9	450.0	-18.2
Industrial Mechanics and Maintenance Technology ^o	63	67	87	6.3	29.9

Technical College Graduates - 2020*

PROGRAMS	TOTAL GRADUATES			PERCENT CHANGE	
	2018	2019	2020	2018-2019	2019-2020
Interior Design [°]	42	47	15	11.9	-68.1
Legal Assistant/Paralegal	16	21	16	31.3	-23.8
Licensed Practical/Vocational Nurse Training	76	75	80	-1.3	6.7
Machine Shop Technology/Assistant [°]	38	59	15	55.3	-74.6
Marketing/Marketing Management, General	19	24	19	26.3	-20.8
Mechanic and Repair Technologies/Technicians, Other	5	18	22	260.0	22.2
Mechanical Engineering/Mechanical Technology/Technician	5	4	9	-20.0	125.0
Medical Insurance Coding Specialist/Coder [°]	14	8	10	-42.9	25.0
Medical Insurance Specialist/Medical Biller [°]	10	11	4	10.0	-63.6
Medical Office Assistant/Specialist [°]	19	22	33	15.8	50.0
Medical/Clinical Assistant	77	92	81	19.5	-12.0
Medical/Health Management and Clinical Assistant/Specialist	16	12	15	-25.0	25.0
Medium/Heavy Vehicle and Truck Technology/Technician [°]	74	110	83	48.6	-24.5
Meeting and Event Planning [°]	9	14	7	55.6	-50.0
Network and System Administration/Administrator [°]	42	38	36	-9.5	-5.3
Nuclear Engineering Technology/Technician	13	9	14	-30.8	55.6
Nursing Assistant/Aide and Patient Care Assistant/Aide [°]	118	145	98	22.9	-32.4
Occupational Therapist Assistant	13	20	14	53.8	-30.0
Pharmacy Technician/Assistant	30	31	38	3.3	22.6
Phlebotomy Technician/Phlebotomist [°]	14	12	9	-14.3	-25.0
Physical Therapy Technician/Assistant	17	17	15	0.0	-11.8
Radiologic Technology/Science - Radiographer	36	35	33	-2.8	-5.7
Registered Nursing/Registered Nurse	75	85	77	13.3	-9.4
Respiratory Care Therapy/Therapist	28	22	21	-21.4	-4.5
Selling Skills and Sales Operations [°]	12	11	2	-8.3	-81.8
Social Work, Other [°]	31	33	29	6.5	-12.1
Surgical Technology/Technologist	35	28	17	-20.0	-39.3
Teacher Assistant/Aide [°]	1	1	2	0.0	100.0
Truck and Bus Driver/Commercial Vehicle Operator and Instructor [°]	120	179	158	49.2	-11.7
Veterinary/Animal Health Technology/Technician and Veterinary Assistant [°]	21	18	10	-14.3	-44.4
Welding Technology/Welder [°]	459	561	379	22.2	-32.4

Definition: All graduates except those listed as technical certificates(*) are diploma and degree graduates. Diploma and degree programs are one to two years in length. Technical certificates are less than a year in length. Duplication may occur due to graduates with multiple awards.

Source: Technical College System of Georgia

*Data shown represents Annual 2018, 2019, and 2020.

Note: Please visit TCSG website for any college configuration changes.

Georgia Department of Labor Location(s)

Career Center(s)

674 Washington Road
PO Box 489
Thomson, GA 30824

Phone: (706) 595 - 3665

Fax: (706) 595 - 7209

For copies of Area Labor Profiles, please visit our website at: <http://dol.georgia.gov> or contact Workforce Statistics & Economic Research, Georgia Department of Labor, 148 Andrew Young International Blvd N.E. Atlanta, GA. 30303-1751. Phone: 404-232-3875; Fax: 404-232-3888 or Email us at workforce_info@gdol.ga.gov



Warren County Georgia

Total and Per Farm Overview, 2017 and change since 2012

	2017	% change since 2012
Number of farms	135	+1
Land in farms (acres)	38,116	+11
Average size of farm (acres)	282	+10
Total	(\$)	
Market value of products sold	3,079,000	-45
Government payments	444,000	+97
Farm-related income	326,000	+22
Total farm production expenses	4,011,000	-27
Net cash farm income	-162,000	-128
Per farm average	(\$)	
Market value of products sold	22,810	-45
Government payments (average per farm receiving)	13,068	+80
Farm-related income	8,807	+2
Total farm production expenses	29,715	-28
Net cash farm income	-1,199	-128

(Z) Percent of state agriculture sales

Share of Sales by Type (%)

Crops	48
Livestock, poultry, and products	52

Land in Farms by Use (%) ^a

Cropland	30
Pastureland	20
Woodland	47
Other	4

Acres irrigated: (D)

(D)% of land in farms

Land Use Practices (% of farms)

No till	4
Reduced till	4
Intensive till	7
Cover crop	7

Farms by Value of Sales

	Number	Percent of Total ^a
Less than \$2,500	69	51
\$2,500 to \$4,999	17	13
\$5,000 to \$9,999	7	5
\$10,000 to \$24,999	7	5
\$25,000 to \$49,999	20	15
\$50,000 to \$99,999	10	7
\$100,000 or more	5	4

Farms by Size

	Number	Percent of Total ^a
1 to 9 acres	-	-
10 to 49 acres	26	19
50 to 179 acres	59	44
180 to 499 acres	35	26
500 to 999 acres	9	7
1,000 + acres	6	4

Market Value of Agricultural Products Sold

	Sales (\$1,000)	Rank in State ^b	Counties Producing Item	Rank in U.S. ^b	Counties Producing Item
Total	3,079	140	159	2,919	3,077
Crops	1,485	126	159	2,750	3,073
Grains, oilseeds, dry beans, dry peas	(D)	108	148	(D)	2,916
Tobacco	-	-	25	-	323
Cotton and cottonseed	1,022	66	90	434	647
Vegetables, melons, potatoes, sweet potatoes	(D)	(D)	157	(D)	2,821
Fruits, tree nuts, berries	99	99	158	1,301	2,748
Nursery, greenhouse, floriculture, sod	-	-	138	-	2,601
Cultivated Christmas trees, short rotation woody crops	-	-	64	-	1,384
Other crops and hay	286	131	155	2,531	3,040
Livestock, poultry, and products	1,594	129	159	2,775	3,073
Poultry and eggs	4	141	158	1,959	3,007
Cattle and calves	1,516	73	158	2,278	3,055
Milk from cows	-	-	64	-	1,892
Hogs and pigs	(D)	77	129	(D)	2,856
Sheep, goats, wool, mohair, milk	53	34	153	1,695	2,984
Horses, ponies, mules, burros, donkeys	17	90	145	2,198	2,970
Aquaculture	-	-	54	-	1,251
Other animals and animal products	(D)	83	141	(D)	2,878

Total Producers ^c	205	Percent of farms that:	Top Crops in Acres ^d
Sex		Have internet access	64
Male	143	Farm organically	-
Female	62	Sell directly to consumers	6
Age		Hire farm labor	22
<35	4	Are family farms	99
35 – 64	136		
65 and older	65		
Race			
American Indian/Alaska Native	-		
Asian	-		
Black or African American	7		
Native Hawaiian/Pacific Islander	-		
White	198		
More than one race	-		
Other characteristics			
Hispanic, Latino, Spanish origin	6		
With military service	30		
New and beginning farmers	67		
			Livestock Inventory (Dec 31, 2017)
			Broilers and other meat-type chickens
			32
			Cattle and calves
			5,231
			Goats
			574
			Hogs and pigs
			36
			Horses and ponies
			133
			Layers
			425
			Pullets
			(D)
			Sheep and lambs
			170
			Turkeys
			(D)

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.

^a May not add to 100% due to rounding. ^b Among counties whose rank can be displayed. ^c Data collected for a maximum of four producers per farm.

^d Crop commodity names may be shortened; see full names at www.nass.usda.gov/go/cropnames.pdf. ^e Position below the line does not indicate rank.

(D) Withheld to avoid disclosing data for individual operations. (NA) Not available. (Z) Less than half of the unit shown. (-) Represents zero.

APPENDIX C

OTHER PLANNING DOCUMENTS

Warren County Emergency Management Agency Emergency Operations Plan

Plan Approved:
27-OCT-15

Revised:
25-SEP-18

Local Resolution

WARREN COUNTY RESOLUTION FOR EMERGENCY MANAGEMENT

(Revised July 2000)

SECTION I - DEFINITION

"Emergency Management means the preparation for the carrying out of all emergency functions other than functions for which military forces are primarily responsible to prevent, minimize, and repair injury and damage resulting from emergencies, energy emergencies, disasters, or the imminent threat thereof, of manmade or natural origin These functions include, without limitation, fire-fighting services; police services [public safety]; medical and health services; rescue; engineering; warning services; communications; defense from radiological, chemical, and other special weapons; evacuation of persons from stricken areas; emergency welfare services; emergency transportation; [nuclear power] plant protection; temporary restoration of public service utility services; and other functions related to civilian protection, together with all other activities necessary or incidental to the preparation for and carrying out of the foregoing functions." (*Georgia Emergency Management Act of 1981, As Amended December 1992, Chapter 3, Article 1, 38-3-3.*)

SECTION II - LOCAL ORGANIZATION FOR EMERGENCY MANAGEMENT

"In cases where a county has an organization for emergency management, such organization shall include participation by each city within the county unless the governing authority of any particular city elects to implement its own organization for emergency management. Any two or more of the above-mentioned political subdivisions may, with the approval of the director, contract with each other so as to form one emergency management organization for the entire area included in the bounds of the contracting political subdivisions. The executive officer or governing body of the political subdivision is authorized to nominate a local director to the director of emergency management who shall have the authority to make the appointment." Upon appointment, the local emergency management agency director shall have direct responsibility for the organization, administration, and operations of the local organization for emergency management, subject to the direction and control of the executive officer or governing body and shall serve at the pleasure of such executive officer or governing body. The local director shall:

- * maintain an emergency management office in a building owned or leased by the political subdivision and the director or designee shall be available or on call at all times beyond working hours
- * develop, in conjunction with public and private agencies/organizations that have responsibility for designated emergency support functions, plans for responding to and recovering from disasters [and/or emergencies]
- * respond to emergency scenes, command posts, and operation centers
- * coordinate emergency response of public and private agencies and organizations

- * attend training and meetings convened by the appointing authority or the (state emergency management) director
- * develop or cause to be developed, in collaboration with other public and private agencies within the state, mutual aid arrangements, consistent with state plans and programs, for reciprocal emergency management aid and assistance in case of emergency or disaster too great to be dealt with unassisted
- * enter into mutual aid agreements, subject to approval of the Governor, with emergency management agencies or organizations in other states for reciprocal emergency management aid and assistance in case of emergency or disaster too great to be dealt with unassisted (Chapter 3, Article 3, 38-3-27 and 38-3-29.)

SECTION III - LOCAL EMERGENCY MANAGEMENT POWERS

Each political subdivision shall have the emergency management power and authority to: *appropriate and expend funds; execute contracts; obtain and distribute equipment, materials, and supplies; provide for the health and safety of persons and property, including emergency assistance to victims; direct and coordinate development of local emergency management plans and programs in accordance with federal and state policies and plans; appoint, employ, remove or provide, with or without compensation, chiefs of services, warning personnel, rescue teams, auxiliary fire and police personnel, and other emergency management workers; establish a primary and one or more secondary control centers to serve as command posts; and acquire, temporarily or permanently, by purchase, lease or otherwise [identify] sites required for installation of temporary housing units and prepare or equip such sites.* (Chapter 3, Article 2, 38-3-27.)

SECTION IV - LOCAL EMERGENCY MANAGEMENT FINANCIAL ASSISTANCE

A county or municipality shall be entitled to receive [federal disaster] funds if the local emergency management organization has met all state and federal requirements to receive such funds. Qualifications include: *legal establishment of an emergency management organization by local ordinance or resolution; a legally appointed local director who has been endorsed and appointed by the Georgia Emergency Management Director; an approved emergency and disaster plan with all applicable annexes [Emergency Support Functions]; and an approved fiscal year program and other necessary compliance documents.* (Chapter 3, Article 2, 38-3-27.)

SECTION V - IMMUNITY OF STATE AND POLITICAL SUBDIVISIONS

"Neither the state nor any political subdivision of the state, nor the agents or representatives of the state or any political subdivision thereof, shall be liable for personal injury or property damage sustained by any person appointed or acting as a volunteer emergency management worker or member of any agency engaged in emergency management activity." *Immunity does not apply in cases of willful misconduct, gross negligence or bad faith.* (Chapter 3, Article 2, 38-3-35.)

SECTION VI - LOCAL EMERGENCY MANAGEMENT AGENCY PLAN

The Warren County Emergency Management Agency has developed, in partnership with local government and community agencies/organizations which have primary responsibility for emergency support functions, an approved emergency management plan. A copy of this plan and/or major revisions are being submitted to the Georgia Emergency Management Agency by the local Emergency Management Agency Director, in coordination with the undersigned local government officials or legally appointed successors. It is understood that the Georgia Emergency Management Agency will review this plan for compliance with all federal and state requirements.

As authorized local government officials, we understand and agree to the requirements of the Georgia Emergency Management Act of 1981, as amended, as stated in this resolution.

John R. Graham
signature date
Channa BOC 5/1/11
title

signature date

title

signature date

signature date

title

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signature date

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RECORD OF REVISIONS

Date	Author	Section	Detail
09-25-2018 01:08:27	Warren	Agencies	
09-25-2018 01:05:30	Warren	Agencies	
09-25-2018 12:53:01	Warren	Local Government	
09-25-2018 12:41:43	Warren	Agencies	
09-25-2018 12:39:36	Warren	Agencies	
09-25-2018 12:37:34	Warren	Agencies	
01-17-2018 02:05:39	Warren	Agencies	
01-17-2018 02:03:32	Warren	Agencies	
01-17-2018 02:02:34	Warren	Agencies	
01-17-2018 02:01:05	Warren	Agencies	
10-04-2016 10:11:36	Warren	Agencies	
09-15-2016 10:28:48	Warren	Agencies	
09-15-2016 10:26:24	Warren	Agencies	
09-15-2016 10:23:15	Warren	Local Government	
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05-27-2014 01:19:06	Warren	ESF 11	
05-27-2014 01:12:24	Warren	ESF 10	
05-27-2014 01:08:32	Warren	ESF 9	

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Norwood City	1
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Warren County Board of Commisioners	1
Warren County Clerk	1
Warren County Coronor	1
Warren County Dept. of Family & Childrens Services	1
Warren County EMA-EMS-FIRE	1
Warren County Extension Office	1
Warren County Fire/Rescue	1
Warren County Health Dept	1
Warren County Public works	1
Warren County Sheriffs Office	1
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Warren County
EMERGENCY OPERATIONS PLAN

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Georgia Emergency Operation Plan



2017

Approval and Implementation

The Georgia Emergency Management and Homeland Security Agency maintains the Georgia Emergency Operations Plan and presents the plan to the Governor for adoption once every four years, at a minimum.

The Georgia Emergency Operations Plan was developed by the Georgia Emergency Management and Homeland Security Agency, in coordination with other state agencies, non-governmental organizations and private sector partners and is aligned with the National Incident Management System as well as the National Response Framework and the National Disaster Recovery Framework. In addition, Georgia Emergency Management and Homeland Security Agency modified the Georgia Emergency Operations Plan, its appendices, Emergency Support Function Annexes and Support and Hazard Specific Annexes incorporate lessons learned from exercises, training, incidents and events.

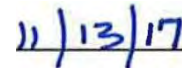
This plan supersedes the Georgia Emergency Operation Plan dated January 2013.



Homer Bryson

Director

Georgia Emergency Management and
Homeland Security Agency



Date

Executive Summary

Georgia is vulnerable to a variety of hazards as identified in the State's Hazard Mitigation Strategy Plan. Thus the Georgia Emergency Operations Plan is written for the entire State Disaster Response Team, to include, but not limited to: all executives, state emergency management personnel, Private-Sector Partners, Non-Governmental Organization partners, local emergency managers, faith-based organizations and any other individuals or organizations expected to support disaster response efforts through emergency management functions.

This Plan is intended to clarify expectations for an effective response by state and local officials in support of responders in the field which can save lives, protect property, and more quickly restore essential services.

This document represents decades of planning and coordination between local, state, federal and non-governmental partners operating within or supporting the State of Georgia and is intended to ensure seamless integration of federal and state resources when necessary.

This Plan is consistent with the National Response Framework and supports the local emergency operations plans for all 159 counties within the State.

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Hazard Risk Analyses Supplement to the Warren County Joint Hazard Mitigation Plan



**Carl Vinson
Institute of Government
UNIVERSITY OF GEORGIA**

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Introduction

The Federal Disaster Mitigation Act of 2000 (DMA2K) requires state, local, and tribal governments to develop and maintain a mitigation plan to be eligible for certain federal disaster assistance and hazard mitigation funding programs.

Mitigation seeks to reduce a hazard’s impacts, which may include loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation must be based on a sound risk assessment that quantifies the potential losses of a disaster by assessing the vulnerability of buildings, infrastructure, and people.

In recognition of the importance of planning in mitigation activities, FEMA Hazus-MH, a powerful disaster risk assessment tool based on geographic information systems (GIS). This tool enables communities of all sizes to predict estimated losses from floods, hurricanes, earthquakes, and other related phenomena and to measure the impact of various mitigation practices that might help reduce those losses.

In 2022, the Georgia Department of Emergency Management partnered with the Carl Vinson Institute of Government at the University of Georgia to develop a detailed risk assessment focused on defining hurricane, riverine flood, and tornado risks in Warren County, Georgia. This assessment identifies the characteristics and potential consequences of the disaster, how much of the community could be affected by the disaster, and the impact on community assets.

Risk Assessment Process Overview

Hazus-MH Version 2.2 SP1 was used to perform the analyses for Warren County. The Hazus-MH application includes default data for every county in the US. This Hazus-MH data was derived from a variety of national sources and in some cases the data are also several years old. Whenever possible, using local provided data is preferred. Warren County provided building inventory information from the county’s property tax assessment system. This section describes the changes made to the default Hazus-MH inventory and the modeling parameters used for each scenario.

County Inventory Changes

The default Hazus-MH site-specific point inventory was updated using data compiled from the Georgia Emergency Management Agency (GEMA). The default Hazus-MH aggregate inventory (General Building Stock) was also updated prior to running the scenarios. Reported losses reflect the updated data sets.

General Building Stock Updates

General Building Stock (GBS) is an inventory category that consists of aggregated data (grouped by census geography — tract or block). Hazus-MH generates a combination of site-specific and aggregated loss estimates based on the given analysis and user input.

The GBS records for Warren County were replaced with data derived from parcel and property assessment data obtained from Warren County. The county provided property assessment data was current as of May 2022 and the parcel data current as of May 2022. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary; then, each parcel point was linked to an assessor record based upon matching parcel numbers. The parcel assessor match-rate for Warren County is 99.7%. The

generated building inventory represents the approximate locations (within a parcel) of structures. The building inventory was aggregated by census block. Both the tract and block tables were updated. Table 1 shows the results of the changes to the GBS tables by occupancy class.

Table 1: GBS Building Exposure Updates by Occupancy Class*

General Occupancy	Default Hazus-MH Count	Updated Count	Default Hazus-MH Exposure	Updated Exposure
Agricultural	0	17	\$0	\$2,972,000
Commercial	173	186	\$16,356,000	\$11,908,000
Education	1	1	\$298,000	\$307,000
Government	5	5	\$2,522,000	\$2,231,000
Industrial	53	54	\$10,856,000	\$17,945,000
Religious	0	0	\$0	\$0
Residential	2,782	2,790	\$287,224,000	\$288,519,000
Total	3,014	3,053	\$317,256,000	\$323,882,000

*The exposure values represent the total number and replacement cost for all Warren County Buildings

For Warren County, the updated GBS was used to calculate hurricane wind losses. The flood losses and tornado losses were calculated from building inventory modeled in Hazus-MH as User-Defined Facility

(UDF)¹, or site-specific points. Figure 1 shows the distribution of buildings as points based on the county provided data.

