

Chapter 1 – Introduction to the Planning Process

Table 1.1 provides a brief description of each section in this chapter and a summary of the changes that have been made to the Toombs County Hazard Mitigation Plan.

| Chapter 1 Section | Updates to Section |
|--|--|
| I. Purpose and need of the plan, authority & statement of problem | <ul style="list-style-type: none"> Includes information regarding authority of federal and state regulations |
| II. Local methodology, brief description of plan update process, Participants in update process | <ul style="list-style-type: none"> Section updated to include list of participants, new participants, committee organization, and other planning mechanisms |
| III. Description of how each section of the original plan was reviewed and analyzed and whether it was revised | <ul style="list-style-type: none"> Section updated with narrative on plan development process |
| IV. Organization of the plan | <ul style="list-style-type: none"> Text revised, content updated from previous plan to reflect new template |
| V. Local Hazard, Risk, and Vulnerability (HRV) summary, local mitigation goals and objectives | <ul style="list-style-type: none"> Section revised to summarize updates to HRV, and local mitigation goals and objectives |
| VI. Multi-Jurisdictional special considerations (HRV, goals, special needs) | <ul style="list-style-type: none"> Updated to include multi-jurisdictional considerations |
| VII. Adoption, implementation, monitoring and evaluation (a general description of the processes) | <ul style="list-style-type: none"> Text revised, content updated from previous plan |
| VIII. Description of public participation in planning process | <ul style="list-style-type: none"> Section added to describe enhanced public notification procedures |
| IX. Community Data (demographics, census, commerce, history, etc.) | <ul style="list-style-type: none"> Updated to include current information |

Table 1.1: Overview of updates to Chapter 1: Introduction to the Planning Process

I. Purpose and Need of the Plan, Authority & Statement of Problem

The Toombs County Hazard Mitigation Plan is the official update to the plan submitted to and approved by the Federal Emergency Management Agency (FEMA) Region IV in July, 2008. The information that is contained within this document is intended to provide the framework for hazard mitigation goals and objectives that are to be implemented by the local governments within Toombs County. The intent of achieving the set goals and objectives is to reduce the risk and damage associated with the identified hazards. The

implementation of this plan is designed to better prepare Toombs County for these hazards and in doing so help ensure the safety of all of its residents.

The Hazard Mitigation Plan Update will meet the requirements of the Disaster Mitigation Act of 2000 Public Law 106-390, October 30, 2000, as stipulated in the Interim Final Rule 44 CFR 201.4 Standard State Plan criteria, published on February 26, 2002. Meeting these regulations will allow Toombs County to maintain eligibility and qualify for all federally declared disaster assistance, including certain types of Public Assistance and hazard mitigation grants available through the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended). These forms of assistance will further the county's ability to provide for the safety and well-being of its citizens.

The Toombs County Pre-Disaster Mitigation Plan was created through the combined efforts of the Toombs County Board of Commissioners and the Cities of Lyons, Santa Claus and Vidalia. With this plan, Toombs County is continuing its commitment to protecting the health, life, property, and overall well-being of its citizens. In order to meet these obligations the mitigation plan committee examined which natural disasters posed the greatest threat within the county and then outlining the potential steps that can be implemented in order to minimize the devastation that may occur. The individuals involved in the preparation of this plan feel that this plan accurately reflects the potential hazards faced by the county and outlines preemptive measures that address these areas. By identifying risks and areas of vulnerability the county will be able to make further preparations to minimize the impact of the hazards.

This document is intended to serve as a reference for elected officials and agency representatives who are responsible for making the critical decisions necessary to ensure the protection of the citizens of Toombs County. The updated Hazard Mitigation plan is to be utilized as a current guide for Toombs County and its' municipalities in order to implement future hazard policies, programs, and projects that adhere to the goals of the plan. In addition to the creation of preemptive measures designed to reduce the damage of a disaster, by meeting the mandated requirements the county enables itself to qualify for federal post-disaster assistance.

Authority:

The Disaster Mitigation Act of 2000 (DMA 2000)

In the past, federal legislation has provided funding for disaster relief, recovery, and some hazard mitigation planning. DMA 2000 is the latest legislation to improve the planning aspect of that process. The Act reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur. The Act establishes a pre-disaster hazard mitigation program and designates new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP). Section 322 of the Act identifies the new requirements for planning activities and increases the amount of HMGP funds available to states that have developed a comprehensive mitigation plan prior to disaster.

States and communities must have an approved mitigation plan in place prior to receiving post-disaster HMGP funds. Local mitigation plans must demonstrate that their proposed mitigation measures are based on a sound planning process that accounts for the risk to and the capabilities of the individual communities. To implement the new DMA 2000 requirements, the Federal Emergency Management Agency (FEMA) prepared an Interim Final Rule, published in the Federal Register on February 26, 2002 at 44 CFR Parts 201 and 206, which establishes planning and funding criteria for states and local communities. The Rule identifies criteria for detailed Hazard, Risk, and Vulnerability (HRV) assessments.

Failure to meet the new criteria will make state and local governments ineligible for Stafford Assistance, and thus forfeit certain types of emergency assistance. The following section describes the existing state planning initiatives and mitigation programs.

Georgia Planning Act

The Georgia General Assembly adopted the Georgia Planning Act in 1989 as a means to encourage better management of growth in previously developed and developing areas of the State while encouraging smart development in less prosperous areas. Although supporting development, the legislature still strives for the conservation and protection of natural and historic resources, protection and promotion of quality of life through proper land use planning, and protection of community facilities. The cornerstone of the coordinated planning program is the preparation of a long-range comprehensive plan by each local government. This plan is intended to highlight community goals and objectives as well as determine how the government proposes to achieve those goals and objectives. With the passage of the Georgia Planning Act of 1989, all of Georgia's 159 counties and 529 cities were designated "Qualified Local Governments". Each of these local governments must maintain their status in order to remain eligible for a range of state and federal assistance programs. Continuing efforts strive for integrating the local hazard mitigation planning with the local comprehensive planning process.

Erosion and Sedimentation Control

OCGA 12-7-1

The Georgia Erosion and Sedimentation Act requires that each county or municipality adopt a comprehensive ordinance establishing procedures governing land-disturbing activities based on the minimum requirements established by the act. The Erosion and Sedimentation Act is administered by the EPD of the Georgia DNR and local governments. Permits are required for specified land-disturbing activities, including the construction or modification of manufacturing facilities, construction activities, some activities related to transportation facilities, activities on marsh hammocks, and others.

River Corridor Protection

OCGA 12-2-1

The statute informally known as the Mountain and Corridor Protection Act authorizes DNR to develop minimum standards for the protection of river corridors (and mountains, watersheds, and wetlands) that can be adopted by local governments. The EPD

administers the act. All rivers in Georgia with an average annual flow of 400 cubic feet per second are covered by the act, except those within the jurisdiction of the Coastal Marshlands Protection Act. Some of the major provisions of the act include: requirements for a 100-foot vegetative buffer on both sides of rivers, consistency with the Georgia Erosion and Sedimentation Act, and local governments' identification of river corridors in land-use plans developed under their respective comprehensive planning acts.