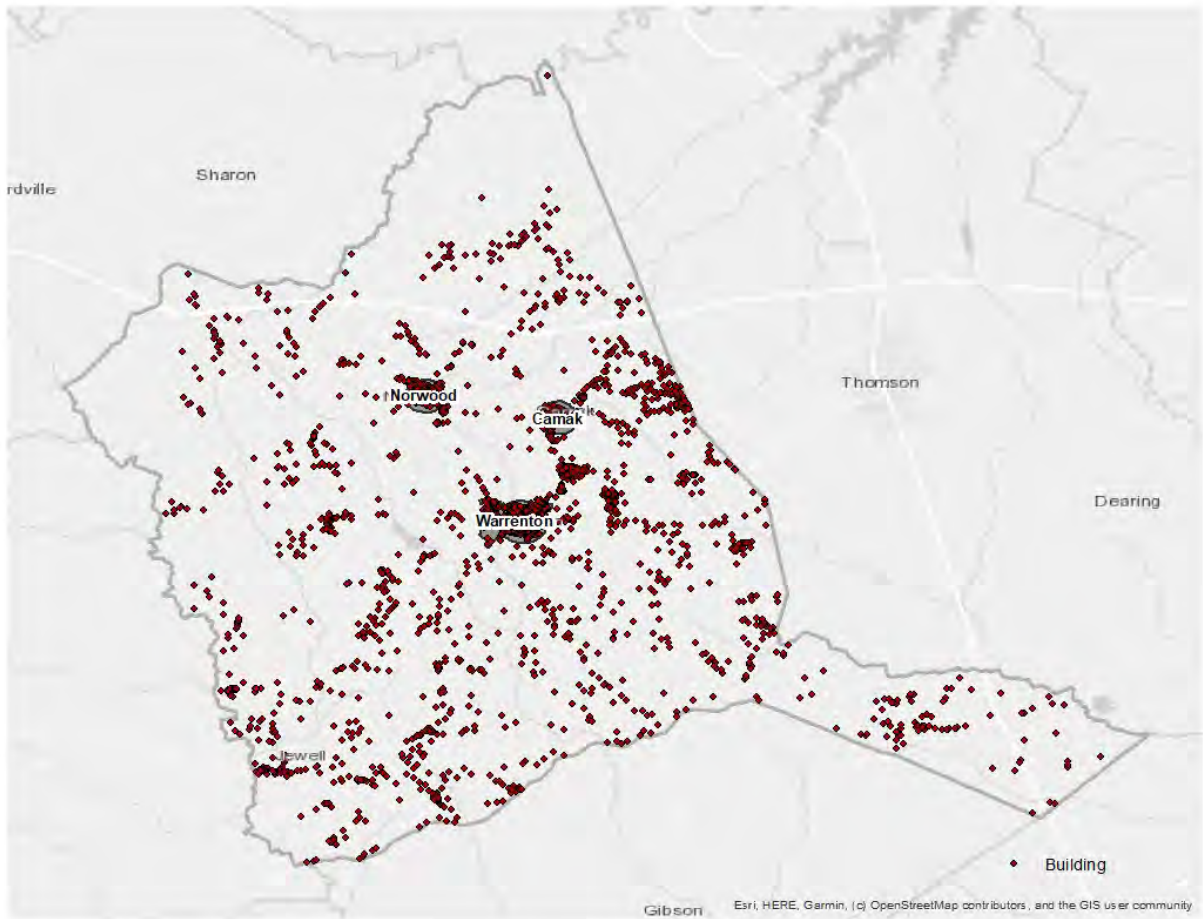


Figure 1: Warren County Overview

Essential Facility Updates

The default Hazus-MH essential facility data was updated to reflect improved information available in the Georgia Mitigation Information System (GMIS) as of May 2022. For these risk analyses, only GMIS data for buildings that Hazus-MH classified as Essential Facilities was integrated into Hazus-MH because the application provides specialized reports for these five facilities. Essential Facility inventory was updated for the analysis conducted for this report. The following table summarizes the counts and exposures, where available, by Essential Facility classification of the updated data.

Essential facilities include:

- Care facilities
- EOCs
- Fire stations
- Police stations
- Schools

¹ The UDF inventory category in Hazus-MH allows the user to enter site-specific data in place of GBS data.

Table 2: Updated Essential Facilities

Classification	Updated Count	Updated Exposure
Camak		
EOC	0	\$0
Care	0	\$0
Fire	0	\$0
Police	1	\$300,000
School	0	\$0
Total	1	\$300,000
Norwood		
EOC	0	\$0
Care	0	\$0
Fire	1	\$140,000
Police	0	\$0
School	0	\$0
Total	1	\$140,000
Warrenton		
EOC	1	\$1,400,000
Care	2	\$5,360,000
Fire	2	\$1,650,000
Police	1	\$85,000
School	1	\$900,000
Total	7	\$9,395,000
Unincorporated Areas of Warren County		
EOC	0	\$0
Care	1	\$2,600,000
Fire	3	\$630,000
Police	0	\$0
School	2	\$19,950,000
Total	6	\$23,180,000

Assumptions and Exceptions

Hazus-MH loss estimates may be impacted by certain assumptions and process variances made in this risk assessment.

- The Warren County analysis used Hazus-MH Version 2.2 SP1, which was released by FEMA in May 2015.
- County provided parcel and property assessment data may not fully reflect all buildings in the county. For example, some counties do not report not-for-profit buildings such as government buildings, schools and churches in their property assessment data. This data was used to update the General Building Stock as well as the User Defined Facilities applied in this risk assessment.
- Georgia statute requires that the Assessor's Office assign a code to all of the buildings on a parcel based on the buildings primary use. If there is a residential or a commercial structure on a parcel and there are also agricultural buildings on the same parcel Hazus-MH looks at the residential and commercial "primary" structures first and then combines the value of all secondary structures on that parcel with the value of the primary structure. The values and building counts are still accurate but secondary structures are accounted for under the same classification as the primary structure. Because of this workflow, the only time that a parcel would show a value for an agricultural building is when there are no residential or commercial structures on the parcel thus making the agricultural building the primary structure. This is the reason that agricultural building counts and total values seem low or are nonexistent.
- GBS updates from assessor data will skew loss calculations. The following attributes were defaulted or calculated:
 - Foundation Type was set from Occupancy Class
 - First Floor Height was set from Foundation Type
 - Content Cost was calculated from Replacement Cost
- It is assumed that the buildings are located at the centroid of the parcel.
- The essential facilities extracted from the GMIS were only used in the portion of the analysis designated as essential facility damage. They were not used in the update of the General Building Stock or the User Defined Facility inventory.

The hazard models included in this risk assessment included:

- Hurricane assessment which was comprised of a wind only damage assessment.
- Flood assessment based on the 1% annual chance event that includes riverine assessments.
- Tornado assessment based on GIS modeling.

Hurricane Risk Assessment

Hazard Definition

The National Hurricane Center describes a hurricane as a tropical cyclone in which the maximum sustained wind is, at minimum, 74 miles per hour (mph)². The term hurricane is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term typhoon is used for Pacific tropical cyclones north of the Equator west of the International Dateline. Hurricanes in the Atlantic Ocean, Gulf of Mexico, and Caribbean form between June and November with the peak of hurricane season occurring in the middle of September. Hurricane intensities are measured using the Saffir-Simpson Hurricane Wind Scale (Table 3). This scale is a 1 to 5 categorization based on the hurricane's intensity at the indicated time.

Hurricanes bring a complex set of impacts. The winds from a hurricane produce a rise in the water level at landfall called storm surge. Storm surges produce coastal flooding effects that can be as damaging as the hurricane's winds. Hurricanes bring very intense inland riverine flooding. Hurricanes can also produce tornadoes that can add to the wind damages inland. In this risk assessment, only hurricane winds, and coastal storm surge are considered.

Table 3: Saffir-Simpson Hurricane Wind Scale

Category	Wind Speed (mph)	Damage
1	74 - 95	Very dangerous winds will produce some damage
2	96 - 110	Extremely dangerous winds will cause extensive damage
3	111 - 130	Devastating damage will occur
4	131 - 155	Catastrophic damage will occur
5	> 155	Catastrophic damage will occur

The National Oceanic and Atmospheric Administration's National Hurricane Center created the HURDAT database, which contains all of the tracks of tropical systems since the mid-1800s. This database was used to document the number of tropical systems that have affected Warren County by creating a 20-mile buffer around the county to include storms that didn't make direct landfall in Warren County but impacted the county. Note that the storms listed contain the peak sustained winds, maximum pressure and maximum attained storm strength for the entire storm duration. Since 1852, Warren County has had 22 tropical systems within 20 miles of its county borders (Table 4).

Table 4: Tropical Systems affecting Warren County³

YEAR	DATE RANGE	NAME	MAX WIND(Knots)	MAX PRESSURE	MAX CAT
1852	August 19-30	UNNAMED	115	961	H3

² National Hurricane Center (2011). "Glossary of NHC Terms." National Oceanic and Atmospheric Administration. <http://www.nhc.noaa.gov/aboutgloss.shtml#h>. Retrieved 2012-23-02.

³ Atlantic Oceanic and Meteorological Laboratory (2012). "Data Center." National Oceanic and Atmospheric Administration. http://www.aoml.noaa.gov/hrd/data_sub/re_anal.html. Retrieved 7-20-2015.

YEAR	DATE RANGE	NAME	MAX WIND(Knots)	MAX PRESSURE	MAX CAT
1886	June 17-24	UNNAMED	98	0	H2
1887	October 09-22	UNNAMED	86	0	H1
1889	September 12-26	UNNAMED	109	0	H2
1893	September 27 - October 05	UNNAMED	132	948	H4
1928	August 03-13	UNNAMED	104	977	H2
1933	August 31 - September 07	UNNAMED	138	948	H4
1947	October 05-09	UNNAMED	58	0	TS
1949	August 23 - September 01	UNNAMED	132	1002	H4
1959	May 28 - June 02	ARLENE	63	1002	TS
1964	August 20 - September 11	CLEO	150	1007	H4
1965	June 13-20	UNNAMED	58	1007	TS
1968	June 01-13	ABBY	75	1005	H1
1972	June 14-23	AGNES	86	1001	H1
1990	October 09-13	MARCO	63	1007	TS
1995	August 22-28	JERRY	40	1010	TS
2000	September 15-25	HELENE	69	1012	TS
2001	June 05-19	ALLISON	58	1012	TS
2004	September 13-29	JEANNE	121	1010	H3
2018	October 06-15	MICHAEL	161	1006	H5
2020	July 05-11	FAY	58	1014	TS
2020	September 11-18	SALLY	109	1007	H2

Category Definitions:

TS – Tropical storm

TD – Tropical depression

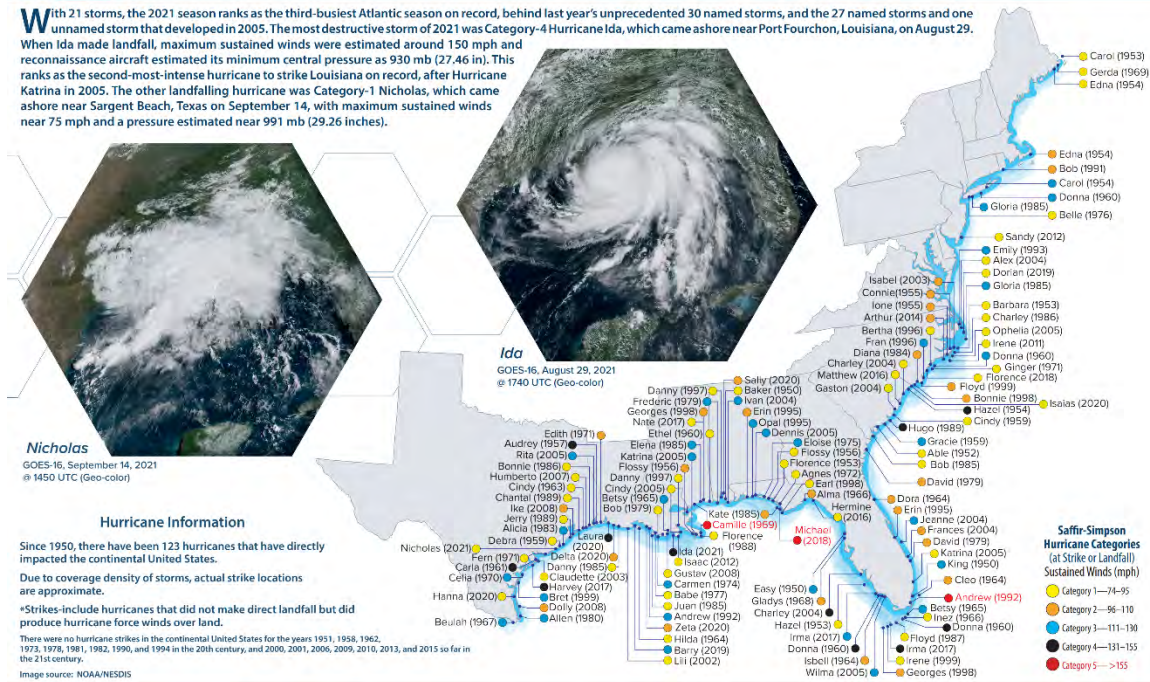
H1 – Category 1 (same format for H2, H3, and H4)

E – Extra-tropical cyclone

Continental United States Hurricane Strikes 1950–2021*

The GOES-16 enhanced imagery shows 2021 Hurricanes Ida and Nicholas in detail.

With 21 storms, the 2021 season ranks as the third-busiest Atlantic season on record, behind last year's unprecedented 30 named storms, and the 27 named storms and one unnamed storm that developed in 2005. The most destructive storm of 2021 was Category-4 Hurricane Ida, which came ashore near Port Fourchon, Louisiana, on August 29. When Ida made landfall, maximum sustained winds were estimated around 150 mph and reconnaissance aircraft estimated its minimum central pressure as 930 mb (27.46 in). This ranks as the second-most-intense hurricane to strike Louisiana on record, after Hurricane Katrina in 2005. The other landfalling hurricane was Category-1 Nicholas, which came ashore near Sargent Beach, Texas on September 14, with maximum sustained winds near 75 mph and a pressure estimated near 991 mb (29.26 inches).



NOAA National Centers for Environmental Information
www.ncei.noaa.gov

February 2022

Figure 2: Continental United States Hurricane Strikes: 1950 to 2021⁴

Probabilistic Hurricane Scenario

The following probabilistic wind damage risk assessment modeled a Tropical Storm with maximum winds of 73 mph.

Wind Damage Assessment

Separate analyses were performed to determine wind and hurricane storm surge related flood losses. This section describes the wind-based losses to Warren County. Wind losses were determined from probabilistic models run for the Tropical Storm which equates to the 1% chance storm event. Figure 3 shows wind speeds for the modeled Tropical Storm.

⁴ Source: NOAA National Centers for Environmental Information

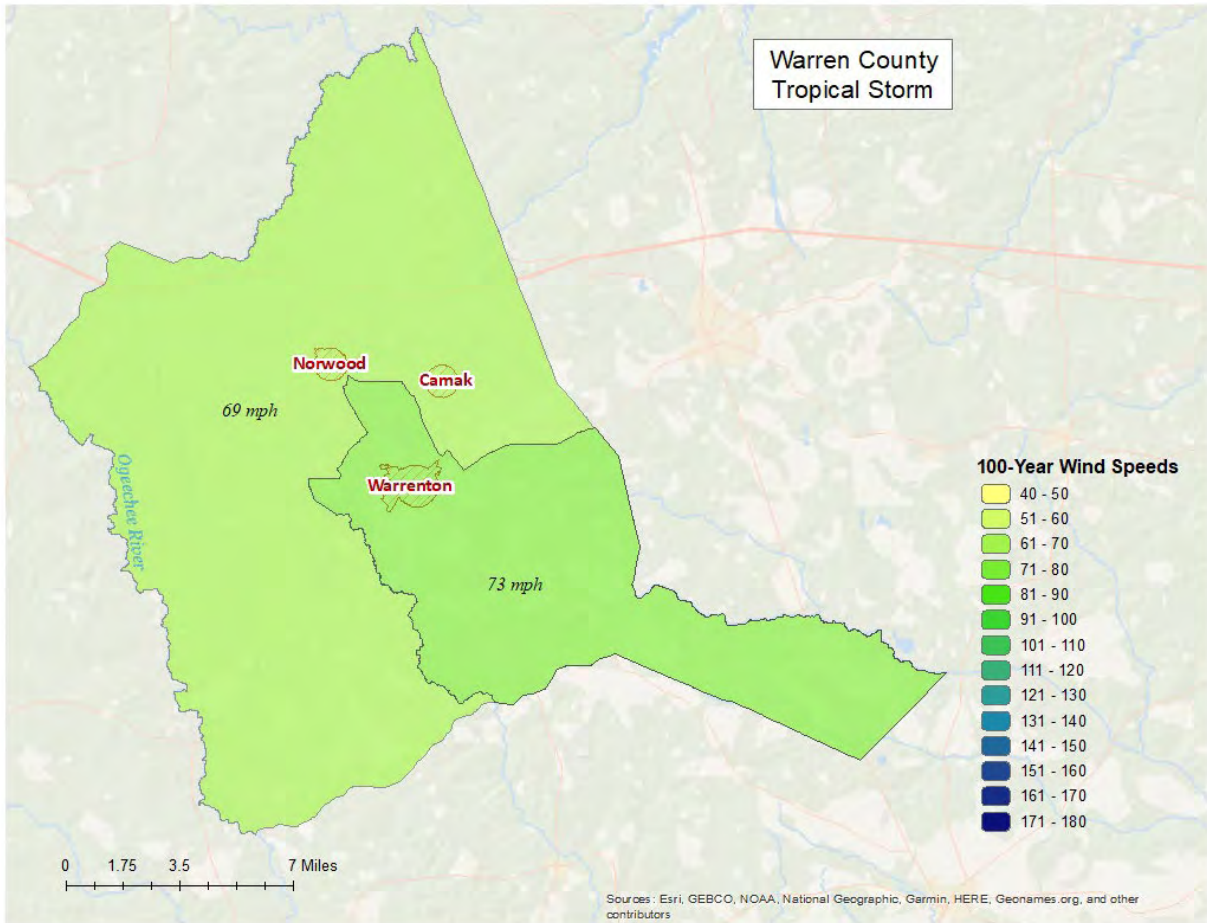


Figure 3: Wind Speeds by Storm Category

Wind-Related Building Damages

Buildings in Warren County are vulnerable to storm events, and the cost to rebuild may have significant consequences to the community. The following table shows a summary of the results of wind-related building damage in Warren County for the Tropical Storm (100 Year Event). The loss ratio expresses building losses as a percentage of total building replacement cost in the county. Figure 4 illustrates the building loss ratios of the modeled Tropical Storm.

Table 5: Hurricane Wind Building Damage

Classification	Number of Buildings Damaged	Total Building Damage	Total Economic Loss ⁵	Loss Ratio
Tropical Storm	7	\$396,540	\$525,400	0.12%

⁵ Includes property damage (infrastructure, contents, and inventory) as well as business interruption losses.

Note that wind damaged buildings are not reported by jurisdiction. This is due to the fact that census tract boundaries – upon which hurricane building losses are based – do not closely coincide with jurisdiction boundaries.

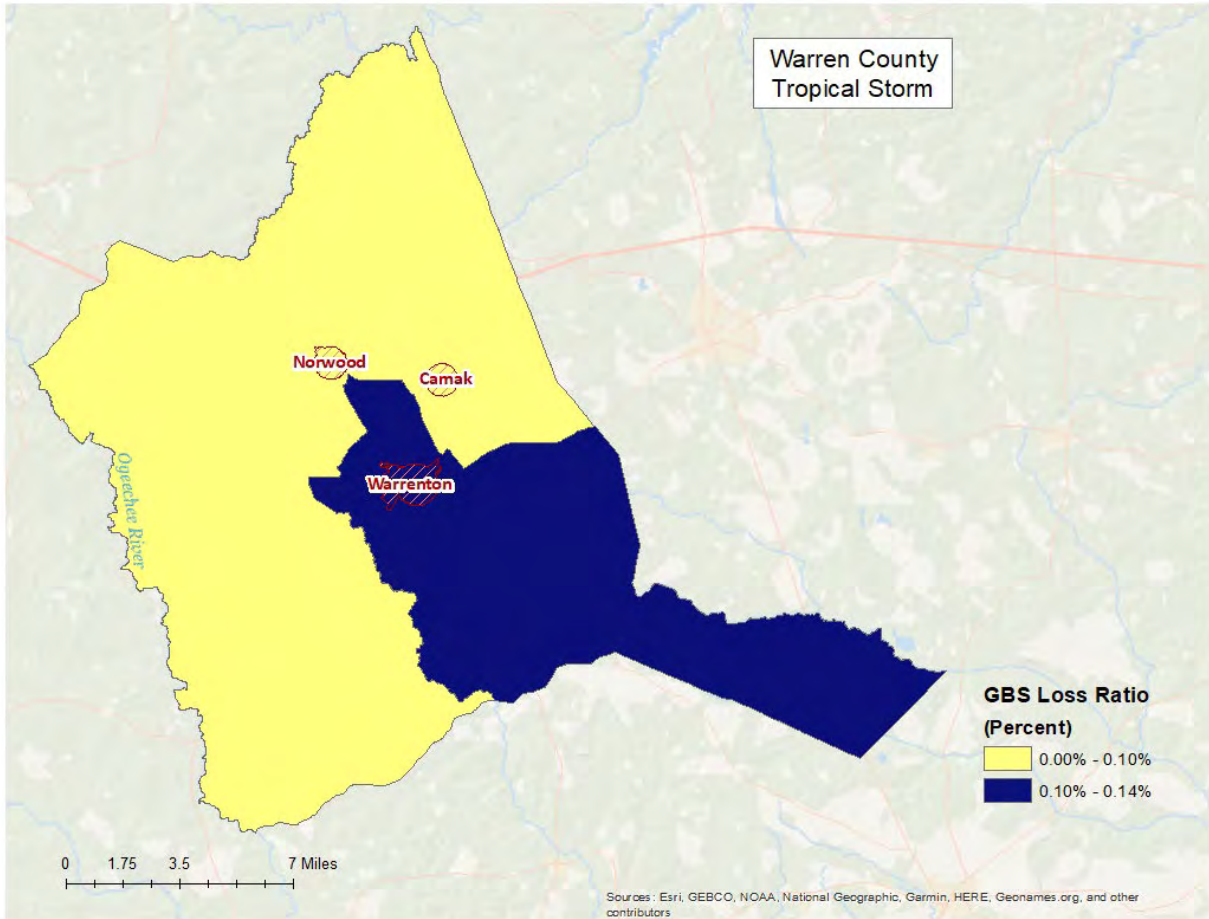


Figure 4: Hurricane Wind Building Loss Ratios

Essential Facility Losses

Essential facilities are also vulnerable to storm events, and the potential loss of functionality may have significant consequences to the community. Hazus-MH identified the essential facilities that may be moderately or severely damaged by winds. The results are compiled in Table 6.

There are 15 essential facilities in Warren County.

Classification	Number
EOCs	1
Fire Stations	7
Care Facilities	3
Police Stations	1
Schools	3

Table 6: Wind-Damaged Essential Facility Losses

Classification	Facilities At Least Moderately Damaged > 50%	Facilities Completely Damaged > 50%	Facilities with Expected Loss of Use (< 1 day)
Tropical Storm	0	0	15

Shelter Requirements

Hazus-MH estimates the number of households evacuated from buildings with severe damage from high velocity winds as well as the number of people who will require short-term sheltering. Since the 1% chance storm event for Warren County is a Tropical Storm, the resulting damage is not enough to displace Households or require temporary shelters as shown in the results listed in Table 7.

Table 7: Displaced Households and People

Classification	# of Displaced Households	# of People Needing Short-Term Shelter
Tropical Storm	0	0

Debris Generated from Hurricane Wind

Hazus-MH estimates the amount of debris that will be generated by high velocity hurricane winds and quantifies it into three broad categories to determine the material handling equipment needed:

- Reinforced Concrete and Steel Debris
- Brick and Wood and Other Building Debris
- Tree Debris

Different material handling equipment is required for each category of debris. The estimates of debris for this scenario are listed in Table 8. The amount of hurricane wind related tree debris that is estimated to require pick up at the public’s expense is listed in the eligible tree debris column.

Table 8: Wind-Related Debris Weight (Tons)

Classification	Brick, Wood, and Other	Reinforced Concrete and Steel	Eligible Tree Debris	Other Tree Debris	Total
Tropical Storm	39	0	740	17,601	18,380

Figure 5 shows the distribution of all wind related debris resulting from a Tropical Storm. Each dot represents 20 tons of debris within the census tract in which it is located. The dots are randomly distributed within each census tract and therefore do not represent the specific location of debris sites.

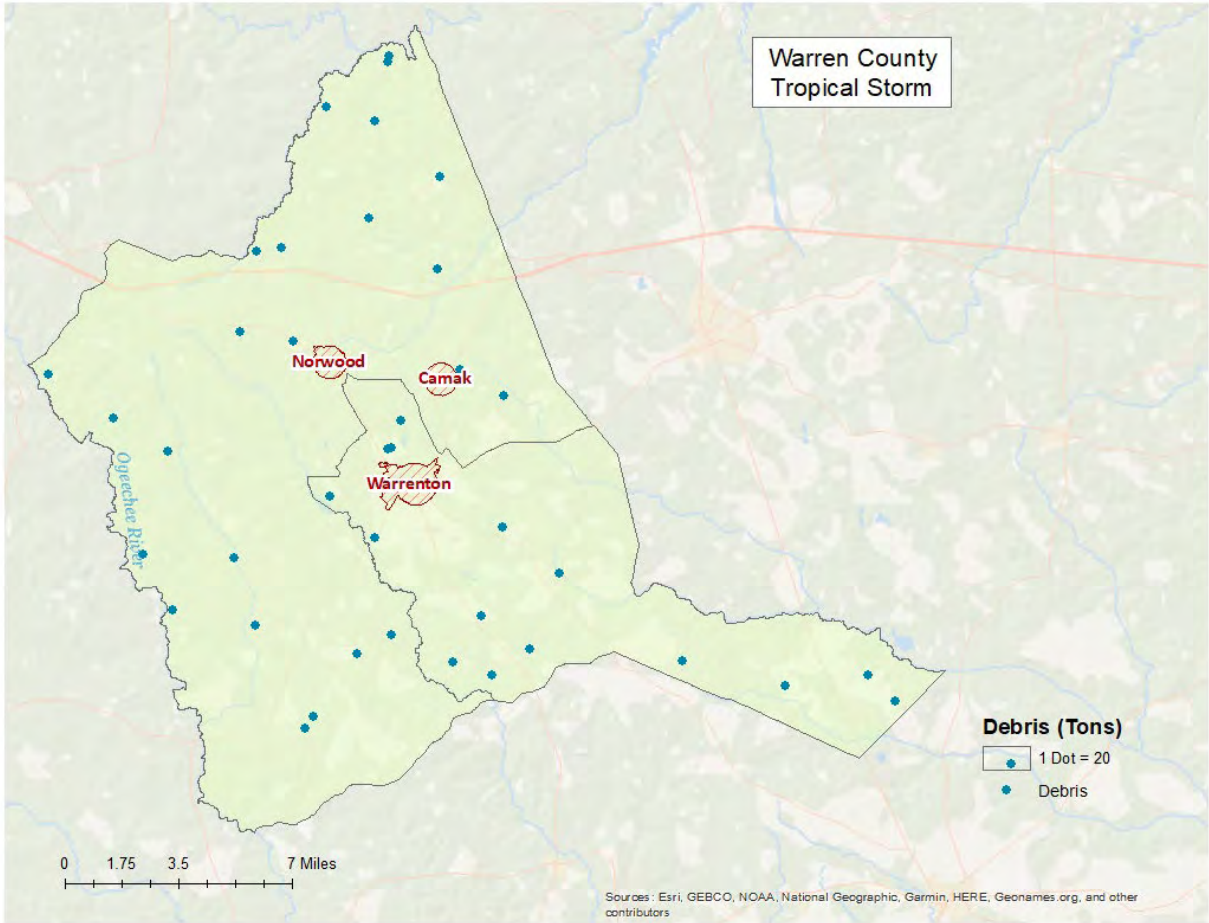


Figure 5: Wind-Related Debris Weight (Tons)

Flood Risk Assessment

Hazard Definition

Flooding is a significant natural hazard throughout the United States. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area, the rate at which precipitation infiltrates the ground, the geometry and hydrology of the catchment, and flow dynamics and conditions in and along the river channel. Floods can be classified as one of three types: upstream floods, downstream floods, or coastal floods.

Upstream floods, also called flash floods, occur in the upper parts of drainage basins and are generally characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, upstream floods cause damage over relatively localized areas, but they can be quite severe in the local areas in which they occur. Urban flooding is a type of upstream flood. Urban flooding involves the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid snowmelt. Upstream or flash floods can occur at any time of the year in Georgia, but they are most common in the spring and summer months.

Downstream floods, also called riverine floods, refer to floods on large rivers at locations with large upstream catchments. Downstream floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and time of the flood peak is much longer for downstream floods than for upstream floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage.

Coastal floods occurring on the Atlantic and Gulf coasts may be related to hurricanes or other combined offshore, nearshore, and shoreline processes. The effects of these complex interrelationships vary significantly across coastal settings, leading to challenges in the determination of the base (1-percent-annual-chance) flood for hazard mapping purposes. Land area covered by floodwaters of the base flood is identified as a Special Flood Hazard Area (SFHA).

The SFHA is the area where the National Flood Insurance Program's (NFIP) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. The owner of a structure in a high-risk area must carry flood insurance, if the owner carries a mortgage from a federally regulated or insured lender or servicer.

The Warren County flood risk assessment analyzed at risk structures in the SFHA.

The following probabilistic risk assessment involves an analysis of a 1% annual chance riverine flood event (100-Year Flood) and a 1% annual chance coastal flood.

Riverine 1% Flood Scenario

Riverine losses were determined from the 1% flood boundaries downloaded from the FEMA Flood Map Service Center in May 2022. The flood boundaries were overlaid with the USGS 10 meter DEM using the

Hazus-MH Enhanced Quick Look tool to generate riverine depth grids. The riverine flood depth grid was then imported into Hazus-MH to calculate the riverine flood loss estimates. Figure 6 illustrates the riverine inundation boundary associated with the 1% annual chance.

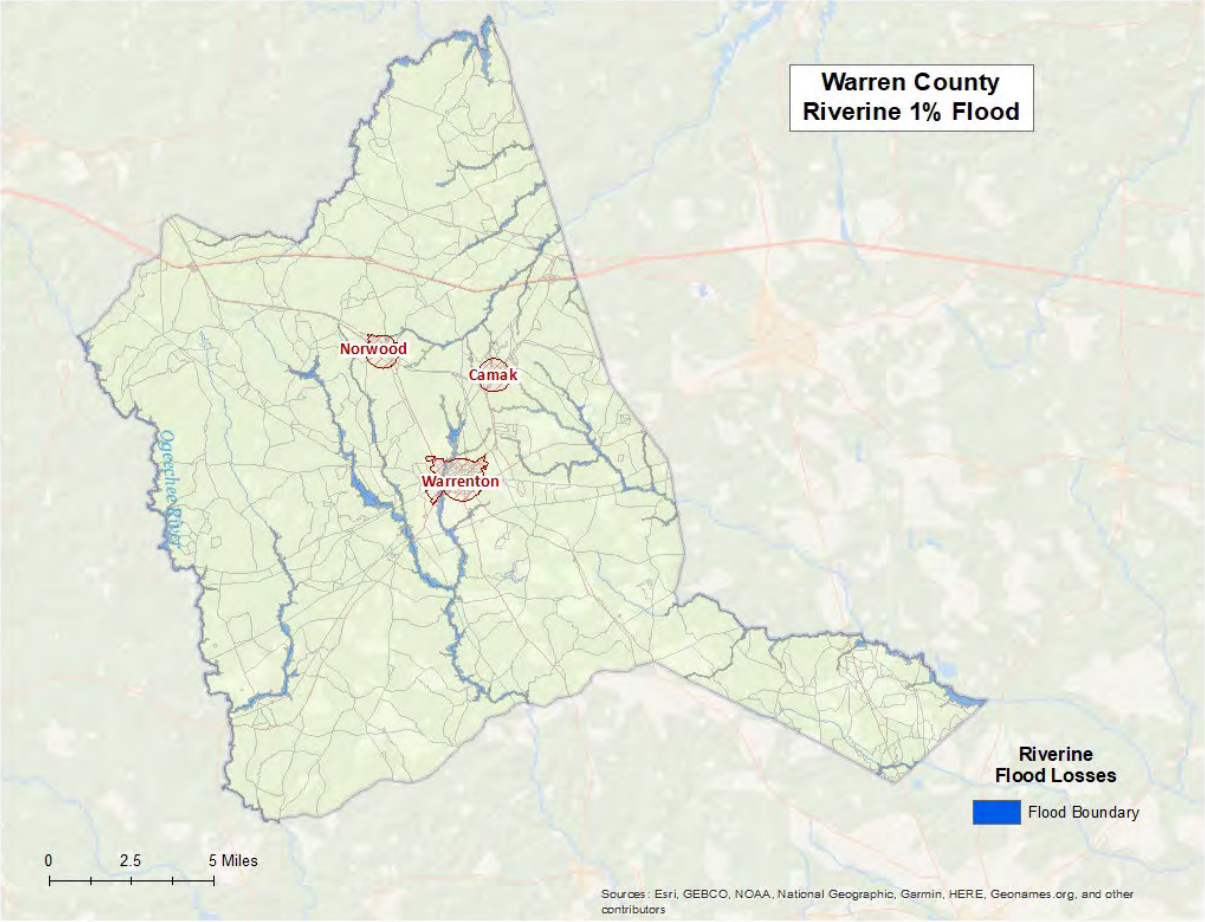


Figure 6: Riverine 1% Flood Inundation

Riverine 1% Flood Building Damages

Buildings in Warren County are vulnerable to flooding from events equivalent to the 1% riverine flood. The economic and social impacts from a flood of this magnitude can be significant. Table 9 provides a summary of the potential flood-related building damage in Warren County by jurisdiction that might be experienced from the 1% flood. Figure 7 maps the potential loss ratios of total building exposure to losses sustained to buildings from the 1% flood by 2010 census block and Figure 8 illustrates the relationship of building locations to the 1% flood inundation boundary.

Table 9: Warren County Riverine 1% Building Losses

Occupancy	Total Buildings in the Jurisdiction	Total Buildings Damaged in the Jurisdiction	Total Building Exposure in the Jurisdiction	Total Losses to Buildings in the Jurisdiction	Loss Ratio of Exposed Buildings to Damaged Buildings in the Jurisdiction
Unincorporated					
Residential	1,875	3	\$181,981,939	\$89,015	0.05%
County Total					
	1,875	3	\$181,981,939	\$89,015	

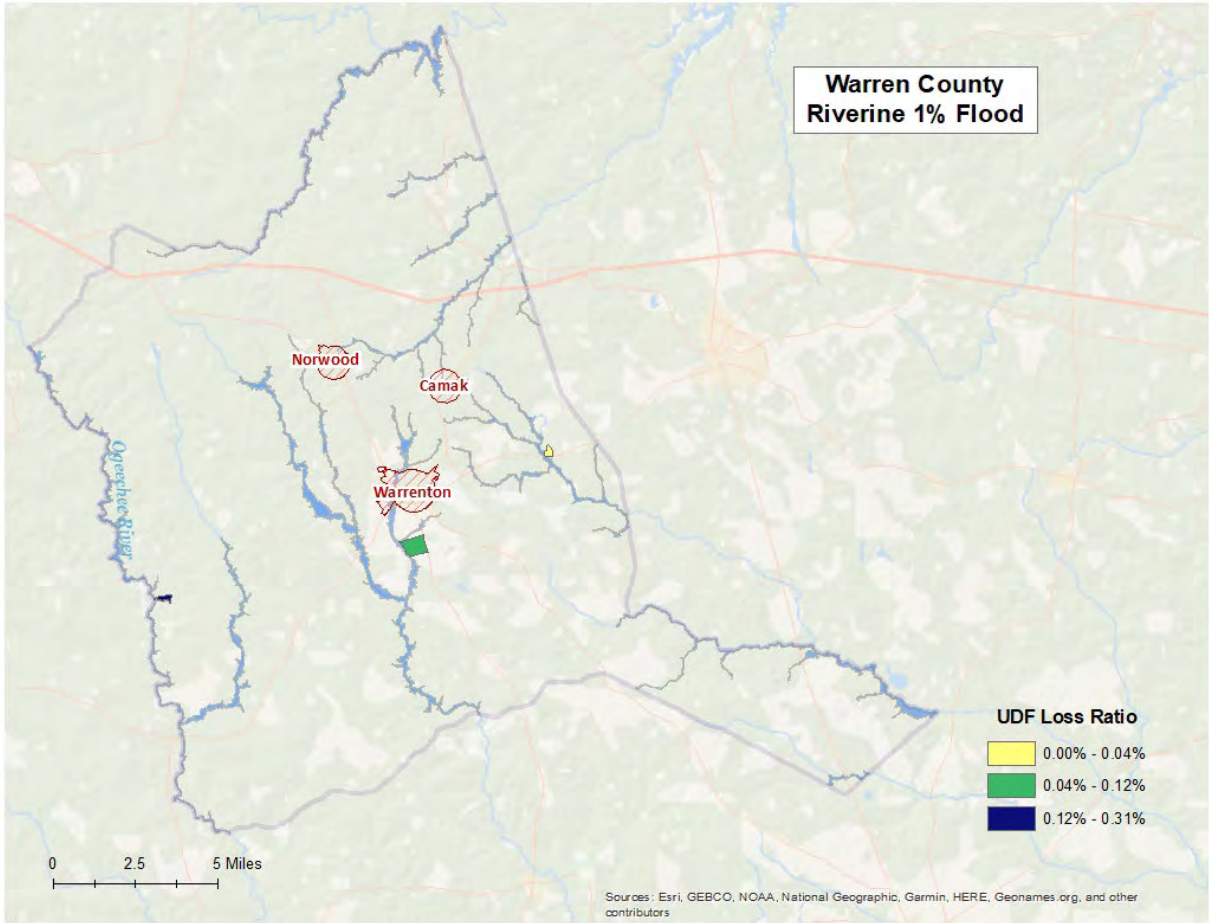


Figure 7: Warren County Potential Loss Ratios of Total Building Exposure to Losses Sustained to Buildings from the 1% Riverine Flood by 2010 Census Block

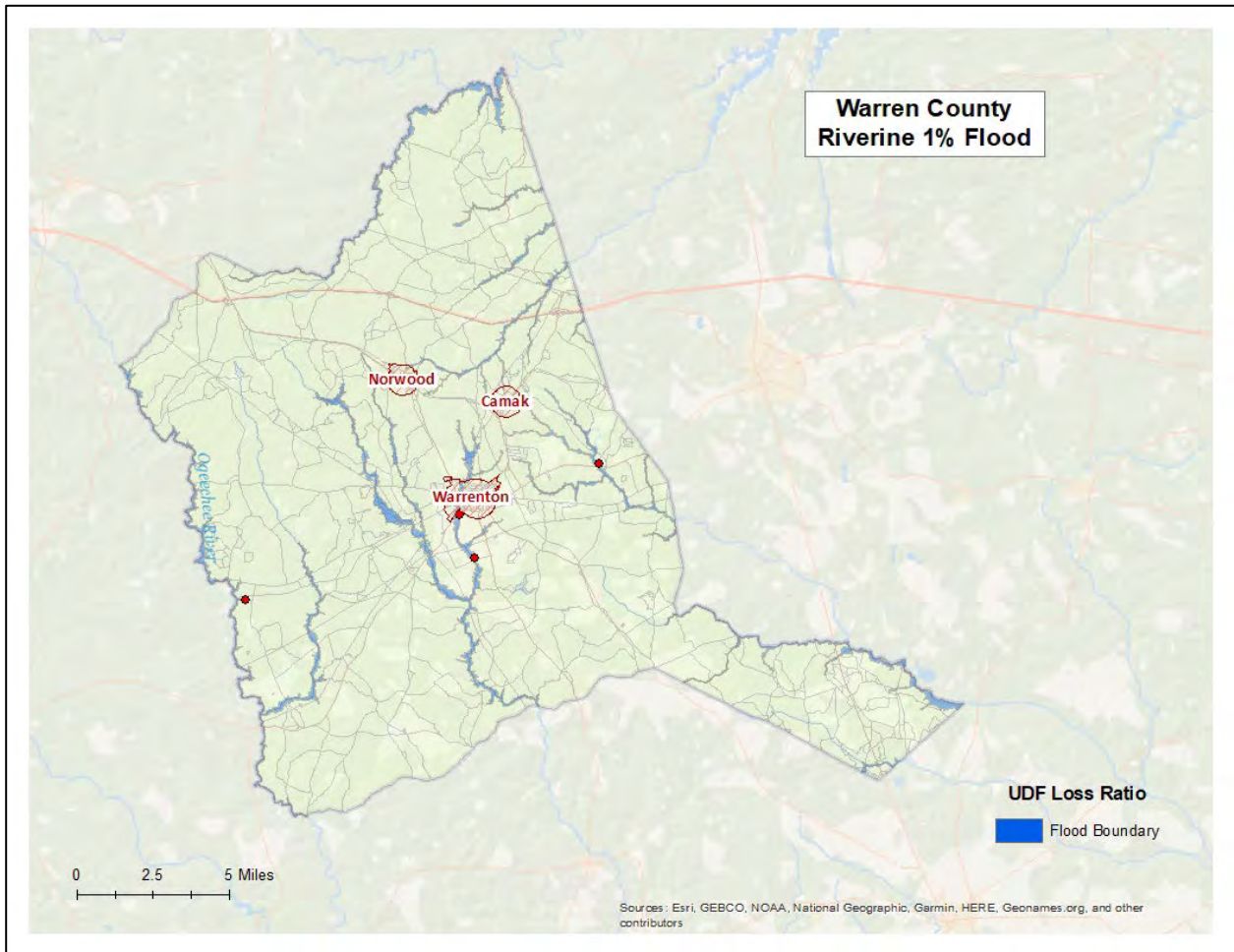


Figure 8: Warren County Damaged Buildings in Riverine Floodplain (1% Flood)

Riverine 1% Flood Essential Facility Losses

An essential facility may encounter many of the same impacts as other buildings within the flood boundary. These impacts can include structural failure, extensive water damage to the facility and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). The analysis identified no essential facility that were subject to damage in the Warren County riverine 1% probability floodplain.

Riverine 1% Flood Shelter Requirements

Hazus-MH estimates that the number of households that are expected to be displaced from their homes due to riverine flooding and the associated potential evacuation. The model estimates 24 households might be displaced due to the flood. Displacement includes households evacuated within or very near to the inundated area. Displaced households represent 71 individuals, of which 1 may require short term publicly provided shelter. The results are mapped in Figure 9.