The **Watershed and Flood Prevention Act**, PL 83-566, August 4, 1954 (16 U.S.C. 1001-1008) authorized the establishment of programs to aid in protecting the lives and property threatened by natural disasters related to watersheds (such as flooding and erosion). Prior to fiscal year 1996, separate programs addressed small watershed planning activities and cooperative river basin surveys and investigations. After the 1996 appropriations act, the activities specified under the Watershed and Flood Prevention Act were combined into the single program known as the Emergency Watershed Protection (EWP) program. The purpose of the EWP program is to assist federal, state, and local agencies and tribal governments to protect watersheds from damage caused by erosion, floodwater, and sediment as well as to conserve and develop water and land resources. Resource concerns addressed by the program include water quality, water conservation, wetland protection and restoration, water storage capacity, agricultural drought problems, rural development, municipal and industrial water needs, upstream flood damages, and water needs for wildlife and forest-based industries. Methods of planning and surveying addressed by the program include specific watershed plans, river basin surveys, flood hazard analyses, and floodplain management assistance. The purpose of the plans and surveys is to identify solutions that use land treatment and nonstructural measures to resolve resource problems.

Federal Hazard Mitigation Programs

Because GEMA administers federal hazard mitigation programs for Georgia, GEMA's planning process is inherently integrated into these federal programs, specifically the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation Program (PDM), the National Flood Insurance Program (NFIP), the Community Rating System (CRS), Flood Mitigation Assistance Program (FMA), the Map Modernization Project, Repetitive Flood Claims Program (RFC) and Severe Repetitive Loss Program (SRL). The Hazard Mitigation Grant Program (HMGP), authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration in order to reduce the loss of life and property due to hazard events and to enable the implementation of mitigation measures during the immediate recovery period.

The **Repetitive Flood Claims** (RFC) grant program was authorized by the Bunning-Bereuter- Blumenauer Flood Insurance Reform Act of 2004 (P.L. 108-264), which amended the National Flood Insurance Act (NFIA) of 1968 (42 U.S.C. 4001, et al). The RFC program provides funds to assist States and communities in reducing flood damages to insured properties that have had one or more claims to the National Flood Insurance (NFIP) Fund. RFC grants are to be awarded on a competitive basis and without reference

to state allocations, quotas, or other formula-based allocation of funds. Georgia has utilized project grants in the first two years of this program's existence to permanently mitigate NFIP insured structures through property acquisition.

II. **Local Methodology and Brief Description of the Plan Update Process**

The 2012 Toombs County Hazard Mitigation Plan Update process began with the development of a planning committee, which would provide input and guidance throughout the initiative. This committee consisted of representatives from the County, the Cities of Lyons, Santa Claus and Vidalia and other local and regional agencies. In order to ensure participation and meet federal requirements a list was compiled of local and regional individuals and organizations that were essential to the success of the plan. These individuals were invited to attend and participate in the planning process. This included sending a draft of portions of the plan to neighboring communities for their review and comments. (An example of this letter can be found in Appendix E)

Furthermore, the Toombs County Board of Commissioners contracted with the Heart of Georgia Altamaha Regional Commission to provide consultation, meeting facilitation, data collection and plan development services.

The Agencies represented in the Hazard Mitigation Update process included:

- Toombs County EMA
- Georgia Forestry Commission
- Toombs County Board of Education
- City of Vidalia Police Department
- City of Vidalia Fire Department
- City of Lyons Police Department
- City of Lyons City Council/City Administration
- City of Santa Claus Administration
- Toombs County Commission/County Administration
- Toombs County Sheriff's Office
- Toombs County University of Georgia Cooperative Extension Office
- Toombs/Montgomery County EMS
- Toombs County Department of Family and Children Services

- Southeastern Technical College
- Meadows Regional Medical Center
- Toombs County Health Department

(For a list of individuals participating please see the meeting “Sign In Sheets” located in Appendix E, I)

The plan update process consisted of holding monthly meetings to review the data that was collected and utilized in the 2008 plan, including hazard event data, original goals and objectives as well as other community profile data. In addition, various existing planning mechanisms were reviewed and incorporated into the plan. (A list can be found below) Employees and officials from the County, as well as the Cities of Lyons, Santa Claus and Vidalia worked outside of meetings to conduct the research necessary to determine what objectives had been reached and to verify the accuracy of the hazard data. Representatives from the Heart of Georgia Altamaha Regional Commission provided brief updates were given at several City Council Meetings in order to keep all council members and the public who attended those meetings informed on the progress being made. Updates were also provided at Toombs County Commission meeting. (For copies of agendas please view Appendix E, III) Since both of these monthly meetings are open to and attended by the public they gave multiple opportunities for comment on the process.

The Plan Update Process began with an initial public hearing on November 20th, 2012. Additionally, the public was also invited to participate in the draft review process prior to submission to GEMA and FEMA on **Insert date of send public hearing**. Both public meetings were advertised in the local newspaper. Copies of the draft were available from the County and the Cities of Lyons, Santa Claus and Vidalia as well as the office of the Heart of Georgia Altamaha Regional Commission. Public comments were also accepted by phone, email and written letter. All comments received were reviewed at the public hearing **(same date as above)**. Changes to the document were incorporated as recommended. Additionally, the public will be able to provide comments during the plan adoption process.

Record of Review

| Existing planning mechanisms | Reviewed? (Yes/No) | Method of use in Hazard Mitigation Plan |
|--|---------------------------|--|
| 2008 Comprehensive Plan (multi-jurisdictional) | Yes | Development trends, capability assessment, mitigation strategies |
| Local Emergency Operations Plan | Yes | Identifying hazards; Assessing vulnerabilities |
| Storm Water Management / 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 |
| State Hazard Mitigation Plan | Yes | Risk assessment |
| Land Use Maps | Yes | Assessing vulnerabilities; Development trends; Future growth |
| Critical Facilities Maps | Yes | Locations, Assessing Vulnerabilities |
| County Flood Plain Maps | Yes | Locations |
| 2012 Community Wildfire Protection Plan | Yes | Mitigation strategies, risk assessment |
| 2010 Flood Insurance Study | Yes | Mitigation Strategies, Risk Assessment |
| US Army Corps of Engineers: Dam Inventory Maps | Yes | Risk Assessment, Assessing Vulnerabilities |

III. Plan Review, Analysis and Revision

The contracted planner with the Heart of Georgia Altamaha Regional Commission had the primary responsibility for collecting updated information and presenting data to the committee. Formal meetings of the Plan Update Committee were held monthly. Throughout the update process, sections of the approved 2008 plan were provided to committee members as each respective issue was discussed. Additionally, the entire document was available at the Lyons, Santa Claus and Vidalia city hall and the County Courthouse for public review. Each chapter was reviewed chronologically with relevant data and information brought in for comparison and consideration by the committee. In addition, FEMA worksheets and supporting documents were used when possible. The committee made updates to the plan through group discussion and pragmatic decision making. Irregularly attending participants were kept informed with monthly emails containing minutes and relevant documents from the previous meeting.

In order to properly evaluate and update the “Hazard Identification and Risk Assessment” portion of the 2008 plan, data from the National Climatic Data Center and the Georgia Forestry Commission’s “Toombs County Community Wildfire Protection Plan” was presented to the committee. The committee then had an open discussion of the hazards and the threats they present to the county. The decision was made to include all nine hazards from the original plan. Additionally, to help assess the risk associated with each hazard a worksheet developed from the “FEMA Mitigation Plan Review Reference Manual” was used. The worksheet asked committee members to rate each hazard based upon several characteristics; Historical Occurrence, Probability, Vulnerability, Maximum Threat, Severity of Impact, and Speed of Onset. (Appendix E, I) These ratings provided and detailed assessment and a prioritization of each hazard. In addition, current critical facility location data was reviewed for accuracy and updated as needed.

This involved the update committee reviewing the addresses of the facilities and verifying their locations using GIS Software.

In order to update the Goals, Objectives and Action Plans included in the 2008 plan each was individually assessed on whether efforts had been made in the last five years to accomplish it. This allowed the committee to get an accurate understanding of what had been achieved since the adoption of the 2008 plan and make decisions on what should be included in the 2013 plan. Decisions to add or delete portions of this section were made through small group discussion and committee recommendations. The “Plan Integration and Maintenance” section was also reviewed in a similar manner with several changes being made to the system used for the 2008 plan.

Each section of the 2008 plan has been revised to some degree. Therefore, the first section of each chapter will list those changes in a tabular format.

IV. Organization of the Plan

The Hazard Mitigation Plan Update is organized to incorporate the requirements listed in the Interim Final Rule 44 CFR 201.4 Standard State Plan criteria in several chapters. This chapter includes an overview of the plan update document, an overview of the various state and federal authorizing authorities, information detailing the planning process the goals of the plan, multi-jurisdictional special considerations, the public participation involved in the process and a brief background of the community in order to be in complete compliance with Interim Final Rule 44 CFR 201.4(c)(1).

Chapter 2 identifies current hazards, outlines the history of hazards in terms of events and losses, assesses each jurisdiction’s risks and vulnerabilities, and changes in development related to hazard vulnerability, as stipulated by Interim Final Rule 44 CFR 201.4(c)(2).

Chapter 3 outlines the county and city’s mitigation strategy, including changes in priorities, a capability assessment, the impact of existing policies, regulations, and community factors, hazard mitigation goals and objectives, mitigation actions and activities and specific contributions, funding sources, and changes in action steps as stipulated by Interim Final Rule 44 CFR 201.4(c)(3).

Chapter 4 outlines the process of plan integration and maintenance, including how the plan will be incorporated into other planning mechanisms, strategies for monitoring the implementation of mitigation efforts, the methods and schedule of updates, and reviewing progress of achieving the goals outlined in Chapter Four, as well as a description of approaches used to encourage public involvement as stipulated by Interim Final Rule 44 CFR 201.4(c) (4).

Finally, the Appendices provide reference material used for the update process.

The summary of changes is included in the overview section of every chapter as a table that details each section and the changes that have occurred within the section since the last approval (2008).

V. Local Hazard, Risk, and Vulnerability (HRV) Summary

The Toombs County local risk assessment was accomplished by compiling data on the hazards that could affect the county and its residents, profiling these past hazard events, and then assessing the community's vulnerability to these hazards. The Toombs County Hazard Mitigation Plan Update Committee accomplished the risk assessment by conducting the following steps:

- (1) Hazard Identification
- (2) Hazard Event Profiling
- (3) Vulnerability Assessment
- (4) Potential Loss Estimates

(1) Hazard Identification: Maps and historical data sources were studied and reviewed in order to identify the geographic extent, intensity, and probability of occurrence for various hazard events. FEMA Worksheet #1 (Identify the Hazard) was used in this process. A copy of this worksheet is provided in Appendix D, III.

The Toombs County Hazard Mitigation Plan Update addresses the following hazards considered by committee members to pose the most threat to the residents, property and economy of Toombs County:

- Thunderstorm/Windstorm
- Wildfire
- Tornado
- Flooding
- Drought
- Winter Storm
- Hailstorms
- Hurricane
- Dam Failure (New Hazard)

A comprehensive history of events for each hazard for Toombs County is provided in Appendix A.

(2) Hazard Event Profiling: Past hazard event data were collected through an extensive process that utilized input from Toombs County Hazard Mitigation Plan Update Committee members, research on past disaster declarations in the County, information provided from the National Climatic Data Center and the National Weather Service, a review of current Flood Insurance Rate Maps (FIRM) and internet and newspaper data searches. This source data was used to complete a Hazard Frequency Table for committee analysis purposes. A copy of the Hazard Frequency Table is provided in Appendix D, II.

The committee analyzed the causes and characteristics of each hazard, how the hazard had affected Toombs County in the past, and what part of Toombs County's population and infrastructure had historically been vulnerable to each specific hazard. FEMA Worksheet #2 (Profiling Past Hazards) was used to complete this process. A profile of each hazard discussed in this plan is provided in Chapter 2. A copy of Worksheet #2 is provided in Appendix D, II.

Additionally, to help assess the risk associated with each hazard a worksheet developed from the "FEMA Mitigation Plan Review Reference Manual" was used. The worksheet asked committee members to rate each hazard based upon several characteristics; Historical Occurrence, Probability, Vulnerability, Maximum Threat, Severity of Impact, and Speed of Onset. These ratings provided a detailed assessment and a prioritization of each hazard. A copy of this worksheet can be found in Appendix D, I.

In regards to hazard probability, an informal measurement scale was developed based on historical occurrence data to gauge the probability of future occurrences. The scale can be seen below.

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | "Highly Likely" |
| 10-25 | "Likely" |
| 25-50 | "Unlikely" |
| 50 or greater | "Highly Unlikely" |

(3) Vulnerability Assessment: The asset inventory component of the HRV assessment data included the development of a database that provides county infrastructure and critical facilities data as well as estimated structure dollar values for loss estimates. This critical facilities database was developed by the Heart of Georgia Altamaha Regional Commission, in conjunction with the Emergency Management Agency office and the tax assessor's office. Information collected includes structure location, value, contact information and facility type. This database was also presented to the update committee for revisions and additions to further ensure its accuracy.

A critical facility, for the purposes of this plan, is defined as a facility in either the public or private sector that provides essential products and services to the general public, is otherwise necessary to preserve the welfare and quality of life in the County, or fulfills important public

safety, emergency response and/or disaster recovery functions. The critical facilities identified by the committee in the County include governmental services facilities; water and waste water treatment plants and lift stations; electric and communication utilities; hazardous waste sites; schools; public safety facilities; healthcare facilities; and essential roadways and bridges.

A community's vulnerability can be described in terms of the assets located within the extent of a hazard event and the potential losses if such an event occurs. Therefore, the vulnerability assessment was accomplished by comparing each previously identified hazard with the inventory of affected critical facilities and population exposed to each hazard. GEMA Worksheet # 3a, provided in Appendix D, III outlines this step of the HRV assessment.