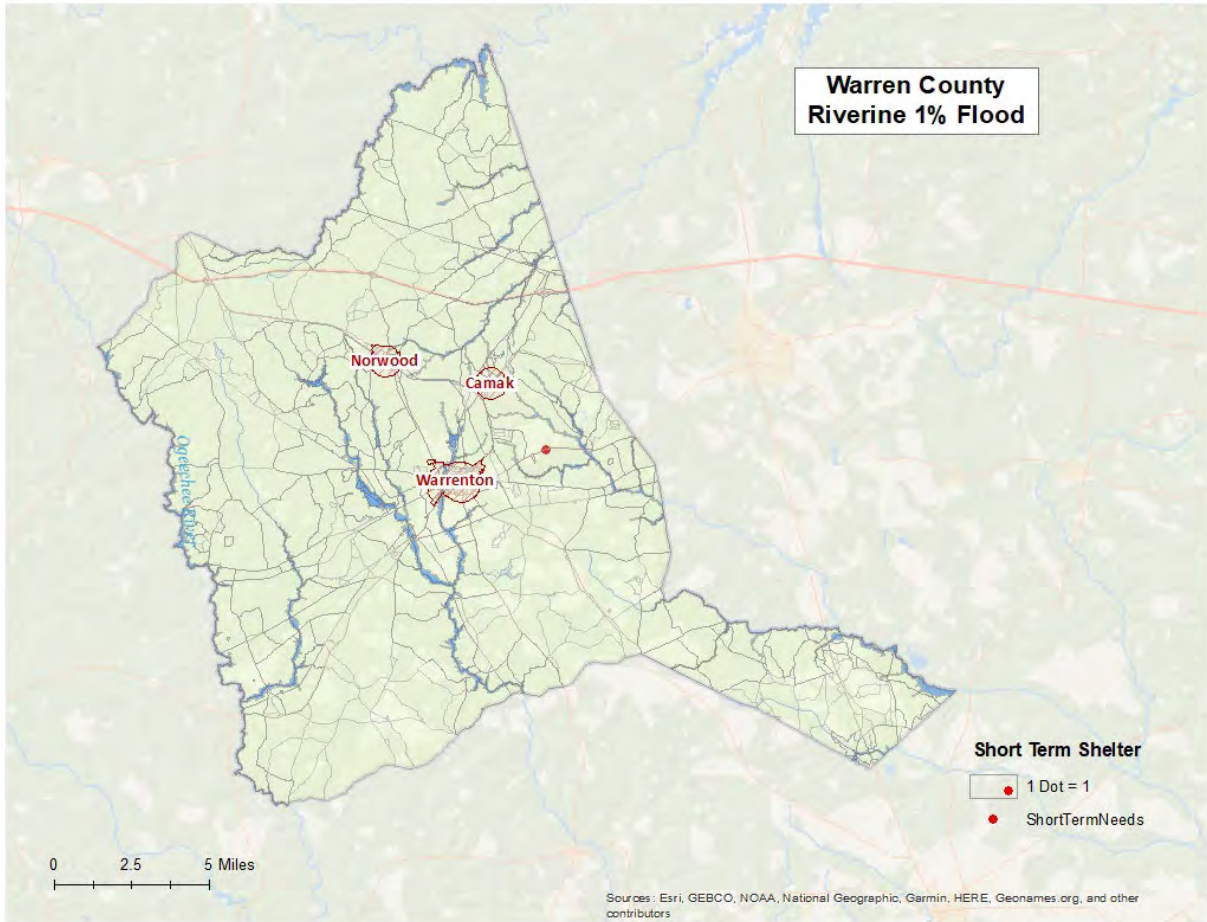


Figure 9: Riverine 1% Estimated Flood Shelter Requirements

Riverine 1% Flood Debris

Hazus-MH estimates the amount of debris that will be generated by the flood. The model breaks debris into three general categories:

- Finishes (dry wall, insulation, etc.)
- Structural (wood, brick, etc.)
- Foundations (concrete slab, concrete block, rebar, etc.)

Different types of material handling equipment will be required for each category. Debris definitions applied in Hazus-MH are unique to the Hazus-MH model and so do not necessarily conform to other definitions that may be employed in other models or guidelines.

The analysis estimates that an approximate total of 804 tons of debris might be generated: 1) Finishes- 272 tons; 2) Structural – 198 tons; and 3) Foundations- 334 tons. The results are mapped in Figure 10.

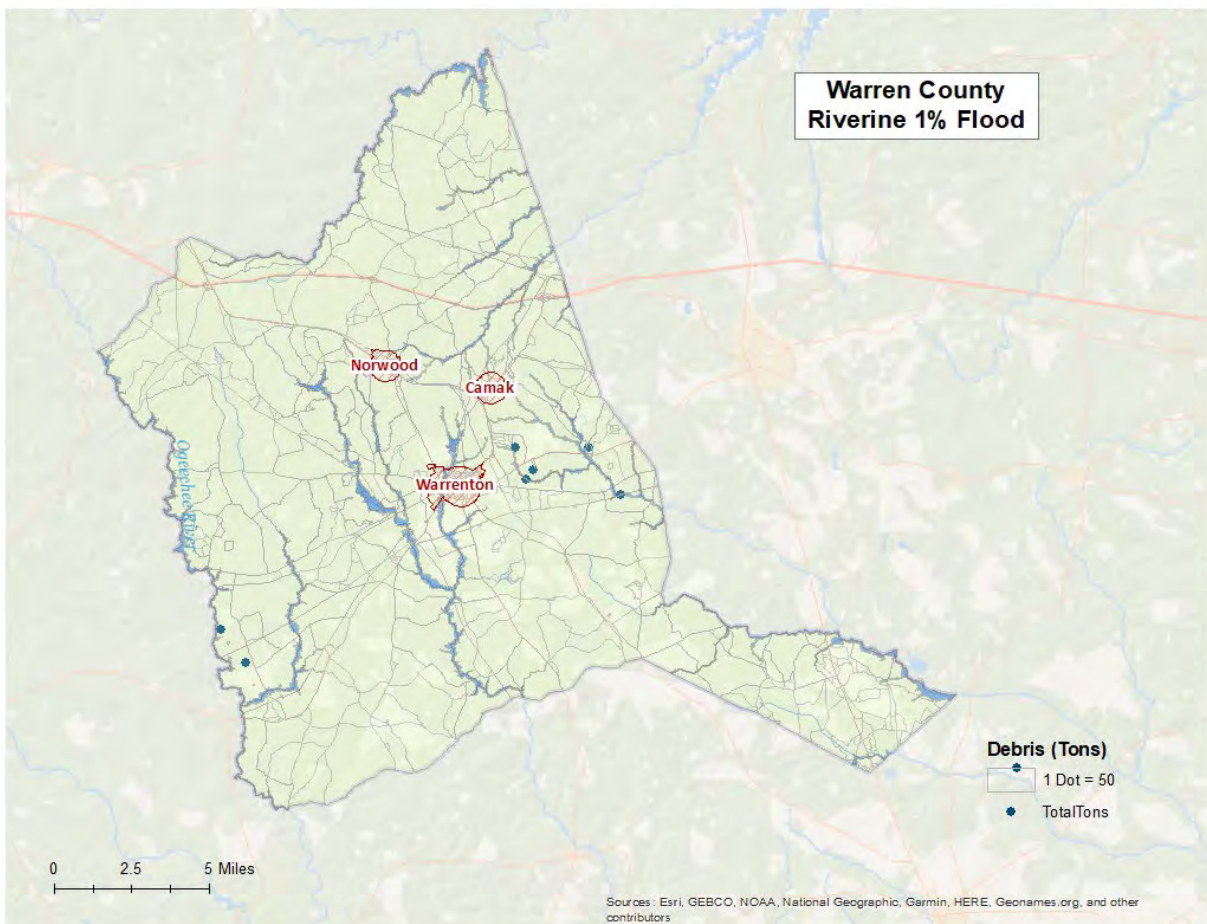


Figure 10: Riverine 1% Flood Debris Weight (Tons)

Tornado Risk Assessment

Hazard Definition

Tornadoes pose a great risk to the state of Georgia and its citizens. Tornadoes can occur at any time during the day or night. They can also happen during any month of the year. The unpredictability of tornadoes makes them one of Georgia’s most dangerous hazards. Their extreme winds are violently destructive when they touch down in the region’s developed and populated areas. Current estimates place the maximum velocity at about 300 miles per hour, but higher and lower values can occur. A wind velocity of 200 miles per hour will result in a wind pressure of 102.4 pounds per square foot of surface area—a load that exceeds the tolerance limits of most buildings. Considering these factors, it is easy to understand why tornadoes can be so devastating for the communities they hit.

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms and cyclonic events. Funnel clouds are rotating columns of air not in contact with the ground; however, the violently-rotating column of air can reach the ground very quickly and become a tornado. If the funnel cloud picks up and blows debris, it has reached the ground and is a tornado.

Tornadoes are classified according to the Fujita tornado intensity scale. Originally introduced in 1971, the scale was modified in 2006 to better define the damage and estimated wind scale. The Enhanced Fujita Scale ranges from low intensity EF0 with effective wind speeds of 65 to 85 miles per hour, to EF5 tornadoes with effective wind speeds of over 200 miles per hour. The Enhanced Fujita intensity scale is included in Table 10.

Table 10: Enhanced Fujita Tornado Rating

Fujita Number	Estimated Wind Speed	Path Width	Path Length	Description of Destruction
EF0 Gale	65-85 mph	6-17 yards	0.3-0.9 miles	Light damage, some damage to chimneys, branches broken, sign boards damaged, shallow-rooted trees blown over.
EF1 Moderate	86-110 mph	18-55 yards	1.0-3.1 miles	Moderate damage, roof surfaces peeled off, mobile homes pushed off foundations, attached garages damaged.
EF2 Significant	111-135 mph	56-175 yards	3.2-9.9 miles	Considerable damage, entire roofs torn from frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted.
EF3 Severe	136-165 mph	176-566 yards	10-31 miles	Severe damage, walls torn from well-constructed houses, trains overturned, most trees in forests uprooted, heavy cars thrown about.
EF4 Devastating	166-200 mph	0.3-0.9 miles	32-99 miles	Complete damage, well-constructed houses leveled, structures with weak foundations blown off for some distance, large missiles generated.
EF5 Incredible	> 200 mph	1.0-3.1 miles	100-315 miles	Foundations swept clean, automobiles become missiles and thrown for 100 yards or more, steel-reinforced concrete structures badly damaged.

Source: <http://www.srh.noaa.gov>

Hypothetical Tornado Scenario

For this report, an EF3 tornado was modeled to illustrate the potential impacts of tornadoes of this magnitude in the county. The analysis used a hypothetical path based upon an EF3 tornado event running along the predominant direction of historical tornados (southeast to northwest). The tornado path was placed to travel through Warrenton. The selected widths were modeled after a re-creation of the Fujita-Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these categories. Table 11 depicts tornado path widths and expected damage.

Table 11: Tornado Path Widths and Damage Curves

Fujita Scale	Path Width (feet)	Maximum Expected Damage
EF-5	2,400	100%
EF-4	1,800	100%
EF-3	1,200	80%
EF-2	600	50%
EF-1	300	10%
EF-0	300	0%

Within any given tornado path there are degrees of damage. The most intense damage occurs within the center of the damage path, with decreasing amounts of damage away from the center. After the hypothetical path is digitized on a map, the process is modeled in GIS by adding buffers (damage zones) around the tornado path. Figure 11 describes the zone analysis.

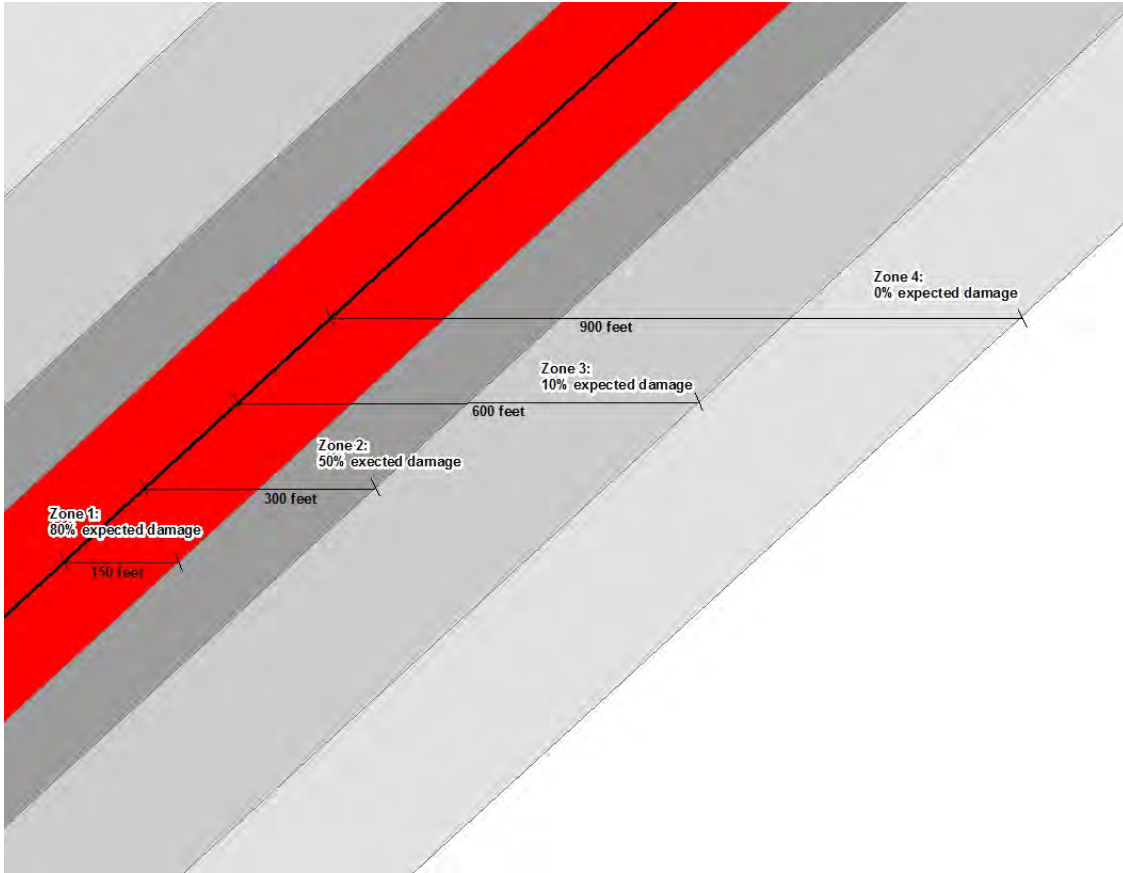


Figure 11: EF Scale Tornado Zones

An EF3 tornado has four damage zones, depicted in Table 12. Major damage is estimated within 150 feet of the tornado path. The outer buffer is 900 feet from the tornado path, within which buildings will not experience any damage. The selected hypothetical tornado path is depicted in Figure 12 and the damage curve buffer zones are shown in Figure 13.

Table 12: EF3 Tornado Zones and Damage Curves

Zone	Buffer (feet)	Damage Curve
1	0-150	80%
2	150-300	50%
3	300-600	10%
4	600-900	0%

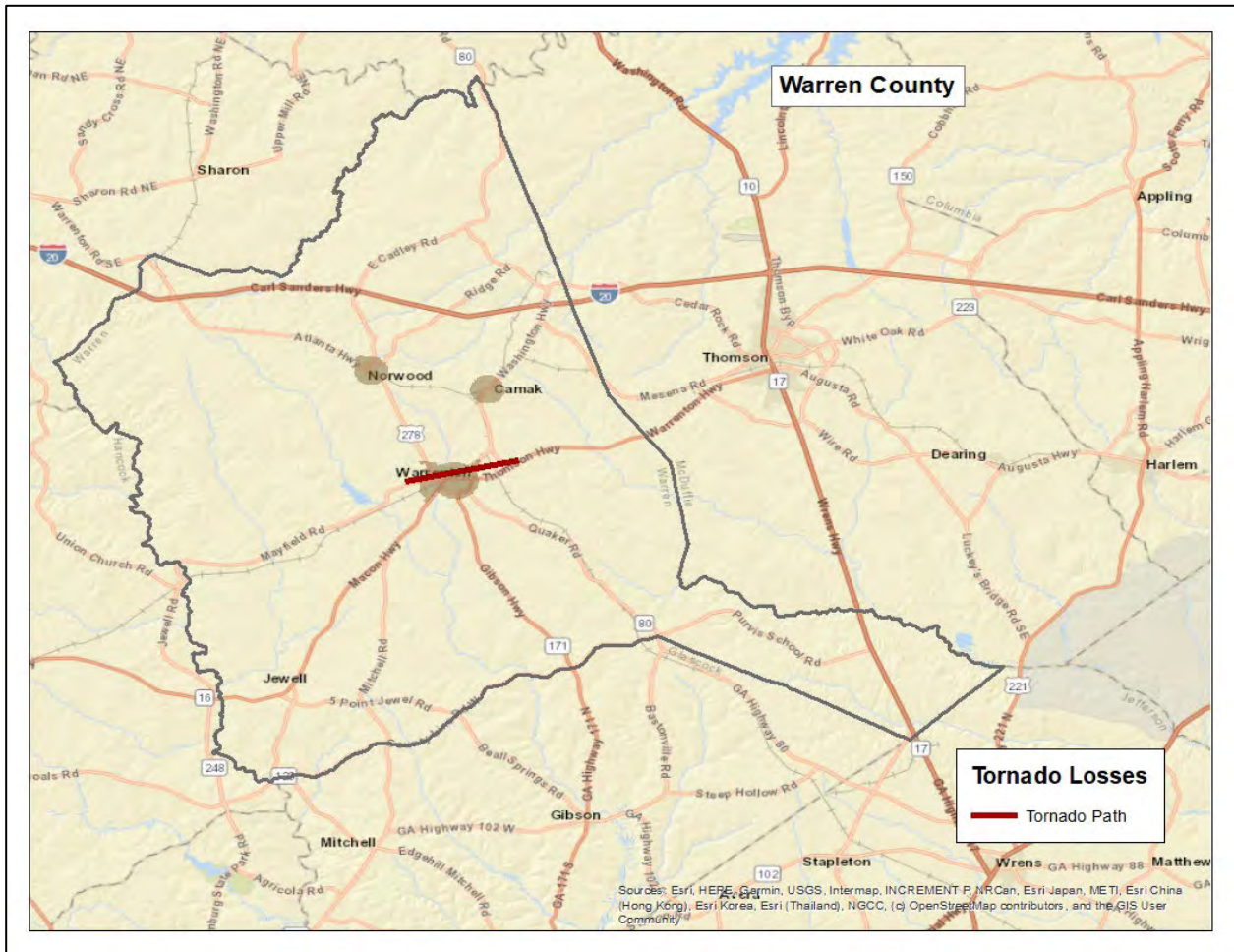


Figure 12: Hypothetical EF3 Tornado Path in Warren County

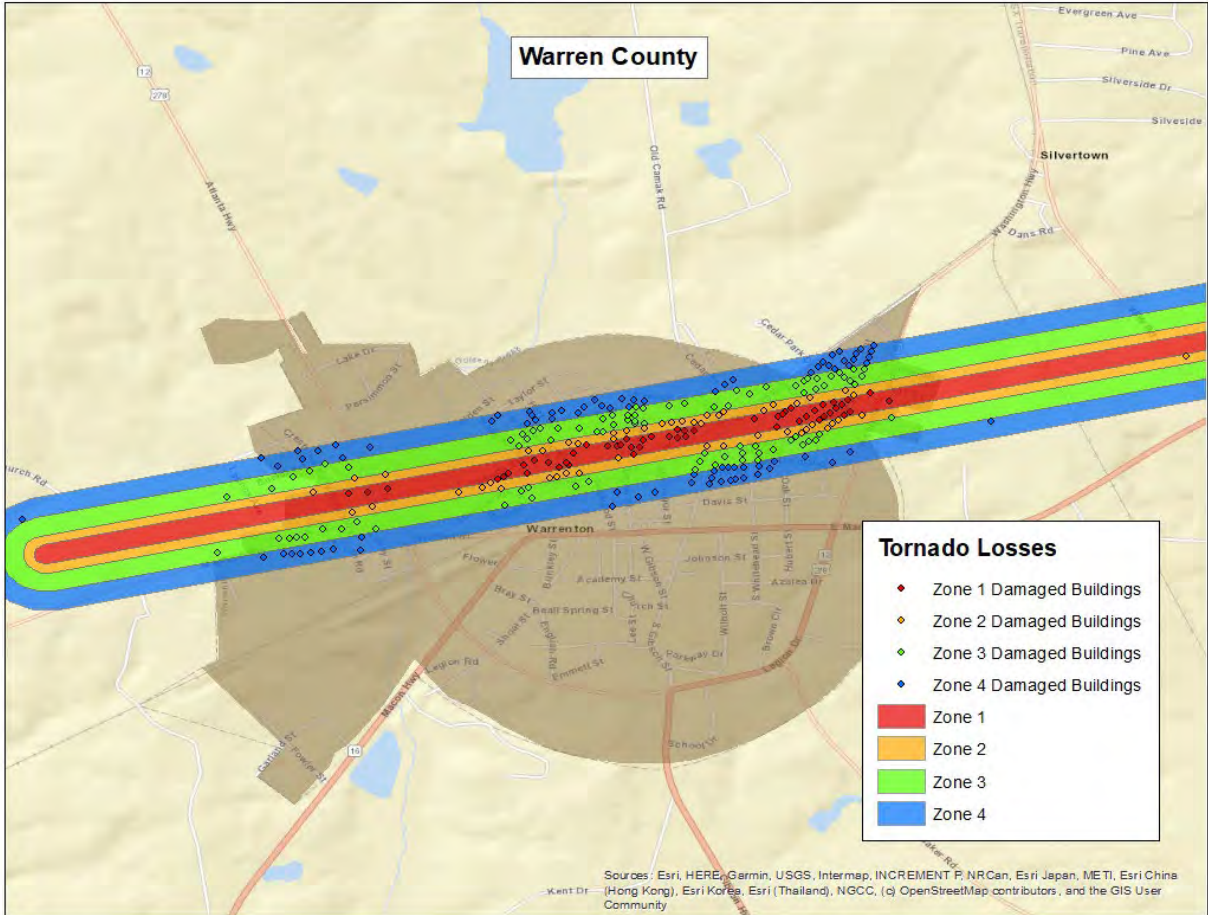


Figure 13: Modeled EF3 Tornado Damage Buffers in Warren County

EF3 Tornado Building Damages

The analysis estimated that approximately 361 buildings could be damaged, with estimated building losses of \$9 million. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Warren County that were joined with Assessor records showing estimated property replacement costs. The Assessor records often do not distinguish parcels by occupancy class if the parcels are not taxable and thus the number of buildings and replacement costs may be underestimated. The results of the analysis are depicted in Table 13.