Assessing vulnerability, for the purposes of this plan, also included a review of the Toombs County Joint Comprehensive Plan to assess general land use patterns and development trends. This review can be found in Appendix B.

(4) Potential Loss Estimates: Using the best available data and mathematical modeling, estimated damages and financial losses likely to be sustained in a geographic area during a hazard event were calculated. 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.

The number and type of structures in the County have been determined for potential loss estimations. The source of the information was the County Tax Assessor's Office. Additional information can be found in Appendix D, III.

The Toombs County Hazard Mitigation Plan Update Committee used the results of the Hazard, Risk and Vulnerability assessment, as well as the reported accomplishments to identify and prioritize appropriate further mitigation goals, objectives and related actions. The Planning Committee identified mitigation strategies over the course of three formal meetings.

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 Toombs 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.

VI. Multi-Jurisdictional Special Considerations -

The Cities of Lyons, Santa Claus and Vidalia as well as the unincorporated portions of Toombs County, were active participants in the planning process. Primarily, the goals and action steps

apply to all jurisdictions, however, there are a few mitigation goals identified in this plan update which may apply to certain jurisdictions. These steps are identified in the appropriate sections. The Toombs County Emergency Management Agency (EMA) Director will coordinate with the respective city officials from the Cities of Lyons, Santa Claus and Vidalia in order to execute any and all multi-jurisdictional steps. The EMA Director does not have the authority to implement items within the municipality, however, the committee has chosen to coordinate communication efforts to implement and document progress towards goals with the EMA Director

VII. Adoption, Implementation, Monitoring and Evaluation

Upon final approval by GEMA and FEMA Region IV, the Toombs County Board of Commissioners and the Lyons, Santa Claus and Vidalia city councils formally adopted the Toombs County Hazard Mitigation Plan. Documentation of both of these adoption decisions is included in Appendix E.

Toombs County currently utilizes comprehensive land use planning and building codes to guide and control development in the county. The Toombs County Hazard Mitigation Plan will be presented to the Committees and persons responsible for updating Comprehensive Plans and Capitol Improvement plans, for their use in incorporating the Hazard Mitigation goals and objectives. In addition, the Commission and Lyons, Santa Claus and Vidalia City Councils will ensure that the local authorities responsible for the Local Emergency Operations Plan (LEOP) and other multi-jurisdictional plans utilize guidance from the Hazard Mitigation Plan.

The Emergency Management Agency Director will convene the committee in January of each year. Committee members will be responsible for evaluating the progress of the mitigation strategies in the Plan. The committee will review each goal, objective, and action step to determine relevance to changing situations in the county and municipalities, as well as changes in state and federal policy, and to ensure that the plan is addressing current and expected conditions as needed. The committee will also review the risk assessment portion of the Plan to determine if this information should be updated or modified.

The Plan Review Committee will prepare a report for the County Commission and Municipal Authorities. Through public invitation at the County Commission meeting held in March of each year, the County Commissioners will evaluate and update the Plan to ensure mitigation action steps are being established and that existing programs are utilizing the guidance provided by the Hazard Mitigation Plan. The EMA Director will then forward any changes to Georgia Emergency Management Agency's Hazard Mitigation Officer.

The parties responsible for the various implementation actions will provide a project status report and will include which implementation processes worked well, any difficulties encountered, how coordination efforts were proceeding, and which strategies should be revised.

Toombs County is dedicated to involving the public directly in the continual reshaping and updating of the Hazard Mitigation Plan. The Plan Review Committee is responsible for the biennial review and update of the Plan. Although they will represent the public to some extent, the public will also be able to directly comment on and provide feedback about the Plan.

Copies of the Plan will be available at the Toombs County EMA office, City Hall, and the County Commissioner's Office. The existence and location of these copies will be publicized in the local newspaper. All comments and questions will be directed to the local Emergency Management Agency Director for follow-up. The publicly declared County Commission meeting to evaluate and update the Plan will provide the public an additional forum for which they can express concerns, opinions, or ideas about the Plan.

VIII. Public Participation

The planning committee attempted to facilitate public involvement throughout the planning process. As required, two public hearings were held in order to allow citizens to provide input and ask questions about the planning process and to view a draft of the plan itself. The first public hearing was held June, 7th, 2012. Prior to the meeting a notice was placed in the local newspaper, *The Vidalia Advance*, which is the primary printed news source for the county. A copy can be found in Appendix E, III. The advertisement was repeated on (insert date) for a hearing allowing the public to view a completed draft of the plan on draft review process prior to submission to GEMA and FEMA.

In order to further inform the public and allow them to become involved in the process copies of the draft updated plan as well as the original 2008 plan were made available at the Lyons, Santa Claus and Vidalia City Hall, the Toombs County Courthouse, as well as the office of the Heart of Georgia Altamaha Regional Commission. Throughout the process public comments were also accepted by phone, email and written letter. All comments received were reviewed at the second public hearing (insert date). Changes to the document were incorporated as recommended.

Overall, these efforts resulted in at least one private citizen in attendance at every update committee meeting. This provided the committee with citizen insight and participation throughout every step of the process.

This commitment to facilitating public involvement is an extension of efforts that were made during the five year period between the development of the 2008 and 2013 Hazard Mitigation Plans. During this period copies of the 2008 plan have been available for public viewing at the Lyons, Santa Claus and Vidalia City Hall, the Toombs County Courthouse, as well as the office of the Heart of Georgia Altamaha. Portions of the plan were consulted in the development of other planning documents including the Multi-Jurisdictional Comprehensive Plan, Local Emergency Operation Plan and The Georgia Forestry Commission's Community Wildfire Protection Plan.

IX. Community Data

History

Toombs County was created on August 18, 1905 from portions of Tattnall, Montgomery and Emanuel counties. Many of the county's early settlers were Scottish Highlanders that moved down from North Carolina. The county's tobacco economy thrived early on.

The county's name recognizes General Robert Toombs, who during the Civil War served as Jefferson Davis' secretary of state and brigadier general for the Confederate Army. After the war he fled to England only to return to Georgia in 1867 to help revise the state constitution and restore white supremacy.

Government and Municipalities

Toombs County is governed by a five person commission. There is also a county manager to perform daily duties. Toombs County is part of the Vidalia Micropolitan Statistical Area. The county is part of the Georgia Middle Judicial Circuit. The county population as of 2010 was 27,223. It is made up of 366.7 square miles and includes three municipalities Lyons, Santa Claus, and Vidalia. Each municipality has a Mayor and City Council.

The county seat of Lyons was incorporated in 1897, as a station for the SAM (Savannah, Americus, Montgomery) railroad. Land around the station was acquired by the Americus Investment Company and a town plan was soon drawn up. At one point Lyons was referred to as the "Tobacco Center." The town bears its' name in honor of Lyons, France. The city has a population of 4,367.

The town of Santa Claus located in the central part of the county was incorporated in 1941. The town was founded by a farmer who hoped that the unusual name would attract tourists to stop and buy his pecans. The town's current population is 165.

The City of Vidalia was incorporated in 1890. The name is assumed to have come from the contraction of "via dalia," or "road of dahlias." The city's population is 10,473.