Table 13: Estimated Building Losses by Occupancy Type

Occupancy	Buildings Damaged	Building Losses
Agricultural	12	\$0
Commercial	26	\$94,477
Industrial	5	\$128,874
Residential	318	\$8,728,721
Total	361	\$8,952,072

EF3 Tornado Essential Facility Damage

There were two essential facilities located in the tornado path – one school and one emergency operations center. Table 14 outlines the specific facility and the amount of damage under the scenario.

Table 14: Estimated Essential Facilities Damaged

Facility	Amount of Damage
Mildred Freeman Elementary School	Minor Damage
Warren Co Emergency Management Services	Minor Damage

According to the Georgia Department of Education, Mildred Freeman Elementary School’s enrollment was approximately 321 students as of March 2022. Depending on the time of day, a tornado strike as depicted in this scenario could result in significant injury and loss of life. In addition, arrangements would have to be made for the continued education of the students in another location.

The location of the damaged Essential Facility is mapped in Figure 14.

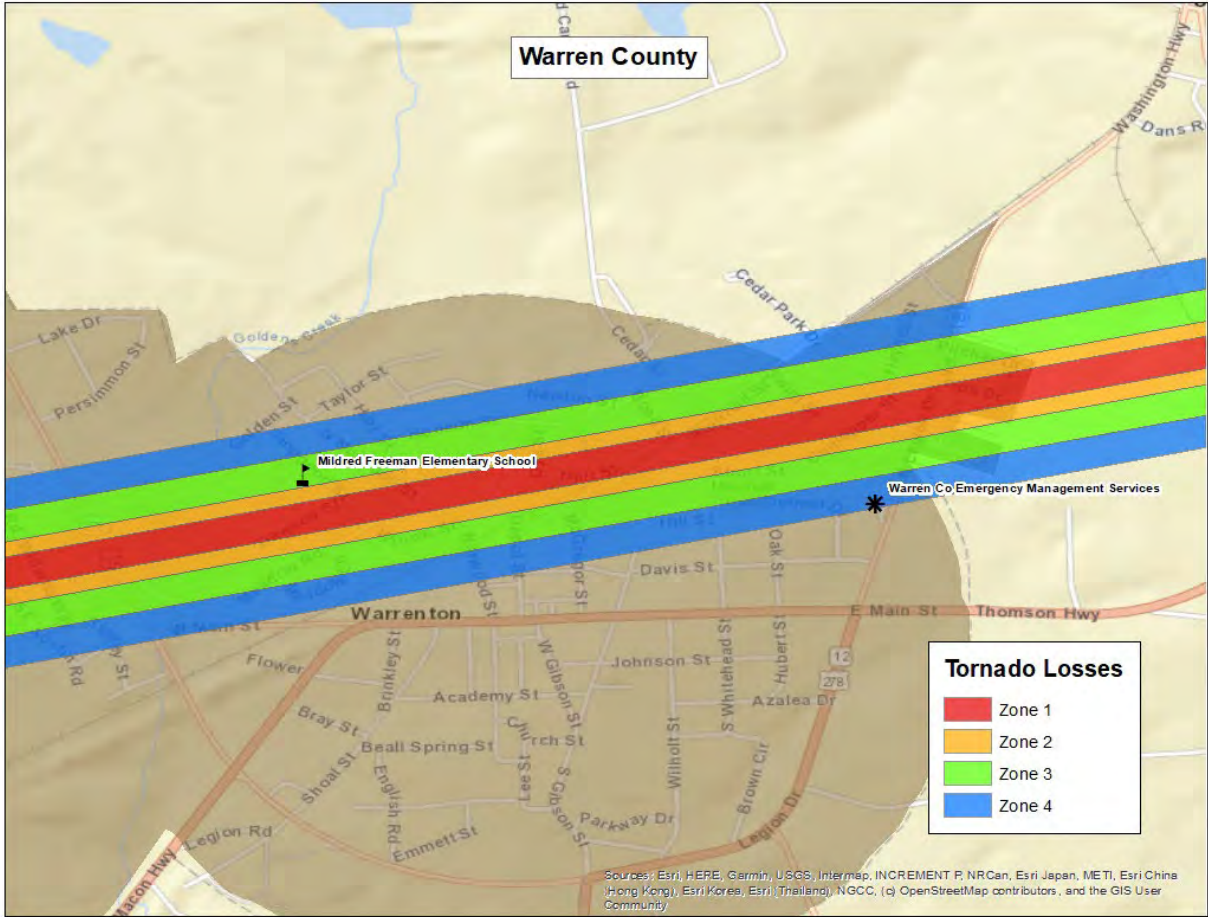


Figure 14: Modeled Essential Facility Damage in Warren County

Exceptions Report

Hazus Version 2.2 SP1 was used to perform the loss estimates for Warren County, Georgia. Changes made to the default Hazus-MH inventory and the modeling parameters used to setup the hazard scenarios are described within this document.

Reported losses reflect the updated data sets. Steps, algorithms and assumptions used during the data update process are documented in the project workflow named PDM_GA_Workflow.doc.

Statewide Inventory Changes

The default Hazus-MH Essential Facility inventory was updated for the entire state prior to running the hazard scenarios for Warren County.

Updates to the Critical Facility data used in GMIS were provided by Warren County in May 2022. These updates were applied by The Carl Vinson Institute of Government at the University of Georgia. Table 15 summarizes the difference between the original Hazus-MH default data and the updated data for Warren County.

Table 15: Essential Facility Updates

Site Class	Feature Class	Default Replacement Cost	Default Count	Updated Replacement Cost	Updated Count
EF	Care	\$3,521,000	3	\$7,960,000	3
EF	EOC	\$880,000	1	\$1,400,000	1
EF	Fire	\$3,430,000	7	\$2,720,000	7
EF	Police	\$1,060,000	2	\$85,000	1
EF	School	\$5,040,000	3	\$20,850,000	3

County Inventory Changes

The GBS records for Warren County were replaced with data derived from parcel and property assessment data obtained from Warren County. The county provided property assessment data was current as of May 2022 and the parcel data current as of May 2022.

General Building Stock Updates

The parcel boundaries and assessor records were obtained from Warren County. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary. Each parcel point was linked to an assessor record based upon matching parcel numbers. The generated Building Inventory represents the approximate locations (within a parcel) of building exposure. The Building Inventory was aggregated by Census Block and imported into Hazus-MH using the Hazus-MH Comprehensive Data Management System (CDMS). Both the 2010 Census Tract and Census Block tables were updated.

The match between parcel records and assessor records was based upon a common Parcel ID. For this type of project, unless the hit rate is better than 85%, the records are not used to update the default aggregate inventory in Hazus-MH. The Parcel-Assessor hit rate for Warren County was 99.7%.

Adjustments were made to records when primary fields did not have a value. In these cases, default values were applied to the fields. Table 16 outlines the adjustments made to Warren County records.

Table 16: Building Inventory Default Adjustment Rates

Type of Adjustment	Building Count	Percentage
Area Unknown	213	7%
Construction Unknown	413	13%
Condition Unknown	82	3%
Foundation Unknown	421	14%
Year Built Unknown	55	2%
Total Buildings	3,070	8%

Approximately 8% of the CAMA values were either missing (<Null> or '0'), did not match CAMA domains or were unusable ('Unknown', 'Other', 'Pending'). These were replaced with 'best available' values. Missing YearBuilt values were populated from average values per Census Block. Missing Condition, Construction and Foundation values were populated with the highest-frequency CAMA values per Occupancy Class. Missing Area values were populated with the average CAMA values per Occupancy Class.

The resulting Building Inventory was used to populate the Hazus-MH General Building Stock and User Defined Facility tables. The updated General Building Stock was used to calculate flood and tornado losses. Changes to the building counts and exposure that were modeled in Warren County are sorted by General Occupancy in Table 1 at the beginning of this report. If replacements cost or building value were not present for a given record in the Assessor data, replacement costs were calculated from the Building Area (sqft) multiplied by the Hazus-MH RS Means (\$/sqft) values for each Occupancy Class.

Differences between the default and updated data are due to various factors. The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

User Defined Facilities

Building Inventory was used to create Hazus-MH User Defined Facility (UDF) inventory for flood modeling. Hazus-MH flood loss estimates are based upon the UDF point data. Buildings within the flood boundary were imported into Hazus-MH as User Defined Facilities and modeled as points.

Table 17: User Defined Facility Exposure

Class	Hazus-MH Feature	Counts	Exposure
BI	Building Exposure	3,053	\$323,897,918
Riverine UDF	Structures Inside 1% Annual Chance Riverine Flood Area	6	\$548,242

Assumptions

- Flood analysis was performed on Building Inventory. Building Inventory within the flood boundary was imported as User Defined Facilities. The point locations are parcel centroid accuracy.
- The analysis is restricted to the county boundary. Events that occur near the county boundary do not contain loss estimates from adjacent counties.
- The following attributes were defaulted or calculated:
 - First Floor Height was set from Foundation Type
 - Content Cost was calculated from Building Cost

CSRA

Regional Plan 2040



OUR COUNTIES

BURKE
COLUMBIA
GLASCOCK
HANCOCK
JEFFERSON
JENKINS
LINCOLN
MCDUFFIE
AUGUSTA-RICHMOND
TALIAFERRO
WARREN
WASHINGTON
WILKES

Prepared in 2018



Regional Plan

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Regional Plan

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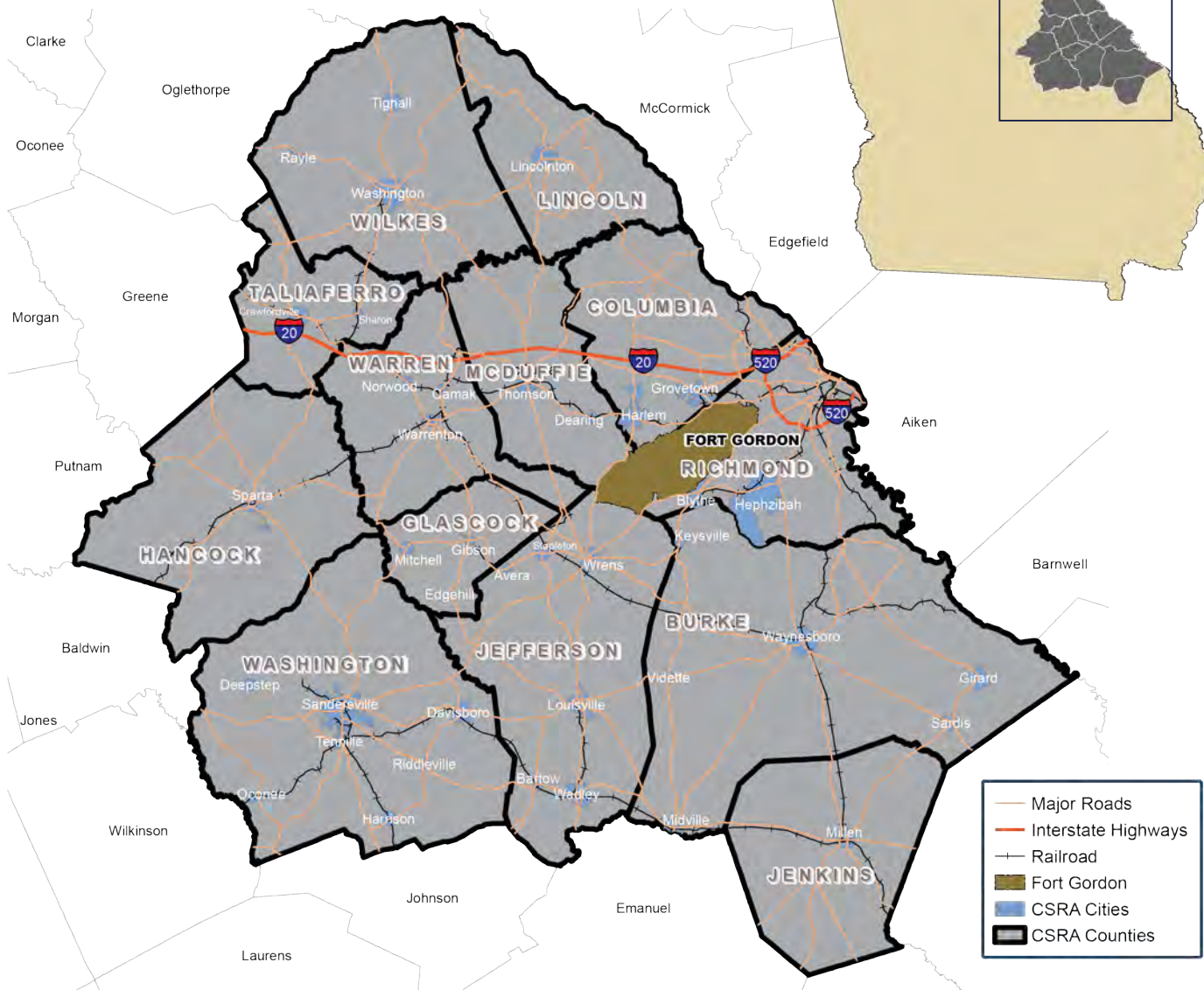
EXECUTIVE SUMMARY

CSRA

Regional Plan

Regional Overview

The Central Savannah River Area (CSRA) is bordered on the eastern side by the Savannah River and anchored by the city of Augusta at the heart of east-central Georgia. The Savannah River provides recreation and tourism for the CSRA border counties. Five counties in Georgia and two in South Carolina form a metropolitan cluster and regional core that leads out to the surrounding rural areas of the region. To the north, west, and south of the urban core, the rural CSRA is occupied by a lush agricultural belt where food and service crops are produced in the rich soil and livestock are nurtured for sale at market. The fall line of the ancient seashore helps define the geography of the CSRA as it crosses the region, transforming scenic landscapes of relatively flat terrain into gently rolling hills. This diverse surrounding promotes a high quality of life for the livelihood and growth of CSRA communities and citizens.



CSRA

Regional Plan

The CSRA region encompasses an area of nearly 6,500 square miles, with 465,126 residents according to the U.S. Census Bureau's 2015 American Community Survey. Located in east-central Georgia along the Savannah River, the CSRA region includes 13 counties: Burke, Columbia, Glascock, Hancock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Taliaferro, Warren, Washington, and Wilkes. The largest city in the CSRA is Augusta – a major component of the economic core of the region. The Augusta-Richmond County, GA-SC Metropolitan Statistical Area (MSA) includes Richmond, Columbia, Burke, Lincoln and McDuffie counties in Georgia and Aiken and Edgefield counties in South Carolina.

This region represents both urban and rural interests - with two urban counties holding over 300,000 residents combined, and the balance of the region's counties containing anywhere from just over 1,700 residents to about 24,000. Augusta-Richmond and Columbia counties were the nexus of over 90 percent of regional population growth (81,745 residents) between 1990 and 2015. As urban areas have grown, some rural areas have experienced decline. These shifts in population affect the overall resident quality of life, including availability of basic services like high-speed internet and health care, affordable housing, and daily work commutes. The state of Georgia's recently updated Achieving Connectivity Everywhere (ACE) Act will require all communities to think outside the box and plan for broadband (aka highspeed internet) deployment throughout their jurisdictions. Improving broadband access for the region will help our healthcare, public safety and educational institutions provide better service, enable individual connectivity, and greatly improve the accessibility of commerce to other parts of the state and nation.

One emerging regional development factor is the planned growth at Fort Gordon, slated to bring several thousand soldiers and associated contractors to the region over the next several years through the U.S. Army Cyber Center of Excellence. This growth will directly affect the counties adjacent to Fort Gordon and will likely have extended effects across the region as these new residents search for housing, recreation, and retail opportunities and require local public services. To address impacts of land use and encroachment on Fort missions, McDuffie, Augusta-Richmond, Columbia, Burke and Jefferson Counties are participating in a Joint Land Use Study (JLUS). Some recommendations from the forthcoming final JLUS report are included in this document as implementation activities.

While Fort Gordon has a measurable impact on the regional economy, it is not the only player. Another major growth industry for this region is energy. This includes is Plant Vogtle, a nuclear power plant that is expanding with the construction of two core reactors. This multi-billion dollar construction project has affected favorably the economy of several neighboring counties and created a need for housing, community facilities, land use controls, transportation improvements, and intergovernmental cooperation.

Another major sector in the region is healthcare. Indeed, this region boasts 10 hospitals and an expanding network of prompt care centers. The Medical College of Georgia at Augusta University is also located in this region; health professionals are trained here to be care providers at all levels, from doctors to certified nursing and occupational health assistants. In this region, some larger, urban hospitals have increased capacity; while some rural hospitals have closed or are struggling.

CSRA

Regional Plan

The CSRA contains a wealth of natural, cultural and environmental resources that provide the region with numerous social, economic, and environmental benefits. The rural portions of the region have some of the most beautiful and interesting natural and cultural resources. These less densely populated small towns, counties, and agricultural areas can both promote and protect critical resources and sectors like farming through agritourism and heritage tourism. This may enable them to achieve a higher quality of life through an expanded economy and increased public access to resources. With that said, whether urban or rural, our natural and cultural resources are in need of protection if we want to continue reaping their benefits. For example, the region's watersheds will need to be monitored to ensure future development does not render them vulnerable. Additionally, many of the nearly 200 federal and state designated historic districts and sites lack preservation plans or protection ordinances, and this can be remedied.

Although the urban and rural areas sometimes choose to address challenges differently, many basic community needs are the same, and cities and counties must work together to find common solutions. One of the biggest successes for the region's transportation planning and intergovernmental coordination was the passage of the Transportation Investment Act (TIA) in 2012. This approved a 10-year, one percent (1%) sales tax to fund regional and local transportation improvements such as replacing bridges, widening roads and adding sidewalks. This funding greatly enhances the CSRA region's transportation network and creates jobs for contractors, surveyors, and an ever expanding workforce.

CSRA Regional Commission Responsibilities

The CSRA Regional Commission (CSRA RC) is based in Augusta, GA and serves the previously mentioned thirteen counties along with 41 municipalities, providing services in the areas of planning and land-use development, grant writing and administration, economic development, historic preservation, and geographic information systems development and implementation to member jurisdictions.

Additionally, the CSRA RC is the home of the Area Agency on Aging (AAA) for the region and serves the 13 counties in the region as well as Screven County. In this capacity, the CSRA RC works with local providers to ensure that services for seniors are provided and monitored. By utilizing pass-through funds from state and federal sources, the Commission's AAA serves as a gateway for programs and resources aimed at helping aging residents improve the quality of their lives before and during their retirement years.

The CSRA RC is also the parent company of CSRA Business Lending. CSRA Business Lending makes loans to small and start-up businesses for the purposes of creating jobs and economic development opportunities within its service area.

CSRA

Regional Plan

CSRA Regional Vision

The vision of the Central Savannah River Area is to remain a place that reflects the best of what the United States has to offer – a place where residents innovate and create and where commerce thrives; a place where residents are healthy and active because their surroundings encourage physical fitness; and, fundamentally, a place full of natural and man-made beauty, where residents take pride in and draw sustenance from their everyday surroundings.

What's the Regional Plan?

The CSRA Regional Plan (the Plan) is the long-range plan for the management of the region's projected growth by local governments and the CSRA Regional Commission. The Plan's horizon is twenty years but will be updated as needed to address changing regional conditions. The CSRA Regional Commission Council, supported by CSRA RC staff, undertook the process of a full update of its regional plan. The regional vision statement included herein encompasses the best of the committee's and the public's input for the present and future development of the CSRA region. A regional Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis, resident comments, and online survey results were utilized in defining regional goals, priority needs and opportunities, and an implementation plan. Feedback mechanisms for the Plan included public hearings and listening sessions. Goals and needs were developed and categorized by the following subject areas: economic development, natural and cultural resources, community facilities and services, housing, land Use and transportation, and Intergovernmental coordination. The CSRA's vision and goals, together with an appraisal of socioeconomic, land use, and environmental opportunities and threats, set the strategic direction for the regional work program. The regional work program then defines priorities and timing for implementation.