Economy

During the 19th century cotton, corn, timber and livestock were the major products for the county. The coming of the railroad to the county brought additional settlers and growth.

Though the depression of the 1930's hurt many of the county residents the decision to build a U.S. Air Force Base in Vidalia brought renewed economic growth. Many of the local businesses thrived off of the business of the servicemen, allowing Vidalia to become a regional trade center.

The county's current large employers include Wal-Mart, Tumi Inc, Trane US Inc, Total Renal Care Inc., Southeastern Technical College, Runners Diversified Inc., Meadows Regional Medical Center Inc., Control Services Inc., and Bethany Home Nursing Center.

Miscellaneous

The county is well known its production of Granex onions, which have are often referred to as "Sweet Vidalia Onions". The onion's history in Toombs County began in the early 1930's when a farmer by the name of Mose Coleman discovered the onions he had planted actually had a sweet taste. Though he struggled to sell them early on they soon became popular throughout the region. Other farmers soon began to follow Coleman's lead, leading to additional popularity and the moniker "Sweet Vidalia." Since 1986 the Vidalia brand has been protected under trademark and it is the official vegetable of the state of Georgia. The city of Vidalia holds the annual "Onion Festival", which draws a large amount of visitors to the county.

Southeastern Technical College operates several campuses in Toombs County and the region.

There have several notable residents of Toombs county including; Iris Faircloth Blich, the first woman to serve two terms in the Georgia senate (1946-48 and 1952-54) and one of the first women from Georgia to win a seat in the U.S. Congress (1955-63); professional football players Mel Blount, Fred Stokes, and Nick Eason; Country Music singer Craig Campbell, James T. McIntyre, the director of the Office of Management and Budget during Jimmy Carter's presidency.

Toombs County annual events and festivals Lyons Barbeque and Bluegrass Festival, Tales From the Altamaha, Southeast Georgia Soapbox Derby, Uvalda Ole Time Farm Festival

Chapter 2 - Local Natural Hazard, Risk and Vulnerability (HRV).

The Hazard, Risk and Vulnerability assessment of the Toombs County Hazard Mitigation Plan Update provides the basis upon which the subsequent goals, objectives and action plan are based. The plan update committee reviewed the hazards identified in the original plan as being capable of potentially affecting the county and municipalities. This involved reviewing FEMA worksheets #1 (Identify the Hazards), #2 (Profile Hazard Events) and #3 (Inventory of Assets). As well as introducing updated hazard data obtained from the National Climatic Data Center, that was then used to create a Hazard Frequency Table.

Additionally, to help assess the risk associated with each hazard a worksheet developed from the “FEMA Mitigation Plan Review Reference Manual” was used. The worksheet asked committee members to rate each hazard based upon several characteristics; Historical Occurrence, Probability, Vulnerability, Maximum Threat, Severity of Impact, and Speed of Onset. These ratings provided a detailed assessment and a prioritization of each hazard. The hazards identified in this chapter are listed in order of their perceived threat, with number one being the greatest. A copy of this worksheet can be found in Appendix D, III.

This combination of reviewing material from the original plan and updated hazard data allowed the committee to narrow the list to include only the hazards that were most likely to negatively impact the county. The committee concluded that all nine of the hazards included in the original plan still pose a direct, measurable threat to Toombs County. Of these, six of the nine hazards pose threats to the entire county. Tornados, hurricanes, severe winter storms, thunderstorm/windstorms, hailstorms and drought are all potential threats to the entire community. These hazards are non-spatially defined and have an equal probability of occurring anywhere in the county. Therefore, the locations of past occurrences will have no relation to the location of future events.

The other three identified Hazards, Flooding, dam failure, and fire on the other hand, are isolated to select areas of the county. Their probability of occurrence directly related to specific locations within the county; flood plains, forests, and Dam sites. Each of these potential hazards is addressed individually with relevant supporting data. Additionally, the committee determined that no other hazards needed to be added.

Table 2.1 provides a brief description of each section in this chapter and a summary of the changes that have been made.

| Chapter 2 Section | Updates to Section |
|---|--|
| I. Natural Hazard Thunderstorms/Windstorms | <ul style="list-style-type: none"> Updated data research; |
| II. Natural Hazard Wildfire | <ul style="list-style-type: none"> Updated data research; |
| III. Natural Hazard Tornado | <ul style="list-style-type: none"> Updated data research; |
| IV. Natural Hazard Flood | <ul style="list-style-type: none"> Updated data research; |
| V. Natural Hazard Drought | <ul style="list-style-type: none"> Updated data research; |

| | |
|---------------------------------|--|
| VI. Natural Hazard Winter storm | <ul style="list-style-type: none"> • Updated data research; |
| VII. Natural Hazard Hailstorm | <ul style="list-style-type: none"> • Updated data research; |
| VIII. Natural Hazard Hurricane | <ul style="list-style-type: none"> • Updated data research; |
| IX. Natural Hazard Dam Failure | <ul style="list-style-type: none"> • New Hazard |

Table 2.1: Overview of updates to Chapter 2: Local Natural Hazard, Risk and Vulnerability (HRV)

I. Thunderstorms/Windstorms

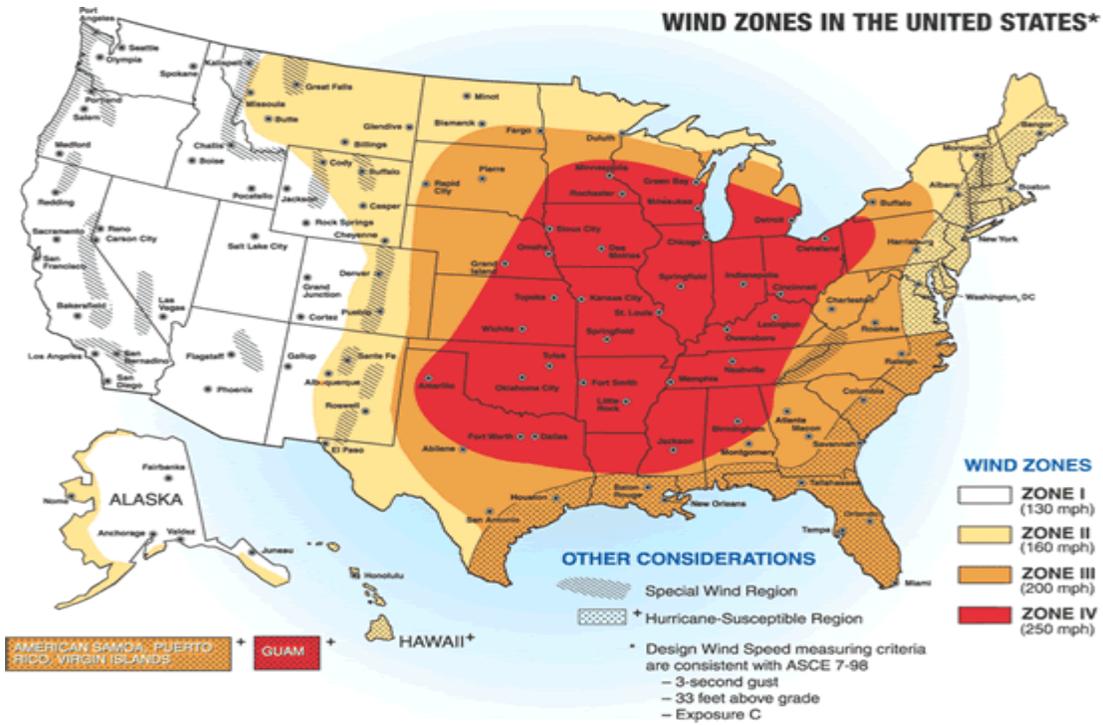
A. Hazard Identification

For the purpose of analysis, the two hazards of thunderstorms and windstorms have been consolidated. A thunderstorm is formed as a result of a combination of warm air rising, moisture, and a force capable from a combination of moisture, rapidly rising warm air, and a force capable of lifting air such as a warm and cold front, a sea breeze or a mountain. All thunderstorms contain lightning. Thunderstorms may occur alone, in clusters or in lines. Thus, it is possible for several thunderstorms to affect one location in the course of a few hours. Some of the most severe weather occurs when a single thunderstorm affects one location for an extended time. Thunderstorm winds are generally short in duration involving straight-line winds and/or gusts in excess of 50 mph. Thunderstorm winds tend to affect areas of the county with significant tree stands, as well as areas with exposed property and infrastructure, and above ground utilities. Thunderstorm winds can cause power outages, transportation and economic disruptions, significant property damage and pose a high risk for injuries and loss of life. Lightning is particularly dangerous to people, since although the bolt normally travels directly from cloud to the ground, it can also occur at angles away from the storm, and at a great distance.

B. Hazard Profile

Location

Since Thunderstorms/Windstorms are non-spatial entities they have the potential to occur anywhere within Toombs County. Therefore all parts of the county could be potentially subject to this hazard and there is no specific area that would necessarily be more likely to have one.



Extent

NOAA (The National Oceanic and Atmospheric Administration) defines a “severe thunderstorm” as one that has winds in excess of 50 knots and/or hail of .75. Thunderstorm winds as recorded in the NCDC database range from 0 to 60 knots. In addition, the Beaufort wind scale designates categories based on wind speed and appearance. The scale can be viewed below. This is most often used as the measurement of extent for a Thunderstorm/Windstorm.

| Specifications and equivalent speeds | | | | | | | | | |
|--------------------------------------|-----------------|------|----------------------|-----------|------------------------|---------------------------------|---|----------|-----------------------|
| Beaufort wind scale | Mean Wind Speed | | Limits of wind speed | | Wind descriptive terms | Probable wave height in metres* | Probable maximum wave height in metres* | Seastate | Sea descriptive terms |
| | Knots | m/s | Knots | m/s | | | | | |
| 0 | 0 | 0 | <1 | 0-0.2 | Calm | - | - | 0 | Calm (glassy) |
| 1 | 2 | 0.8 | 1-3 | 0.3-1.5 | Light air | 0.1 | 0.1 | 1 | Calm (rippled) |
| 2 | 5 | 2.4 | 4-6 | 1.6-3.3 | Light breeze | 0.2 | 0.3 | 2 | Smooth (wavelets) |
| 3 | 9 | 4.3 | 7-10 | 3.4-5.4 | Gentle breeze | 0.6 | 1.0 | 3 | Slight |
| 4 | 13 | 6.7 | 11-16 | 5.5-7.9 | Moderate breeze | 1.0 | 1.5 | 3-4 | Slight-Moderate |
| 5 | 19 | 9.3 | 17-21 | 8.0-10.7 | Fresh breeze | 2.0 | 2.5 | 4 | Moderate |
| 6 | 24 | 12.3 | 22-27 | 10.8-13.8 | Strong breeze | 3.0 | 4.0 | 5 | Rough |
| 7 | 30 | 15.5 | 28-33 | 13.9-17.1 | Near gale | 4.0 | 5.5 | 5-6 | Rough-Very rough |
| 8 | 37 | 18.9 | 34-40 | 17.2-20.7 | Gale | 5.5 | 7.5 | 6-7 | Very rough-High |
| 9 | 44 | 22.6 | 41-47 | 20.8-24.4 | Severe gale | 7.0 | 10.0 | 7 | High |
| 10 | 52 | 26.4 | 48-55 | 24.5-28.4 | Storm | 9.0 | 12.5 | 8 | Very High |
| 11 | 60 | 30.5 | 56-63 | 28.5-32.6 | Violent storm | 11.5 | 16.0 | 8 | Very High |
| 12 | - | - | 64+ | 32.7+ | Hurricane | 14+ | - | 9 | Phenomenal |

History

Since 1962 there have been a total of sixty nine recorded thunderstorm-windstorms in Toombs County. This number of course does not include all of the thunderstorms/windstorms during this time period due to the great degree of difficulty in reporting every event that occurs. However it does portray the high probability of occurrence that this hazard presents. The severity of the storms can obviously vary with many causing little or no damage at all, which helps explain why many go unreported or underreported. None the less, these events have a total property and crop damage amount of \$ 768,500.00. It should also be noted that there is a lack of records for property and crop damage incurred before 1994. There have been no recorded injuries during this period resulting from thunderstorms. These figures illustrate the serious threat posed by Thunderstorms/Windstorms to the citizens and property of Toombs County.

We can also see that in the last five years since the development of the previous plan Toombs County has had fifteen thunderstorms/windstorms. Twelve of these were classified as “severe” thunderstorms with wind gusts of around 50 knots.

One of these events occurred on June 27th , 2010 when winds reaching up to 50 knots downed trees and power lines throughout the county. The Toombs County Emergency Management Director reported that a metal high voltage power line pole was down on Van Lewis Road approximately five miles northeast of Lyons. Though no one was hurt as a result of the storm, \$25,000 in property damage was reported.

Another recent event occurred on June 14th, 2012 when several showers and thunderstorms developed, becoming severe storms with several reports of wind damage and a couple of large hail reports. Toombs County Emergency Management reported that two to three trees were blown down onto two houses and a car inflicting a total of \$65,000 in property damage. Fortunately there were no reported injuries or deaths.

Currently, Toombs County and the Cities of Lyons, Vidalia, and Santa Claus do not have any building codes that pertain to wind speeds.

Probability

As stated above, in the last fifty five years there have been sixty nine recorded occurrences of Thunderstorm-Windstorms. The current chance per year that a thunderstorm/windstorm can occur is 1.35, as noted in the Hazard Frequency Table (Appendix D, II). Additionally, the annual frequency for the last ten and twenty years are 2.6 and 2.25, respectively. Finally, keeping in mind that the older the data the more incomplete it is, we can see that the annual frequency for the last fifty years is 1.38, with a historical recurrence interval of .74 years. The probability is “Highly Likely” that Toombs County will continue to experience severe thunderstorm/windstorms multiple times a year.