The Plan document is divided into four (4) sections:

Regional Goals - This section looks at the future of the region and lays out a road map for it. The goals section includes supporting policies that operate as guidance for decision-makers. It is supported by SWOT analysis, community survey, and other data gathered to inform the plan creation (included in the appendices). The "Regional Goals" section includes maps that depict future development and descriptions of desired development patterns.

Regional Needs and Opportunities - This section examines areas in which needs exist, as well as strengths that can be built on for the future. Every item designated as a priority in this section is tied to an implementation strategy and action items in the implementation program.

Implementation Program - This section includes concrete strategies and actions aimed at realizing the vision and addressing the priority regional needs and opportunities.

Appendices - This section contains data tables, acronym explanations and other information and analysis used in the formulation of the three plan components mentioned above.



Stakeholder Involvement Summary

Public involvement was the key to learning what regional needs were to be addressed. During the process, the RC gathered information and comments from stakeholders and the public through multiple events such as public hearings, steering committee input, listening sessions, an online survey, and social media. CSRA RC staff created a dedicated space on the CSRA RC website to serve as a portal for information about the plan. Stakeholder feedback was used directly in plan development, from the SWOT analysis to the specific implementation measures that form our regional work program.

Our involvement process included the following engagement activities:

- Identified key stakeholders in addition to the general public, designating CSRA RC's Council as the plan's Steering Committee and RC staff as a Technical Advisory Group
- Held two public hearings and three community listening sessions
- Partnered with the Augusta Food Oasis for two (of the three previously mentioned) listening sessions to inform residents about both the Regional Plan overall and more specifically regional food access, which had emerged as a topic of importance.
- Published an online survey to gather additional resident input, with links provided on the RC website, social media, and emails
- Provided a dedicated space on the CSRA RC website to serve as a portal for information about the plan
- Distributed information at RC partner events
- Utilized social media to post information on agency Facebook and Twitter pages
- Created an informational lobby display for the RC office entrance area, along with handouts for citizens with general plan information

CSRA

Regional Plan

Regional Goals and Priorities



Economic Development Goal – to cultivate and maintain a vibrant, diversified economy that expands job opportunities in the region, develops a qualified workforce, supports downtowns as multi-use destinations, and improves the quality of life for all residents

- Create and promote agricultural, natural, and heritage tourism opportunities and assets
- Increase job opportunities through business expansion, attraction and retention



Natural and Cultural Resources Goal – to protect and preserve natural, environmental and cultural resources in the region from development pressure, build a network of connected communities, and highlight our historic resources and natural assets

- Protect natural resources and historic properties



Community Facilities and Services Goal – to provide community facilities and services throughout the region that encourage appropriate development and more walkable, mixed use communities that enhance the overall quality of life for all residents

- Improve and expand infrastructure across region, including water and sewer expansion, flood and drainage improvements, sidewalk construction, and increased broadband access
- Increase access to healthy, affordable food
- Provide resources for residents that allow them to choose whether to age in place or move into housing developments or care facilities for older adults



Housing Goal – to provide a range of housing types and choices, available in urban and rural areas, that is safe and physically and economically accessible to all residents

- Rehabilitation, redevelopment, or removal of vacant and/or dilapidated structures
- Additional housing supply and variety



Land Use and Transportation Goal - to effectively utilize existing infrastructure to ensure the coordination of land use and transportation planning in support of improved resident quality of life, including provisions for pedestrians, trails and bicycles, housing, access to recreation and green space, and protected natural and historic areas

- Improvement and repair of roads and bridges, including increased street connectivity
- Reduce, eliminate, or prevent encroachment on Fort Gordon military installation



Intergovernmental Coordination Goal – to create a culture of collaborative planning and government decision-making, wherein communities join together to define commonalities and development strategies that benefit multiple jurisdictions to further effective growth, increase access to resources, generate cost savings, and promote healthy, active residents

- Examine the possibility of regional code enforcement through the RC



Actions to be Pursued

The following are some key strategies and actions the Regional Commission, in partnership with local governments and other agencies, will be undertaking over the next five (5) years. Additional strategies and actions are located in the "Implementation Program" portion of this document. These strategies and implementation items are considered the CSRA region's important steps towards growing and developing this area with cooperation and inclusiveness for a better quality of life for citizens, business and industry in the region's cities and counties.

STRATEGY: Provide support to local organizations/agencies currently engaged in agritourism and/or heritage tourism and coordinate with local governments to choose target areas for promotion

ACTION: Utilize GIS to create thematic or location-based story maps in different counties or groups of counties that highlight unique assets

STRATEGY: Review and update important city/county documents

ACTION: Survey HPCs to pinpoint weaknesses in existing historic preservation ordinances

STRATEGY: Maintain existing infrastructure and secure funding for new infrastructure as needed

ACTION: Create service area maps to support current SDS documents

STRATEGY: Examine and update local land use polices as they relate to community food systems

ACTION: Create and distribute resident fact sheets/guides for doing specific things like having raised beds, composting, or keeping chickens in counties with zoning

STRATEGY: Educate the public and local government officials on what is currently available and what's missing in our regional food system

ACTION: Create a regional map of farmer's markets, community/school gardens, etc

STRATEGY: Increase the number of GICH communities

ACTION: Assist communities with the creation or update of housing inventories and action plans

STRATEGY: Increase the capacity of the CSRA Aging Network to meet the needs of caregivers

ACTION: Increase senior caregiver training through seminars, webinars, social, print and broadcast media and care consultation

STRATEGY: Implement the 2018 Joint Land Use Study recommendations

ACTION: Host the inaugural meeting between Fort personnel and local governments to review development projects and activities and assess challenges

APPENDIX D

**WORKSHEETS
USED IN
PLANNING PROCESS**

GEMA Worksheet #1

Identify the Hazard

Step 1

Date:

What kinds of natural hazards can affect you?

Task A. List the hazards that may occur.

1. Research newspapers and other historical records
2. Review existing plans and reports.
3. Talk to the experts in your community, state, or region.
4. Gather information on Internet Websites.
5. Next to the hazard list below, put a check mark in the Task A boxes beside all hazards that may occur in your community or state.

Task B. Focus on the most prevalent hazard in your community or state.

1. Go to hazard Websites.
2. Locate your community or state on the Website map.
3. Determine whether you are in a high-risk area. Get more localized information if necessary.
4. Next to the hazard list below, put a check mark in the Task B boxes beside all hazards that post a significant threat.

Use this space to record information you find for each of the hazards you will be **researching**. Attach additional pages as necessary. Note: **Bolded** hazards are addressed in this How-to Guide.

	Task A	Task B
Avalanche		
Coastal Erosion		
Coastal Storm	X	
Dam Failure	X	
Drought	X	X
Earthquake	X	
Expansive Soils		
Extreme Heat	X	
Flood	X	X
Hailstorm	X	
Hurricane	X	
Land Subsidence		
Landslide		
Severe Winter Storm	X	X
Tornado	X	X
Tsunami		
Volcano		
Wildfire	X	X
Windstorm		
Lightning	X	X
Tropical Storms	X	X
Thunderstorm Winds	X	X

Hazard or Event Description (Type of hazard, date of event, number of injuries, cost and types of damage, etc.)	Source of Information	Map Available for this Hazard?	Scale of Map
Drought See Appendix A for complete information	USDA, NCDC, SHELDUS, The Sparta Ishmaelite, Palmer Index	Maps area available for the state as a whole from the Palmer Index See Appendix A	
Flood See Appendix A for this complete information	USGS, NCDC, SHELDUS, The Sparta Ishmaelite,	Flood Plain Maps are available See Appendix A	
Severe Winter Weather See Appendix A for this complete information	SERRC, NCDC, SHELDUS, The Sparta Ishmaelite,	Maps are available in Appendix A	
Hail See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Tornado See Appendix A for this complete information	Tornado History Project, MRCC, NCDC, & SHELDUS,	Map is available See Chapter II. Section IV.	
Lightning See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Tropical Storms See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Thunderstorm Winds See Appendix A for this complete information	NCDC, SHELDUS,	No map is available Map is available for wind zone	
Wildfire See Appendix A for this complete information	GFC	Map is available for fire danger zones	

**WARREN COUNTY-WIDE INCLUDES ALL JURISDICTIONS
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance/year	20 year Historic Frequency % chance/year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	4	72	2	4	4	18.00	5.56	20.00	0.2	0.2	0.08
Wildfire	1,357	65	211	512	1,261	0.05	2087.69	2560.00	21.1	25.6	25.22
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	7	72	1	4	6	10.29	9.72	20.00	0.1	0.2	0.12
Thunderstorm Wind	44	72	13	24	43	1.64	61.11	120.00	1.3	1.2	0.86
Hail	14	72	2	11	14	5.14	19.44	55.00	0.2	0.55	0.28
Drought	29	72	8	20	29	2.48	40.28	100.00	0.8	1	0.58
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	29	72	4	9	16	2.48	40.28	45.00	0.4	0.45	0.32
Lightning	71	65	16	34	69	0.92	109.23	170.00	1.6	1.7	1.38
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	27	72	7	19	23	2.67	37.50	95.00	0.7	0.95	0.46
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

**WARREN COUNTY UNINCORPORATED AREAS
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance/ year	20 year Historic Frequency % chance/ year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	4	72	2	4	4	18.00	5.56	20.00	0.2	0.2	0.08
Wildfire	1,357	65	211	512	1,261	0.05	2087.69	2560.00	21.1	25.6	25.22
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	7	72	1	4	6	10.29	9.72	20.00	0.1	0.2	0.12
Thunderstorm Wind	44	72	13	24	43	1.64	61.11	120.00	1.3	1.2	0.86
Hail	5	72	1	4	5	0.20	500.00	20.00	0.4	0.2	0.1
Drought	29	72	8	20	29	2.48	40.28	100.00	0.8	1	0.58
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	29	72	4	9	16	2.48	40.28	45.00	0.4	0.45	0.32
Lightning	71	65	16	34	69	0.92	109.23	170.00	1.6	1.7	1.38
Landslide						#DIV/0!	#DIV/0!	0.00	0	0	0
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	27	72	7	19	23	2.67	37.50	95.00	0.7	0.95	0.46
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

**CAMAK
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance /year	20 year Historic Frequency % chance /year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	3	72	1	3	3	24.00	4.17	15.00	0.1	0.15	0.06
Wildfire	0	65	0	0	0	#DIV/0!	0.00	0.00	0	0	0
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	0	72	0	0	0	#DIV/0!	0.00	0.00	0	0	0
Thunderstorm Wind	13	72	2	4	12	5.54	18.06	20.00	0.2	0.2	0.24
Hail	2	72	0	0	2	36.00	2.78	0.00	0	0	0.04
Drought	29	72	8	20	29	2.48	40.28	100.00	0.8	1	0.58
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	29	72	4	9	16	2.48	40.28	45.00	0.4	0.45	0.32
Lightning	71	65	16	34	69	0.92	109.23	170.00	1.6	1.7	1.38
Landslide						#DIV/0!	#DIV/0!	0.00	0	0	0
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	27	72	7	19	23	2.67	37.50	95.00	0.7	0.95	0.46
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

**NORWOOD
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance /year	20 year Historic Frequency % chance /year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	4	72	2	4	4	18.00	5.56	20.00	0.2	0.2	0.08
Wildfire	0	65	0	0	0	#DIV/0!	0.00	0.00	0	0	0
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	1	72	1	1	1	72.00	1.39	5.00	0.1	0.05	0.02
Thunderstorm Wind	16	72	3	6	15	4.50	22.22	30.00	0.3	0.3	0.3
Hail	3	72	0	2	3	24.00	4.17	10.00	0	0.1	0.06
Drought	29	72	8	20	29	2.48	40.28	100.00	0.8	1	0.58
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	29	72	4	9	16	2.48	40.28	45.00	0.4	0.45	0.32
Lightning	71	65	16	34	69	0.92	109.23	170.00	1.6	1.7	1.38
Landslide						#DIV/0!	#DIV/0!	0.00	0	0	0
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	27	72	7	19	23	2.67	37.50	95.00	0.7	0.95	0.46
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

**WARRENTON
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance/year	20 year Historic Frequency % chance/year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	3	72	1	3	3	24.00	4.17	15.00	0.1	0.15	0.06
Wildfire	0	65	0	0	0	#DIV/0!	0.00	0.00	0	0	0
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	1	72	0	1	1	72.00	1.39	5.00	0	0.05	0.02
Thunderstorm Wind	22	72	3	7	21	3.27	30.56	35.00	0.3	0.35	0.42
Hail	7	72	1	5	7	10.29	9.72	25.00	0.1	0.25	0.14
Drought	29	72	8	20	29	2.48	40.28	100.00	0.8	1	0.58
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	29	72	4	9	16	2.48	40.28	45.00	0.4	0.45	0.32
Lightning	71	65	16	34	69	0.92	109.23	170.00	1.6	1.7	1.38
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	27	72	7	19	23	2.67	37.50	95.00	0.7	0.95	0.46
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Warren County All Jurisdictions

Hazard: Dam Failure

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Dam Failure	Number of Structures			Value of Structures			Number of People		
	Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area
Residential	8,703	12	0.14%	\$100,685,610	\$138,829	0%	5,297	26	0%
Commercial	704	0	0.00%	\$62,198,790	\$0	0%	5,297	0	0%
Industrial	199	0	0.00%	\$72,202,385	\$0	0%	396	0	0%
Agricultural	4,636	73	1.57%	\$237,666,735	\$3,742,380	2%	66	27	41%
Religious/ Non-profit	189	0	0.00%	\$4,468,003	\$0	0%	5,297	0	0%
Government	260	0	0.00%	\$15,324,525	\$0	0%	185	0	0%
Education	10	0	0.00%	\$474,283	\$0	0%	580	0	0%
Utilities	43	0	0.00%	\$79,971,128	\$0	0%	2	0	0%
Total	14,744	85	0.58%	\$572,991,459	\$3,881,208	1%	5,297	53	1%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?	X	
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		X
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?		X
6. Is there concern about this particular hazard because of its severity, repetitiveness, or likelihood of occurrence?		X
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Warren County All Jurisdictions

Hazard: Flood

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Flood	Number of Structures			Value of Structures			Number of People		
	Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area
Residential	8,703	55	0.63%	\$100,685,610	\$636,299	1%	5,297	103	2%
Commercial	704	0	0.00%	\$62,198,790	\$0	0%	5,297	0	0%
Industrial	199	0	0.00%	\$72,202,385	\$0	0%	396	0	0%
Agricultural	4,636	26	0.56%	\$237,666,735	\$1,332,902	1%	66	46	70%
Religious/ Non-profit	189	0	0.00%	\$4,468,003	\$0	0%	5,297	0	0%
Government	260	0	0.00%	\$15,324,525	\$0	0%	185	0	0%
Education	10	0	0.00%	\$474,283	\$0	0%	580	0	0%
Utilities	43	0	0.00%	\$79,971,128	\$0	0%	2	0	0%
Total	14,744	81	0.55%	\$572,991,459	\$1,969,201	0%	5,297	149	3%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?	X	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about this hazard because of its severity, repetitiveness, or likelihood of occurrence?		X
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?		X

GEMA Worksheet #3a
Jurisdiction: Town of Camak
Hazard: Flood

Inventory of Assets

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Flood Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Communi ty of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	382	0	0.00%	\$3,082,133	\$0	0.00%	127	0	0%
Commercial	22	0	0.00%	\$7,235,543	\$0	0.00%	127	0	0%
Industrial	7	0	100.00%	\$175,613	\$175,613	100.00%	12	0	0%
Agricultural	20	1	5.00%	\$359,850	\$17,993	5.00%	32	0	0%
Religious/ Non-profit	6	0	0.00%	\$86,008	\$0	0.00%	138	0	0%
Government	28	0	0.00%	\$210,905	\$0	0.00%	3	0	0%
Education	0	0	100.00%	\$0	\$0	#DIV/0!	1	0	0%
Utilities	8	0	100.00%	\$1,375,250	\$1,375,250	100.00%	0	0	#DIV/0!
Total	473	1	0.21%	\$12,525,302	\$1,568,856	12.53%	127	0	0%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?	X	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about this particular hazard because of its severity, repetitiveness, or likelihood of occurrence?		X
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Town of Camak

Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms.

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	382	382	100%	\$3,082,133	\$3,082,133	100%	127	127	100%
Commercial	22	22	100%	\$7,235,543	\$7,235,543	100%	127	127	100%
Industrial	7	7	100%	\$175,613	\$175,613	100%	12	12	100%
Agricultural	20	20	100%	\$359,850	\$359,850	100%	32	32	100%
Religious/ Non-profit	6	6	100%	\$86,008	\$86,008	100%	127	127	100%
Government	28	28	100%	\$210,905	\$210,905	100%	3	3	100%
Education	0	0	100%	\$0	\$0	100%	0	0	#DIV/0!
Utilities	8	8	100%	\$1,375,250	\$1,375,250	100%	1	1	100%
Total	473	473	100%	\$12,525,302	\$12,525,302	100%	127	127	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		X
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?		X

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Town of Norwood

Hazard: Flood

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Flood Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	449	0	0%	\$4,380,490	\$0	0.00%	284	0	0.00%
Commercial	18	0	0%	\$207,155	\$0	0.00%	284	0	0.00%
Industrial	0	0	#DIV/0!	\$0	#DIV/0!	#DIV/0!	0	0	#DIV/0!
Agricultural	18	1	6%	\$479,348	\$26,630	5.56%	5	0	0.00%
Religious/ Non-profit	11	0	0%	\$153,003	\$0	0.00%	284	0	0.00%
Government	16	0	0%	\$36,688	\$0	0.00%	2	0	0.00%
Education	1	0	0%	\$2,500	\$0	0.00%	0	0	#DIV/0!
Utilities	8	0	0%	\$1,008,190	\$0	0.00%	0	0	#DIV/0!
Total	521	1	0%	\$6,267,374	\$27,644	0.44%	284	0	0.00%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?	X	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about this particular hazard because of its severity, repetitiveness, or likelihood of occurrence?		X
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Town of Norwood

Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms.

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	449	449	100%	\$4,380,490	\$4,380,490	100%	284	284	100%
Commercial	18	18	100%	\$207,155	\$207,155	100%	284	284	100%
Industrial	0	0	#DIV/0!	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!
Agricultural	18	18	100%	479,348	479,348	100%	26	26	100%
Religious/ Non-profit	11	11	100%	\$153,003	\$153,003	100%	284	284	100%
Government	16	16	100%	\$36,688	\$36,688	100%	2	2	100%
Education	1	1	100%	2,500	2,500	100%	0	0	#DIV/0!
Utilities	8	8	100%	1,008,190	1,008,190	100%	1	1	100%
Total	521	521	100%	\$6,267,373	\$6,267,373	100%	284	284	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		X
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?		X

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Unincorporated Warren County

Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms.

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Communit y of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	5,881	5,881	100%	\$61,192,805	\$61,192,805	100%	2,834	2,834	100%
Commercial	201	201	100%	\$38,059,635	\$38,059,635	100%	2,834	2,834	100%
Industrial	171	171	100%	\$64,510,625	\$64,510,625	100%	343	343	100%
Agricultural	4,590	4,590	100%	\$236,438,058	\$236,438,058	100%	51	51	100%
Religious/ Non-profit	115	115	100%	\$1,707,250	\$1,707,250	100%	2,834	2,834	100%
Government	114	114	100%	\$7,828,395	\$7,828,395	100%	68	68	100%
Education	2	2	100%	\$312,470	\$312,470	100%	580	580	100%
Utilities	19	19	100%	\$72,610,503	\$72,610,503	100%	2	2	100%
Total	11,093	11,093	100%	\$482,659,740	\$482,659,740	100%	2,834	2,834	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		X
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?		X

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Unincorporated Warren County

Hazard: Dam Failure

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Dam Failure Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Communit y of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	5,881	12	0%	\$61,192,805	\$124,862	0%	2,834	26	1%
Commercial	201	0	0%	\$38,059,635	\$0	0%	2,834	0	0%
Industrial	171	0	0%	\$64,510,625	\$0	0%	343	0	0%
Agricultural	4,590	73	2%	\$236,438,058	\$3,760,344	2%	51	27	53%
Religious/ Non-profit	115	0	0%	\$1,707,250	\$0	0%	2,834	0	0%
Government	114	0	0%	\$7,828,395	\$0	0%	68	0	0%
Education	2	0	100%	\$312,470	\$312,470	100%	580	0	0%
Utilities	19	0	0%	\$72,610,503	\$0	0%	2	0	0%
Total	11,093	85	1%	\$482,659,740	\$4,197,676	1%	2,834	53	2%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?	X	
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		X
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?		X
6. Is there concern about this particular hazard because of its severity, repetitiveness, or likelihood of occurrence?		X
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Unincorporated Warren County

Hazard: Flood

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Flood Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	5,881	35	1%	\$61,192,805	\$364,181	1%	2,834	95	3%
Commercial	201	0	0%	\$38,059,635	\$0	0%	2,834	0	0%
Industrial	171	0	0%	\$64,510,625	\$0	0%	343	0	0%
Agricultural	4,590	21	0%	\$238,438,058	\$1,081,743	0%	51	42	82%
Religious/ Non-profit	115	0	0%	\$1,707,250	\$0	0%	2,834	0	0%
Government	114	0	0%	\$7,828,395	\$0	0%	68	0	0%
Education	2	0	100%	\$312,470	\$312,470	100%	580	0	0%
Utilities	19	0	0%	\$72,610,503	\$0	0%	2	0	0%
Total	11,093	56	1%	\$482,659,741	\$1,758,394	0%	1,997	137	7%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?	X	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about this particular hazard because of its severity, repetitiveness, or likelihood of occurrence?		X
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a
Jurisdiction: City of Warrenton
Hazard: Flood

Inventory of Assets

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Flood Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	1,991	0	0%	32,030,183	\$0	0.00%	2,052	8	0.39%
Commercial	463	0	0%	16,696,458	\$0	0.00%	2,052	0	0.00%
Industrial	21	0	0%	7,516,148	\$0	0.00%	125	0	0.00%
Agricultural	8	3	38%	389,480	\$146,055	37.50%	18	4	22.22%
Religious/ Non-profit	57	0	0%	2,521,743	\$0	0.00%	2,052	0	0.00%
Government	102	0	0%	7,248,538	\$0	0.00%	42	0	0.00%
Education	7	0	0%	159,313	\$0	0.00%	0	0	#DIV/0!
Utilities	8	0	0%	4,977,185	\$0	0.00%	1	0	0.00%
Total	2,657	3	0%	\$71,539,045	\$146,055	0.20%	2,052	12	0.58%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?	X	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about this particular hazard because of its severity, repetitiveness, or likelihood of occurrence?		X
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: City of Warrenton

Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms.