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | “Highly Likely” |
| 10-25 | “Likely” |
| 25-50 | “Unlikely” |
| 50 or greater | “Highly Unlikely” |

C. Inventory Assets and Potential Losses

The total percentage of the number of structures that are exposed to the non-spatial threat of Thunderstorm in Toombs County is 100% as noted on Worksheet 3A (Appendix D, III). In Toombs County, there are 26,025 residential structures, 3,024 commercial structures, 138 industrial facilities in Toombs County, 3,890 agricultural structures, 692 religious/non-profit structures; 711 government facilities, 121 educational structures, and 25 utility structures. All of these structures are equally exposed to a Thunderstorm. To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, both of which are in Appendix A, I. Of the county’s 139 identified critical facilities on the GEMA Wind Hazard Report, 138 received a hazard score of two and 1 received a wind hazard of three. Additionally all of the critical facilities are at risk to the threat of a Thunderstorm.

The total built structures, including critical facilities, of Toombs County have an estimated replacement value of \$1,212,199,979. The total value of all residential structures in Toombs County is \$672,272,878. The value of commercial structures in Toombs County is \$46,584,315. Industrial facilities in Toombs County have a value of \$211,404,210. The value of agricultural structures in Toombs County is \$180,074,663. Religious/non-profit structures in Toombs County are valued at \$19,728,920. Government facilities in Toombs County are valued at \$43,615,083.

The educational facilities in Toombs County are valued at \$9,403,600. Finally, the value of utility structures in Toombs County is \$29,116,311. At this time, there are no known future buildings, infrastructure or critical facilities to be located in the county requiring special mitigation strategies. Additionally, all 27,223 residents of Toombs County could be affected by a Thunderstorm.

D. Development Trends

There are no specific trends concerning thunderstorms/windstorms in the comprehensive plan. In the future, any number of structures (commercial, industrial, public/institutional, residential), critical facilities, and infrastructure will be vulnerable to thunderstorms/windstorms because they are a non-spatial hazard.

E. Multi-Jurisdictional Concerns

In the incorporated and unincorporated areas of Toombs County, the threat of natural non-spatial occurrences including thunderstorms/windstorms is equally applicable. All areas of the county are susceptible to non-spatial threats. The county is located in Wind Zone III as noted on the Wind Map above. However, as mentioned earlier the potential for damage is greater within the Cities of Vidalia, Lyons, and Santa Claus than it is in the unincorporated portions of the county, due to the larger amount of development.

To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, please see Appendix A, I.

F. Summary

Overall, thunderstorm winds do pose a great threat to Toombs County, specifically in terms of property damage. Though severe storms do not occur frequently, each one has the ability to inflict a great amount of damage and do so anywhere in the county. Since the creation of the 2008 Hazard Mitigation Plan very little has changed in regards to the vulnerability of the county to thunderstorms. They have continued to destroy large amounts of property and natural resources throughout the county and its' municipalities. However, through a concerted effort between the local municipalities and the Pre-Disaster Mitigation Planning Committee, measures will be taken to help reduce the impact of a thunderstorm upon the residents and property of Toombs County.

II. Wildfires

A. Hazard Identification

A wildfire is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. Wildfires often begin unnoticed and spread quickly and are usually signaled by dense smoke that fills the area for miles. Naturally occurring and non-native species of grasses, brush and trees fuel wildfires.

When talking about a natural occurring wildfire, caused by natural sources such as lightning strike, a combination of available fuel, weather and topography work together to determine when a wildfire will ignite, how quickly it will travel and the intensity of the fire. These factors are also relevant when looking at wildfires that occur as a result of human interaction with the environment, including campfires, cigarettes, debris burning, etc. Additionally, communities with a large amount of wooded or grassy areas are at greater risk. Prolonged drought or periods of extreme heat can also increase the likelihood of wildfire.

When looking at wildfire risks for a Community Wildfire Protection Plan, the Georgia Forestry Commission takes into consideration the Wildland-Urban Interface. A wildland-urban interface is an area where structures and other human development meet or intermingles with undeveloped wildland or vegetative fuels.

There are three major categories of wildland-urban interface. First, boundary wildland-urban interface is characterized by areas of development where homes, especially new subdivisions, press against public and private wildlands, such as commercial forests or public parks. Second, intermix wildland-urban interface occurs in areas where improved property and/or structures are scattered and interspersed in wildland areas. Finally, island wildland-urban interface, also known as occluded interface, is an area of wildland within predominantly urban or suburban areas.

B. Profile Hazard Event

Location

Due to the large amount of wooded and undeveloped land in Toombs County wildfires have the potential to occur almost anywhere in the county outside of the city limits of Lyons, Vidalia, and Santa Claus. Though there is the potential for a wildfire to spread into the city limits, the highest area of concern remains in the unincorporated portions. In the unincorporated areas of Toombs County, the fuel load is moderate or in many places heavy along the Altamaha River. These fuel load areas significantly increase the threat of wildfires. Maps depicting areas of fire susceptibility, occurrence, and level of concern throughout the county can be found in Appendix A, II.

Extent

The most appropriate measurement of the extent of a Wildfire is the total acres burned. This illustrates the amount of area the wildfire encompassed and provides the opportunity to compare one event to another. Since 1990, the annual average amount of acreage burned was two hundred fifty-five. One significant trend that was found when examining monthly acreage lost during this time period was that there was a significant increase from mid-winter through the late spring, as compared to fall and early winter numbers.

History

Toombs County has dealt with a number of wildfire incidences and is particularly concerned with issues related to the wildland-urban interface, due to the rural nature of the county. The occurrences of wildfires pose a serious threat to much of Toombs County. Wildfires occur in the forest areas of the county and reach to where the forest meets the boundaries of the cities. The wildland urban interfaces found in Toombs County generate significant risks to property and individuals. Toombs County is protected by organized fire departments within the Cities of Lyons and Vidalia and six widely spaced volunteer fire departments in the unincorporated areas, Normantown, South Thompson, Cedar Crossing, New Branch, East Toombs and Marvin Yancey. The Georgia Forestry Commission maintains a county protection unit located about three miles southeast of Lyons on Hwy 178 to respond to wildfires throughout the county. The cities of Lyons and Vidalia and the adjacent areas of the county are serviced by a pressurized water system with well placed hydrants throughout.

Over the past fifty years, Toombs County has averaged 93 reported wildland fires per year. The occurrence of these fires shows a peak in the five months from December through April and a slight decrease during the late summer months. These fires have burned an average of 477 acres annually. The monthly acreage burned corresponds with the number of fires. In the years prior to 1990, Toombs County reported an annual average of 95 fires burning 605 acres and since 1990 these figures are 90 fires burning 255 acres annually. This reduction in average size from over six acres per fire to less than 3 acres per fire is perhaps the result of better response and equipment from both the Georgia Forestry Commission and the increased presence of rural fire departments. The leading causes of these fires, was debris burning and arson causing 40% and 29% respectively of the fires and 33% and 43% respectively of the acres burned.

A wildfire risk assessment conducted in 2009 by the Toombs County Fire Departments produced an average score of “83” placing the county in the “high” hazard range on the “Hazard and Wildfire Risk Assessment Checklist”. This assessment measure a variety of factors including, vegetation, accessibility, building construction, fire protection resources, and proximity of gas and electric utilities. Maps depicting areas of fire susceptibility, occurrence, and level of concern throughout the county can be found in Appendix A, II. Firebreaks and other local methods of fire protection attempt to protect the areas where the forest meets subdivisions throughout the county.