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	449	449	100%	\$4,380,490	\$4,380,490	100%	284	284	100%
Commercial	18	18	100%	\$207,155	\$207,155	100%	284	284	100%
Industrial	0	0	#DIV/0!	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!
Agricultural	18	18	100%	479,348	479,348	100%	28	28	100%
Religious/ Non-profit	11	11	100%	\$153,003	\$153,003	100%	284	284	100%
Government	16	16	100%	\$36,888	\$36,888	100%	2	2	100%
Education	1	1	100%	2,500	2,500	100%	0	0	#DIV/0!
Utilities	8	8	100%	1,008,190	1,008,190	100%	1	1	100%
Total	521	521	100%	\$8,267,374	\$8,267,374	100%	284	284	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		X
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?		X

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Warren County All Jurisdictions

Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms.

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	8,703	8,703	100%	\$100,685,610	\$100,685,610	100%	5,297	5,297	100%
Commercial	704	704	100%	\$62,198,790	\$62,198,790	100%	5,297	5,297	100%
Industrial	199	199	100%	\$72,202,385	\$72,202,385	100%	945	945	100%
Agricultural	4,636	4,636	100%	\$237,666,735	\$237,666,735	100%	260	260	100%
Religious/ Non-profit	189	189	100%	\$4,468,003	\$4,468,003	100%	5,297	5,297	100%
Government	260	260	100%	\$15,324,525	\$15,324,525	100%	100	100	100%
Education	10	10	100%	\$474,283	\$474,283	100%	1,007	1,007	100%
Utilities	43	43	100%	\$79,971,128	\$79,971,128	100%	3	3	100%
Total	14,744	14,744	100%	\$572,991,458	\$572,991,458	100%	5,297	5,297	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		X
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?		X

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	1,991	1,991	100%	32,030,183	32,030,183	100%	2,052	2,052	100%
Commercial	463	463	100%	16,696,458	16,696,458	100%	2,052	2,052	100%
Industrial	21	21	100%	7,516,148	7,516,148	100%	125	125	100%
Agricultural	8	8	100%	389,480	389,480	100%	18	18	100%
Religious/ Non-profit	57	57	100%	2,521,743	2,521,743	100%	2,052	2,052	100%
Government	102	102	100%	7,248,538	7,248,538	100%	42	42	100%
Education	7	7	100%	159,313	159,313	100%	0	0	#DIV/0!
Utilities	8	8	100%	4,977,185	4,977,185	100%	1	1	100%
Total	2,657	2,657	100%	\$71,539,045	\$71,539,045	100%	2,052	2,052	100%

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	1,991	0	0%	32,030,183	\$0	0.00%	2,052	8	0.39%
Commercial	463	0	0%	16,696,458	\$0	0.00%	2,052	0	0.00%
Industrial	21	0	0%	7,516,148	\$0	0.00%	125	0	0.00%
Agricultural	8	3	38%	389,480	\$146,055	37.50%	18	4	22.22%
Religious/ Non-profit	57	0	0%	2,521,743	\$0	0.00%	2,052	0	0.00%
Government	102	0	0%	7,248,538	\$0	0.00%	42	0	0.00%
Education	7	0	0%	159,313	\$0	0.00%	0	0	#DIV/0!
Utilities	8	0	0%	4,977,185	\$0	0.00%	1	0	0.00%
Total	2,657	3	0%	\$71,539,045	\$146,055	0.20%	2,052	12	0.58%

STAPLEE Criteria	S		T		A		P		L		E			E											
	(Social)		(Technical)		(Administrative)		(Political)		(Legal)		(Economic)			(Environmental)											
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws	Alternative Actions	Comments
FLOODING																									
Warren County: Adopt floodplain ordinances and participate in the NFIP.	X																								
City of Camak: Adopt floodplain ordinances and participate in the NFIP	X																								
City of Norwood: Adopt floodplain ordinances and participate in the NFIP.	X																								
City of Warrenton: Update floodplain maps.	X			X			X					X	X		X	X		X				X	X		Costly expenditure all jurisdictions need to participate
Warren County: Continue to assess stormwater runoff and watershed plans.	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	Funding needs to be allocated is quite costly but long term benefit
City of Warrenton: Continue to assess stormwater runoff.	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	
City of Camak: Continue to assess stormwater runoff.	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	
City of Norwood: Continue to assess stormwater runoff.	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	
Warren County: Assess and construct as needed, more storm water retention facilities, storm drain improvements and channel improvements to protect existing and new developments.	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	
City of Warrenton: Assess and construct as needed, more storm water retention facilities, storm drain improvements and channel improvements to protect existing and new developments.	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	
City of Camak: Assess and construct as needed, more storm water retention facilities, storm drain	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	
City of Camak: Assess and construct as needed, more storm water retention facilities, storm drain improvements and channel improvements to protect existing and new developments.	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	
City of Norwood: Assess and construct as needed, more storm water retention facilities, storm drain improvements and channel improvements to protect existing and new developments.	X		X	X	X		X	X	X		X	X				X	X	X	X				X	X	
Warren County: Review set back requirements from top of banks of creeks and from top of banks major rivers.					X	X													X						
Warren County: Clear run-off and water retention ditches.	X		X	X	X		X	X	X		X	X				X	X		X				X	X	

STAPLEE Criteria	S		T		A		P		L		E			E											
	(Social)		(Technical)		(Administrative)		(Political)		(Legal)		(Economic)		(Environmental)												
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws	Alternative Actions	Comments
City of Warrenton: Clear run-off and water retention ditches.	X		X	X	X		X	X	X		X	X				X	X		X			X	X		
City of Camak: Clear run-off and water retention ditches.	X		X	X	X		X	X	X		X	X				X	X		X			X	X		
City of Norwood: Clear run-off and water retention ditches.	X		X	X	X		X	X	X		X	X				X	X		X			X	X		
Warren County: Install flood alarms and measuring devices in creeks, ponds, etc. to provide a warning when water levels become dangerously high.																									
Warren County: Determine the elevation of all critical facilities in known flood areas and mitigate if necessary.																									completed
City of Warrenton: Determines the elevation of all critical facilities in known flood areas and mitigate if necessary.																									completed
City of Camak: Determines the elevation of all critical facilities in known flood areas and mitigate if necessary.																									completed
City of Norwood: Determines the elevation of all critical facilities in known flood areas and mitigate if necessary.																									completed
Warren County: Identify and move property owners located in areas continually subject to flooding.															x	x	x	x							
City of Warrenton: Identify and move property owners located in areas continually subject to flooding.															x	x	x	x							
City of Camak: Identify and move property owners who are in areas continually subject to flooding.															x	x	x	x							
City of Norwood: Identify and move property owners who are in areas continually subject to flooding.															x	x	x	x							
Warren County: Review existing comprehensive, development and land use plans to address flood prone areas.																									completed
City of Warrenton: Review existing comprehensive, development and land use plans to address flood prone areas.																									completed
City of Camak: Review existing comprehensive, development and land use plans to address flood prone areas.																									completed
City of Norwood: Review existing comprehensive, development and land use plans to address flood prone areas.																									completed
Warren County: Adopt ordinances to control building and development in known flood prone areas.																									completed
City of Warrenton: Adopt ordinances to control building and development in known flood prone areas.																									completed
City of Camak: Adopt ordinances to control building and development in known flood prone areas.																									completed
City of Norwood: Adopt ordinances to control building and development in known flood prone areas.																									
Warren County: Promote the preservation of areas in and around watercourses.	x			x	x								x		x		x		x				x	x	
Warren County: Add greenspace to known flood				x	x								x		x		x		x				x	x	
Warren County: Acquire flood prone properties and converts to low impact uses such as recreation areas.		x	x	x									x	x	x		x	x						x	

STAPLEE Criteria	S		T		A		P		L		E		E														
	(Social)		(Technical)		(Administrative)		(Political)		(Legal)		(Economic)		(Environmental)														
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws	Alternative Actions	Comments		
City of Warrenton: Acquire flood prone properties and converts to low impact uses such as recreation areas.	x	x	x									x	x	x		x	x							x			
Warren County: Cap wells not in use and increase wellhead waterproofing.						x																					
Warren County: Ensure well head elevations are above known flooding levels.						x																					
Warren County: Evaluate existing water systems																										does not have a water system remove.	
City of Warrenton: Evaluate existing water systems.			x	x	x		x	x		x		x		x	x	x	x	x					x				
City of Camak: Evaluate existing water systems.			x	x	x		x	x		x		x		x	x	x	x	x					x				
City of Norwood: Evaluate existing water systems.			x	x	x		x	x		x		x		x	x	x	x	x					x				
Warren County: investigate methods to reduce nonpoint source pollution.																											
DAM FAILURE																											
Warren County: Draft ordinance prohibiting development in dam breach zone.						x																					
Warren County: Perform field survey including dams, spillways, downstream cross section, and downstream structures within dam breach zone.															x	x	x	x									
Warren County: Install dam failure alert systems.															x	x	x	x									
Warren County: Update inventory of dams, record GPS coordinates, and conduct initial assessment of dam safety.											x				x	x	x	x								remove state function	
Warren County: Inspect all dams and document any deficiencies to include taking photographs, taking field checklist of key items, measurements, and fill out a visual inspection											x															remove state function	
DROUGHT																											
Warren County to include the Cities of Warrenton, Camak and Norwood: Identify and inventory all vulnerable livestock and develops a protective action plan agricultural properties to include																										completed	
Warren County: Study the range of federal support programs available to assist Warren County's agriculture community.																											
Warren County: Promote increased surface water usage and surface artesian flow for irrigation.																										good action but hard to promote	
Warren County: Conduct a study of proactive measures for Warren County's agriculture to include livestock watering ponds and capturing storm water runoff.	x		x	x					x		x																
Warren County: Seek funding for private wells that have gone dry.																										removed no fnding	

STAPLEE Criteria	S		T		A		P		L		E			E											
	(Social)		(Technical)		(Administrative)		(Political)		(Legal)		(Economic)			(Environmental)											
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws	Alternative Actions	Comments
WINTER STORMS																									
Warren County: Inventory and assess generator needs at critical facilities and install generators where needed.	x					x					x				x	x		x							
City of Warrenton: Inventory and assess generator needs at all city critical facilities and install generators where needed.	x					x					x				x	x		x							
City of Camak: Inventory and assess generator needs at all city critical facilities and install generators where needed.	x					x					x				x	x		x							
City of Norwood: Inventory and assess generator needs at all city critical facilities and install generators where needed.	x					x					x				x	x		x							
Warren County: Place all utility lines underground in new subdivisions.						x																			
City of Warrenton: Place all utility lines underground in new subdivisions.						x																			
Warren County: Inspect power lines to determine if trees need to be trimmed or cut down.																									removed performed by electric co.
City of Warrenton: Inspect power lines to determine if trees need to be trimmed or cut down.																									removed performed by electric co.
City of Camak: Inspect power lines to determine if trees need to be trimmed or cut down.																									removed performed by electric co.
City of Norwood: Inspect power lines to determine if trees need to be trimmed or cut down.																									removed performed by electric co.
Warren County and the Cities of Warrenton, Camak and Norwood: Seek funding for a reverse 911 or Voice-Over-Internet Protocol system.																									
Warren County: Implement a winter storm education program to include winterization of home and/or business and what to do before, during and after the winter storm event to include City of Warrenton, Camak and Norwood.	x					x					x				x										removed obsolete technology

Facility Name

Location

Longitude

Latitude

Location Method:

Geocode GPS
 GPS-closed GPS - dnr
 Manual add

Address 1:

Address 2:
(PO BOX)

City:

Zip:

Jurisdiction:

Daytime Occupancy:

Night Occupancy:

Building Value

Number of Stories:

Functional Use Value:

Year Constructed:

Displacement Cost Per Day:

Area Sq Ft:

Contents Value:

Bldg Value:

Contents Value Year:

Valuation Year:

Contents Description:

Building Valuation Type:

0 = Unknown

1 = Market Value

2 = Assessed Value

3 = Replacement Value

99 = Other

*Mark any or all that apply. See back of page for details.

- Essential Facility
 - Transportation Facility
 - Lifeline System
 - High Potential Loss
 - HazMat Facility
 - Important Facility
 - Vulnerable Population
 - Economic Asset
 - Special Consideration
 - Historical Consideration
 - Other Facility
- Other Details:
-

See back of page for codes.

Building Type Code:

Occupancy Code:

*Choose Only One Facility Type

Facility Type:

- Pre-kindergarten
- Kindergarten
- Primary School
- Elementary School
- Middle School
- Middle/High School
- High School, Public
- Private School
- Other School
- Alternative Division
- Alternative School
- Private Two-Year College
- Private Four-Year College
- Public Four-Year College
- Private University
- Public University
- Public Vocational Technical School
- Psych/educational
- Adult Edu. Center
- Airport
- City Hall
- City Jail
- County Correctional Institution
- County Jail
- Courthouse
- Federal Penitentiary
- Fire Station
- Wastewater Treatment Plant
- Water System
- C and D Construction and Demolition Landfill
- L (Dry Trash) Landfill
- MSWL (Municipal Solid Waste Landfill)
- SL (Sanitary Waste) Landfill
- Recycling Center
- Transfer Station
- Hospital, Admissions Entrance
- Hospital, Emergency Entrance
- Library
- Marshals Office
- Police Station
- Sheriffs Office
- Emergency Services
- State Prison
- Other

WARREN COUNTY HAZARD MITIGATION PLAN UPDATE

Documentation of Labor Match

NAME (Please Print): _____

ORGANIZATION: _____

DATE(S): _____

EVENT: Hazard Mitigation Plan Update

HOURLY SALARY: _____

BENEFITS PER HOUR: _____

HOURS CONTRIBUTED (Include travel time): _____

TOTAL LABOR MATCH: _____

(Hourly Salary + Benefits Per Hour) X Hours Contributed = Total Labor Match

SIGNATURE: _____

(FORM IS NOT VALID WITHOUT SIGNATURE)

"I authorize GEMA/HS to use the value identified for federal costs sharing matching purposes and do not otherwise believe that I am currently paid with federal funds or that my salary is being used to satisfy any other federal costs sharing obligation."

For use by Committee Members (e.g. EMA Director, County Engineer ...)

Building Type Code:

- C1 = Concrete Moment Frame
- C2 = Concrete Shear Walls
- C3 = Concrete Frame with Unreinforced Masonry Infill Walls
- MH = Manufactured Housings
- O = Other Building Type
- P1 = Precast Concrete Tilt-Up Walls
- P2 = Precast Concrete Frames with Cast-in-Place Concrete Shear Walls
- RM1 = Reinforced Masonry Bearing Walls with Wood or Metal Deck Diaphragms
- RM2 = Reinforced Masonry Bearing Walls with Precast Concrete Diaphragms
 - S1 = Steel Moment Frame
 - S2 = Steel Braced Frame
 - S3 = Steel Light Frame
 - S4 = Steel Frame with Cast-in-Place Concrete Shear Walls
 - S5 = Steel Frame with Unreinforced Masonry Infill Walls
 - URM = Unreinforced Masonry Bearing Walls
 - UNK = Unknown Building Type

Occupancy Code:

- AGR1 = Agriculture Facilities and Offices
- COM1 = Retail Trade
- COM2 = Wholesale Trade
- COM3 = Personal and Repair Services
- COM4 = Professional/Technical Services
- COM5 = Banks
- COM6 = Hospital
- COM7 = Medical Office and Clinic
- COM8 = Entertainment, Recreation
- COM9 = Theaters
- COM10 = Parking Garages
- EDU1 = Grade Schools and Admin. Offices
- EDU2 = Colleges and Universities
- GOV1 = Government - General Services
- GOV2 = Government - Emergency Response
- UNK = Unknown
- IND1 = Heavy Industrial
- IND2 = Light Industrial
- IND3 = Food/Drugs/Chemicals
- IND4 = Metals/Minerals Processing
- IND5 = High Technology
- IND6 = Construction Facilities and Offices
- REL1 = Churches and Non-Profit Organizations
- RES1 = Single Family Dwellings
- RES2 = Manufactured Housing
- RES3A = Duplex
- RES3B = 3 to 4 Units
- RES3C = 5 to 9 Units
- RES3D = 10 to 19 Units
- RES3E = 20 to 49 Units
- RES3F = > 50 Units
- RES4 = Temporary Lodging
- RES5 = Institutional Dormitories
- RES6 = Nursing Homes

Definitions:

Essential Facility
An essential facility is a critical facility that is essential to the health and welfare of the population. The potential consequences of losing functions or services from this type of facility are higher than any other type of structures. Interruption or loss of function from these types of facilities would jeopardize human life and public safety. Essential facilities include: hospitals and other medical facilities, police and fire stations, emergency operations centers, evacuation shelters and schools, and other structures that house first responder equipment or personnel.

Transportation Systems
Transportation infrastructure or facilities. Examples include: Airways: airports, heliports, Highways: bridges, tunnels, roadbeds, overpasses, transfer stations. Railways: tracks, tunnels, bridges, rail yards, depots, switching stations. Waterways: canals, locks, ports, ferries, dry-docks, piers.

Lifeline System
Corridors of flow for equipment, supplies and services. Transportation systems can also be Lifeline Systems. The best physical example of a lifeline would be a bridge and right-of-way that could include utilities and communication. Examples include: potable water, wastewater, oil, natural gas, electric power, and communication.

High Potential Loss Facility

Facilities that would have a high human loss associated with their damage or failure. Examples include: nuclear power plants, dams and military installations.

Hazardous Materials Facility

Facilities that produce or house industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins. Check to see if your county has a Local Emergency Planning Committee (LEPC) and an existing Hazardous Material listing.

Important Facility

These types of facilities are vital for overall day to day community functions, and ensure full recovery in the wake of a hazard or disaster event. Examples include: government buildings and functions, major employers in the area, bank and financial institutions, non-nuclear power generators, certain commercial establishments such as grocery stores, hardware stores and gas stations, technical schools, colleges, and universities.

Vulnerable Population

Is there a vulnerable human population that occupies the structure that would need special assistance, medical care or other actions before, during or after a hazard event or disaster? Examples include: elderly people, jail populations, people with mental, physical or mobility problems, and non-English speaking populations.

Economic Assets

Larger economic assets that are vital to the prosperity of the community. Examples include major employers and financial centers in your community or area that impact the local or regional economy if significantly disrupted.

Special Considerations

High-density areas (residential or commercial development), if damaged or impacted in a hazard event or disaster, could result in high death tolls or injury rates. Examples include: larger factories or industries, large vertical apartment or housing complexes.

Historic Considerations

Historic, cultural or natural resources, including structures and areas that are identified and protected under state or federal law. Examples include: state parks, federal parks, museums and historic districts.

Other Facilities

Any other significant locally identified facility that does not fit into another category of those listed above.

Comments:

APPENDIX E

**COPIES OF REQUIRED PLANNING
DOUCMENTATIONS**

warrencountyleader@gmail.com

POSTAL SERVICE MAIL PERMIT NO. 7 WARREN COUNTY, GA 30781

Public Meeting

Warren County Pre-Disaster Hazard Mitigation Plan Update

Warren County will begin its five-year update of the FEMA approved Pre-Disaster Hazard Mitigation Plan. As part of the planning process, Warren County is holding a public meeting on October 27, 2021 at 10:00 am at the Warren County Community Services building located at 48 Warren Street, Warrenton, GA. Civic organizations, local businesses, and citizens of Warren County are encouraged to attend. The purpose of the meeting will be to outline the planning process and gather public input. Please contact EMA Director Crystal Ladouiser at 706-465-3358 if you have any questions.

Warren County is committed to providing all persons with equal access to its services, programs, activities, education, and employment regardless of race, color, national origin, religion, sex, familial status, disability, or age. Persons with special needs relating to handicapped accessibility or foreign language shall contact Porsha Johnson, County Clerk, at 706-465-2171 prior to October 27th. This person can be located at 521 Main Street, Warrenton, GA between the hours of 8:00 am – 5:00 pm Monday through Friday, except holidays. Persons with hearing disabilities contact the Georgia Relay Services at (TDD) 1-800-

Warren County Take-Off Menu

- | | |
|------------------------|---------|
| Maccaroni & Cheese | Apples |
| Broccoli Casserole | Beets |
| Sweet Potatoes | Corn |
| Green Beans | Pears |
| Fried Okra | Squash |
| Baby Limas | Turnips |
| Biscuits or Cornsticks | |

Side Orders & Desserts Are Homemade

- | | |
|------------------------|---------------------|
| Grilled Pimento Cheese | Homemade Desserts - |
| Grilled Cheese | Pies |
| BLT | Cakes |
| Hamburgers | Cobblers |
| Cheeseburgers | |

Menu Available Starting At 5:00 A.M.

Warren County Restaurant Menu Items

11 a.m.-1:30 p.m.; Sat. 5:00-9:45 a.m.; Sun. 10 a.m. to 2 p.m.

Phone: 706-465-3882

**WARREN COUNTY PDM PLANNING TEAM MEETING #1
WEDNESDAY, OCTOBER 27, 2021 AT 10:00 AM**

NAME	TITLE and AGENCY	EMAIL
1. Crystal Ladoucier	EMA Director - Warren County	Crystal@warrencountyga.gov
2. Jacob Neville	EMA Assistant - Warren County	Jacob@warrencountyga.gov
3. Jonathan Doss	Captain - Warren County	JRDoss84@gmail.com
4. Ollivette Long	DFCS County Director - Warren Cty	ollivette.long@dhs.ga.gov
5. Mary Ann Moseley	City of Warrenton City Clerk/Admin	MMoseley@warrentonga.gov
6. Ron Sellers	City of Warrenton Police Department	rsellers@warrentonga.gov
7. Wayne Parham	publisher / m. Duffe Progress	wparham@meduffeprogress.com
8. JAMES YELTON	WARREN CO. EMA	JYELTON40@GMAIL.COM
9. Jammie Smith	Warren County Sheriff's Office	Jammie@warrencountyga.com
10.		
11.		
12.		
13.		

ore! • Help Us Raise Money To Restore The Knox! • March 11th 5pm-9pm At The Knox Theatre!



[Home](#) [Chamber](#) [Downtown](#) [Explore](#) [Development](#)
[Government](#) [Volunteer](#) [Connect](#)

News

Warren County Pre- Disaster Hazard

Author

**Warren County
Chamber**

46 South Norwood



Mitigation Plan Update

10/18/2021

0 Comments

Street
Warrenton, GA 30828

Archives

- October 2021
- September 2021
- August 2021

Categories

All

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Public Meeting

Warren County Pre-Disaster Hazard Mitigation Plan Update

Warren County will begin its five-year update of the FEMA approved Pre-Disaster Hazard Mitigation Plan. As part of the planning process, Warren County is holding a public meeting on October 27, 2021 at 10:00 am at the Warren County Community Services building located at 48 Warren Street, Warrenton, GA. Civic organizations, local businesses, and citizens of Warren County are encouraged to attend. The purpose of the meeting will be to outline the planning process and gather public input. Please contact EMA Director Crystal Ladouiser at 706-465-3358 if you have any questions.

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0 Comments

Leave a Reply.



Name (required)

Email (not published)

Website

Comments (required)

Notify me of new comments to this post by email

Submit



Organizations

Quick Links

Market on Main

Contact us

Get contact information for the



Website is home to the Warren County Chamber of Commerce, Hometown Warrenton, Warren County Development Authority, and Warren County Government.

Warren County Chamber of Commerce
Hometown Warrenton, Inc.
Warren County Development Authority
Warren County Board of Commissioners

Community Calendar
Join the Chamber
Public Notices

organization or government department by clicking here.



© Warren County Chamber of Commerce, 2021



WARREN COUNTY LEADER

Affidavit of Publication of Newspaper

Public Notice

The State of Georgia

County of Warren

Before me, the undersigned authority, on this day personally appeared *Karen OByrne*, an agent of WARREN COUNTY LEADER, who being by me duly sworn upon oath and says: That the attached NOTICE was published in WARREN COUNTY LEADER, a newspaper of general circulation in the town of Warrenton, County of Warren, Georgia in the following issue(s): *1/13/22*, 2022, and that the attached newspaper clipping is a true and correct copy of said published notice.

Signed: *[Signature]*

Sworn to and subscribed before me, this the *31* day of *January*, 2022

Notary Public

Angel Jeffcoat
Exp: October 29, 2029

Warren County Pre Disaster Hazard Mitigation Planning Meeting #2
Warren County has begun its five-year update to the FEMA approved Pre-Disaster Hazard Mitigation Plan. As part of the planning process, Warren County is holding its second public meeting on January 19, 2022, at 10:00 am at the Warren County Community Services building located at 48 Warren Street, Warrenton, GA. Civic organizations, local businesses, and citizens of Warren County, as well as the cities of Warrenton, Camak, and Norwood are encouraged to attend. Feel free to forward this email to anyone you believe may be interested. The purpose of the hearing will be to outline the planning process and gather public input. Please contact EMA Director Crystal Ladousier at 706-465-3358 if you have any questions. WCL 1X1/13/22



From: [Michael Kimball](#)
To: [Crystal Ladousier \(crystal@warrencountyga.gov\)](#)
Cc: [Kimberly Angel](#)
Bcc: [abrett@jeffersoncountyga.gov](#); [Angela Barrow \(cityofedgehill@gmail.com\)](#); [Blake Thompson \(bthompson@wilkescountyems.com\)](#); [Brett Cook \(bcook@harlemga.org\)](#); [Casey Broom \(cbroom@lincolncountyga.com\)](#); [City of Augusta \(city.administrator@augustaga.gov\)](#); [City of Avera \(averacityof@bellsouth.net\)](#); [City of Crawfordville \(cityhall3063@nu-z.net\)](#); [City of Gibson \(cityofgibson3900@bellsouth.net\)](#); [City of Grovetown \(clerk@grovetownga.us\)](#); [City of Hephzibah \(cityofhephzibah@bellsouth.net\)](#); [City of Lincoln \(citylinc@nu-z.net\)](#); [City of Midville \(cityofmidville@pineland.net\)](#); [City of Norwood \(mccord32659@bellsouth.net\)](#); [City of Rayle \(jchols72@aol.com\)](#); [City of Sardis \(cityofsardis@att.net\)](#); [City of Sparta \(spartacity@bellsouth.net\)](#); [City of Tennesse \(tennillecityclerk@gmail.com\)](#); [City of Tignall \(cityoftignall@nu-z.net\)](#); [City of Vidette \(cityofvidette@gmail.com\)](#); [City of Warrenton \(cityofw1@bellsouth.net\)](#); [Daniel Thomas \(dwthomasj12@aol.com\)](#); [Darrell Adams \(dakotachico@nu-z.net\)](#); [David Crawley - McDuffie County BOC \(dcrawley@thomson-mcduffie.net\)](#); [Debbie Moore \(dmoore@harlemga.org\)](#); [Divenskil@yahoo.com](#); [Don Powers - City of Thomson \(Don.Powers@thomson-mcduffie.net\)](#); [Dorenda Smith \(deepstep@outlook.com\)](#); [Dustin Peebles \(dspeebles@washingtoncountyga.gov\)](#); [Elaine Matthews \(ematthews@cityofgrovetown.com\)](#); [Glascock County \(glascockboc@classicssouth.net\)](#); [Grady Saxon \(gsaxon01@yahoo.com\)](#); [Hancock County \(countyclerk@hancockcountyga.gov\)](#); [Harold Moore \(haroldmoore75@gmail.com\)](#); [J Waller \(jwaller@cityofgrovetown.com\)](#); [Jeff Brantley \(jbrantley@cityofmillenga.gov\)](#); [Jerome Alexander \(jerome.alex1964@gmail.com\)](#); [Jerry Coalson \(jcoalson@waynesboroga.com\)](#); [Jerry Henry \(jhen5@att.net\)](#); [Jim Anderson \(janderson@jeffersoncountyga.gov\)](#); [John Graham - Warren County Board of Commission \(john@warrencountyga.gov\)](#); [Judy McCorkle \(jmccorkle@sandersville.net\)](#); [Ken Westbrook \(westbrookken@yahoo.com\)](#); [Lori Boyen - Glascock County Board of Commissioners \(lboyen@glascockcountyga.com\)](#); [Loriann Chancey \(cityofblythe@comcast.net\)](#); [Margaret Pinion; Mario Chapple \(mariochapple@yahoo.com\)](#); [Meschery Pollard \(ckeysville@aol.com\)](#); [Mie Lucas \(dlucas@augustaga.gov\)](#); [Mike Lyons \(ema@glascockcountyga.com\)](#); [Phillip Steward \(blythesmayor@gmail.com\)](#); [Regina Freeman \(cityofcoonee@NLAmerica.com\)](#); [Renee Brown \(reneeparzenbrown@yahoo.com\)](#); [Richard Sapp \(richard-sapp@att.net\)](#); [Robert Fields \(rfields@jchs.com\)](#); [Rosemary Baughman \(dhbdhb3610@gmail.com\)](#); [Roxanne Ashmore \(rbashmore@lincolncountyga.com\)](#); [Russell Riner \(EMA@washingtoncountyga.gov\)](#); [Sara Simmons \(mitchelltownof@bellsouth.net\)](#); [Scott Johnson \(sjohnson@columbiacountyga.gov\)](#); [Sean Kelley \(kbprintinc@gmail.com\)](#); [Shawn Granato \(sgranato@columbiacountyga.gov\)](#); [Sherri Bailey \(sbailey@washingtonwilkes.org\)](#); [Sistie Hudson \(sistiehudson@aol.com\)](#); [Stephen Sewel \(Stephen.Sewell@thomson-mcduffie.net\)](#); [Steve Matthews \(smathews@burkecounty-ga.gov\)](#); [Town of Bartow \(townbartow@hotmail.com\)](#); [Town of Davisboro \(dboroclerk@pineland.net\)](#); [Town of Dearing \(townofdearing@bellsouth.net\)](#); [Town of Girard \(kreddick.townofgirard@gmail.com\)](#); [Town of Harrison \(townofharrison@bellsouth.net\)](#)

Subject: Warren County Pre Disaster hazard Mitigation Planning Meeting #2
Date: Tuesday, January 11, 2022 8:27:00 AM

Good morning,

Warren County is holding their second meeting to update their Pre-Disaster Mitigation Plan (PDM). FEMA requires the plan to be updated every five years. One of the plan requirements is to invite neighboring communities to provide input into the planning process. The Warren County PDM Committee would like to extend an invitation to your agency to participate. Warren County is holding a public meeting January 19, 2022 at 10:00 am. The meeting will be located at the Warren County Community Services Building located at 48 Warren Street, Warrenton, GA. Please contact Warren County EMA Director Crystal Ladousier at 706-465-3358 with any questions.

Michael Kimball

Disaster Relief Coordinator

CSRA Regional Commission

362g Walton Way Ext., Suite 300

Augusta, GA 30909

Phone: 985-259-5874 (cell)

From: [Michael Kimball](#)
To: [Crystal Ladousier \(crystal@warrencountyga.gov\)](#)
Cc: [Kimberly Angel](#)
Bcc: [Alen Troy](#); [Alex Lowe](#); [Andy O"Byrne](#); [Christpoher Harris](#); [Crystal Ladousier \(crystal@warrencountyga.gov\)](#); [Felicia Grant](#); [Gwendolyn Tucker](#); [Jacob \(jacob@warrencountyga.gov\)](#); [James Yelton - Warren County EMA \(jyelton40@gmail.com\)](#); [Joe Peebles \(sheriff@warrencountyga.gov\)](#); [John Graham - Warren County Board of Commission \(john@warrencountyga.gov\)](#); [Jonathan Doss](#); [Joy Langley](#); [Lonnie Drake](#); [Marc Peebles](#); [Margaret Pinion](#); [Mary Ann Moseley \(mmoseley@warrentonga.gov\)](#); [Michael Thigpen \(planning@warrencountyga.gov\)](#); [Michelle Powers](#); [Ollivette Long](#); [Pamela McCord](#); [Particia Allen](#); [Pat Rogers \(warrentonwater@gmail.com\)](#); [Patricia Walker](#); [Paul Lowe](#); [Rob Moore](#); [Ron Sellers](#); [Tiffany Lott](#)
Subject: Warren County Pre Disaster Hazard Mitigation Planning Meeting #2
Date: Tuesday, January 11, 2022 8:08:00 AM

Good morning,

Warren County has begun its five-year update to the FEMA approved Pre-Disaster Hazard Mitigation Plan. As part of the planning process, Warren County is holding its second public meeting on January 19, 2022, at 10:00 am at the Warren County Community Services building located at 48 Warren Street, Warrenton, GA. Civic organizations, local businesses, and citizens of Warren County, as well as the cities of Warrenton, Camak, and Norwood are encouraged to attend. Feel free to forward this email to anyone you believe may be interested. The purpose of the hearing will be to outline the planning process and gather public input. Please contact EMA Director Crystal Ladousier at 706-465-3358 if you have any questions. See you there.

Michael Kimball

Disaster Relief Coordinator

CSRA Regional Commission
362g Walton Way Ext., Suite 300
Augusta, GA 30909
Phone: 985-259-5874 (cell)

WARREN COUNTY PDM PLANNING TEAM MEETING #2
WEDNESDAY, JANUARY 19, 2022 AT 10:00 AM

NAME	TITLE and AGENCY	EMAIL
1. JAMES YELTON	WARREN CO EMA	JYELTON40@GMAIL.COM
2. Crystal Ladourier	Warren Co. EMA	crystal@warrencountyga.gov
3. Jonathan Doss	Warren Co. Emergency Services	Jonathan@warrencountyga.gov
4. Jacob Neville	Warren Co. EMA	Jacob@warrencountyga.gov
5. Patricia Hamsch	American Legion Post 96	hamschp@bellsouth.net
6. Jammie Smith	Warren County Sheriff	Jammie@warrencountyga.gov
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From: [Michael Kimball](mailto:Michael.Kimball@warrencountyga.gov)
To: [Crystal Ladousier \(crystal@warrencountyga.gov\)](mailto:Crystal.Ladousier@warrencountyga.gov)
Bcc: ajensen@augustaga.gov; [Alvin Burke \(alvinburke@jenkinscountyga.gov\)](mailto:alvinburke@jenkinscountyga.gov); [Blake Thompson \(bthompson@wilkescountyems.com\)](mailto:Blake.Thompson@wilkescountyems.com); [Casey Broom \(cbroom@lincolncountyga.com\)](mailto:Casey.Broom@lincolncountyga.com); [Crystal Ladousier \(crystal@warrencountyga.gov\)](mailto:Crystal.Ladousier@warrencountyga.gov); [David Foot \(davidfootcema@yahoo.com\)](mailto:David.Foot@davidfootcema@yahoo.com); [Jim Anderson \(janderson@jeffersoncountyga.gov\)](mailto:Jim.Anderson@jeffersoncountyga.gov); [Mario Chapple \(mariochapple@yahoo.com\)](mailto:Mario.Chapple@mariochapple@yahoo.com); [Mike Lyons \(ema@glascockcountyga.com\)](mailto:Mike.Lyons@ema@glascockcountyga.com); [Russell Riner \(EMA@washingtoncountyga.gov\)](mailto:Russell.Riner@ema@washingtoncountyga.gov); [Shawn Granato \(sgranato@columbiacountyga.gov\)](mailto:Shawn.Granato@sgranato@columbiacountyga.gov); [Stephen Sewel \(Stephen.Sewell@thomson-mcduffie.net\)](mailto:Stephen.Sewell@thomson-mcduffie.net); [Steve Matthews \(smathews@burkecounty-ga.gov\)](mailto:Steve.Matthews@burkecounty-ga.gov)
Subject: Warren County Pre-Disaster Hazard Mitigation Plan
Date: Tuesday, August 23, 2022 11:28:00 AM

Good morning,

Warren County is holding their third meeting to update their Pre-Disaster Mitigation Plan (PDM). One of the plan requirements is to invite neighboring communities to provide input into the planning process. The Warren County PDM Committee would like to extend an invitation to your agency to participate. Warren County is holding a public meeting August 31, 2022, at 10:00 am. The meeting will be located at the Warren County Community Services Building located at 48 Warren Street, Warrenton, GA. Please contact Warren County EMA Director Crystal Ladousier at 706-465-3358 with any questions.

Michael Kimball

Economic Development Coordinator

CSRA Regional Commission
3626 Walton Way Ext., Suite 300
Augusta, GA 30909
Phone: 985-259-5874 (cell)

From: [Michael Kimball](mailto:Michael.Kimball@warrencountyga.gov)
To: [Crystal Ladousier \(crystal@warrencountyga.gov\)](mailto:Crystal.Ladousier@warrencountyga.gov)
Bcc: [Alen Troy](mailto:Alen.Troy@warrencountyga.gov); [Alex Lowe](mailto:Alex.Lowe@warrencountyga.gov); [Andy O"Byrne](mailto:Andy.OByrne@warrencountyga.gov); [Christopher Harris](mailto:Christopher.Harris@warrencountyga.gov); [Crystal Ladousier \(crystal@warrencountyga.gov\)](mailto:Crystal.Ladousier@warrencountyga.gov); [Felicia Grant](mailto:Felicia.Grant@warrencountyga.gov); [Gwendolyn Tucker](mailto:Gwendolyn.Tucker@warrencountyga.gov); [Jacob \(jacob@warrencountyga.gov\)](mailto:Jacob@warrencountyga.gov); [James Yelton - Warren County EMA \(jyelton40@gmail.com\)](mailto:James.Yelton@warrencountyga.gov); [Joe Peebles \(sheriff@warrencountyga.gov\)](mailto:Joe.Peebles@warrencountyga.gov); [John Graham - Warren County Board of Commission \(john@warrencountyga.gov\)](mailto:John.Graham@warrencountyga.gov); [Jonathan Doss](mailto:Jonathan.Doss@warrencountyga.gov); [Joy Langley](mailto:Joy.Langley@warrencountyga.gov); [Lonnie Drake](mailto:Lonnie.Drake@warrencountyga.gov); [Marc Peebles](mailto:Marc.Peebles@warrencountyga.gov); [Margaret Pinion](mailto:Margaret.Pinion@warrencountyga.gov); [Mary Ann Moseley \(mmoseley@warrentonga.gov\)](mailto:MaryAnn.Moseley@warrentonga.gov); [Michael Thigpen \(planning@warrencountyga.gov\)](mailto:Michael.Thigpen@warrencountyga.gov); [Michelle Powers](mailto:Michelle.Powers@warrencountyga.gov); [Ollivette Long](mailto:Ollivette.Long@warrencountyga.gov); [Pamela McCord](mailto:Pamela.McCord@warrencountyga.gov); [Particia Allen](mailto:Particia.Allen@warrencountyga.gov); [Pat Rogers \(warrentonwater@gmail.com\)](mailto:Pat.Rogers@warrentonwater@gmail.com); [Patricia Walker](mailto:Patricia.Walker@warrencountyga.gov); [Paul Lowe](mailto:Paul.Lowe@warrencountyga.gov); post96warrenton@gmail.com; [Rob Moore](mailto:Rob.Moore@warrencountyga.gov); [Ron Sellers](mailto:Ron.Sellers@warrencountyga.gov); [Tiffany Lott](mailto:Tiffany.Lott@warrencountyga.gov)
Subject: Warren County Pre-Disaster Hazard Plan
Date: Tuesday, August 23, 2022 11:26:00 AM

Good morning,

Warren County has begun its five-year update to the FEMA approved Pre-Disaster Hazard Mitigation Plan. As part of the planning process, Warren County is holding its third public meeting on August 31, 2022, at 10:00 am at the Warren County Community Services building located at 48 Warren Street, Warrenton, GA. Civic organizations, local businesses, and citizens of Warren County, as well as the cities of Warrenton, Camak, and Norwood are encouraged to attend. Feel free to forward this email to anyone you believe may be interested. The purpose of the hearing will be to outline the planning process and gather public input. Please contact EMA Director Crystal Ladousier at 706-465-3358 if you have any questions. See you there.

Michael Kimball

Economic Development Coordinator

CSRA Regional Commission
3626 Walton Way Ext., Suite 300
Augusta, GA 30909
Phone: 985-259-5874 (cell)

**WARREN COUNTY PDM PLANNING TEAM MEETING #1
WEDNESDAY, AUGUST 31, 2022, AT 10:00 AM**

NAME	TITLE and AGENCY	EMAIL
1. Crystal Ladousier	EMA Director Warren County	crystal@warrencountyga.gov
2. James Yelton	Deputy EMA Director Warren County	jy@jyelton40@gmail.com
3. Andrew Jensen	EMA, Deputy Director Augusta-Richmond County	ajensen@augustaga.gov
4. Lonnie M. Drake	Mayor of Norwood	Drake 7@BellSouth.net
5. MICHAEL THOMPSON	PLANNING COORD. ADMIN. WARREN COUNTY	PLANNING@WARRENCOUNTYGA.GOV
6. Jennie Smith	Warren County Sheriff's Office	Jennie@warrencountyga.gov
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