Between the years of 2004 and 2010, records show that over 54% of the debris fires originated from residential burning. Georgia Forestry Commission Wildfire Records also show that between 2004 and 2010, 15 homes have been lost or damaged by wildfire in Toombs County resulting in estimated losses of \$228,000 along with ten outbuildings valued at \$19,200. According to reports during this period 59 homes have been directly or indirectly threatened by these fires. Additionally 16 vehicles valued at \$73,250 and nine other pieces of mechanized equipment valued at \$15,950 were lost. This is a substantial loss of non-timber property attributed to wildfires in Toombs County.

The impact of these events occurring has been prevalent in Toombs County over the past fifty years. However, the exact amount of occurrences and damage is unknown due to a lack of reporting.

Probability

Based on historical occurrence data obtained from the Georgia Forestry commission the probability of wildfire occurrence in Toombs County is “Highly Likely. As mentioned earlier the data for wildfire occurrences is limited. However, the Georgia Forestry commission reported that Toombs County over a five year period from 2009 to 2013 had an average of 73.8 wild-land fires per year burning an average of 244.2 acres.

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | “Highly Likely” |
| 10-25 | “Likely” |
| 25-50 | “Unlikely” |
| 50 or greater | “Highly Unlikely” |

C. Inventory Assets and Potential Losses

Through housing formation obtained from the Toombs County 911 office and the County Tax Assessor, the determination was made that 13.3% (4,605) of all structures in the county are within the wildfire hazard area, as noted on Worksheet 3A (Appendix D, III). Of the structures located in the wildfire hazard area; there are 3,498 residential (13.5%), 165 commercial (5.5%), 12 industrial (8.6%), 812 Agricultural (20.9%), 112 Government (15.8%), 1 Education (.83%) and 5 Utility (20%). There are no known religious/nonprofit facilities within wildfire hazard area. In terms of the number of people residing or working within the wildfire hazard area the estimated numbers are as follows; 3,659 residential (13%), 374 commercial (5%), 111 industrial (9%), 132 agricultural (21%), 256 government (16%), 62 education (1%) and 26 utility (20%). Please view on Worksheet 3A (Appendix D, III). To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, please view Appendix A, II. Of the county’s one hundred thirty-four critical facilities, 17 are within the wildfire hazard area.

The total value of all structures within the wildfire zones is estimated to be \$161,644,729 or 13.34% of the total value of structures in the county. The value of structure within the wildfire hazard area by category are; \$90,359,674 residential, \$2,541,803 commercial, \$18,382,975 industrial, \$37,588,850 agricultural, \$6,870,449 government, \$77,716 Education and \$5,823,262 Utility.

D. Development Trends

There are several development trends that are related to wildfire occurrence and loss vulnerability. Toombs County is undergoing a significant amount of residential development in its’ unincorporated areas. These houses are being built within the wild land urban interface and increase the risk of a wildfire resulting in property damage or loss of life. The Georgia Forestry

Commission has directly identified several communities within the county that contributed to the county being awarded a “high risk” hazard range on the “Hazard and Wildfire Risk Assessment Checklist”. These communities share characteristics that make them high risk areas; Narrow/Dead End Roads, limited street signs, thick forest and flammable vegetation surrounding homes, large distance from fire stations, wood siding homes, undeveloped lots and non-pressurized water systems. Continued growth in these current communities or the development of other similar communities in the county increases the risk of wildfire occurrence and property. However, since the adoption of the last Hazard Mitigation Plan in 2008 there has been a concerted effort by the local Georgia Forestry Commission office and the county fire departments to educate citizens on wildfire issues, in order to help offset the risk posed by additional development.

E. Multi-Jurisdictional Concerns

As described earlier there are significant differences between the incorporated and unincorporated portions of Toombs County in regards to wildfire vulnerability. Due to large amount of undeveloped forests in the unincorporated parts of the county the opportunity for a wildfire is very present. However, due to the wild land urban interface the municipalities and developed residential communities are not entirely immune to the possibility of a fire spreading into their boundaries. In the incorporated areas of Toombs County, the threat of wildfires is low due to moderate fuel load levels present within these municipalities. However, in the unincorporated areas, including the wild land interface, the threat of wildfires is much higher.

According to the Georgia Mitigation Information System, portions of Toombs County have Wildfire Hazard Scores ranging from 0-3. A vast majority of the unincorporated part of the county is located in zone zero to 1. However, there are areas scattered throughout the county that have scores of one to two. Though a large portion of the cities of Vidalia and Lyons fall within the zero zone, the outer portions of cities include a higher fuel load and has a Hazard score of 2. This area also contains several critical facilities. Two locations north of Vidalia and Lyons received a hazard score of 3. Please see Appendix A, II to examine these areas. In the unincorporated areas of Toombs County, the fuel load is moderate or in many places heavy, especially in the northeastern and southern portions of the county which are heavily forested. The area located along the Altamaha River have a wildfire hazard of 1 to 2. These fuel load areas significantly increase the threat of wildfires.

F. Hazard Summary

Due to the large amount of forest and the growing wildland interface in Toombs County, wildfire remains a significant threat to the lives and property of its citizens. Given the quick onset and destructive nature of wildfires, the update committee feels that the mitigation strategies included in this plan for reducing the impact of wildfire are extremely critical to the protecting the county. As a result of wildfire, properties are severely damaged or lost, natural resources are destroyed, evacuations are sometimes necessary, residents may become displaced, and at its extreme a wildfire can cause a loss of life. However, through future land use regulations and through the future actions implemented with this plan, the threat of wildfires in the future should continue to decrease.

III. Tornado

A. Hazard Identification

Toombs County also faces threats from several non-spatial hazards as well, including tornados. A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornados are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be in excess of 1 mile wide and 50 miles long. Although Tornadoes can occur in any state they occur most frequently in the Midwest, Southeast and Southwest regions. Tornado Season is considered to be between March and August, but can occur at any time, which makes them even more unpredictable.

B. Profile Tornado Events

Location

Since Tornadoes are non-spatial entities they have the potential to occur anywhere within Toombs County. Therefore all parts of the county could be subject to a Tornado and there is no specific area that would necessarily be more likely to have one.

Extent

The potential damage to structures resulting from tornadoes can range from minor damage to incredible damage. They also can cause a great deal of damage to agriculture and natural resources. This damage range is classified in the following chart which shows the Enhanced Fujita (EF) Scale:

| Enhanced Fujita Scale | | |
|-----------------------|-----------------------------|---|
| Category | Wind Speed | Potential Damage |
| EF0 | 105–137 km/h 65–85 mph | Light damage. Peels surface off roofs; some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; mobile homes pushed off foundations or overturned; sign boards damaged. |
| EF1 | 138–179 km/h 86–110 mph | Moderate damage. Roofs torn off frame houses; windows and glass doors broken; moving autos blown off roads; mobile homes demolished; boxcars overturned. |
| EF2 | 180–217 km/h 111–135 mph | Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground. |
| EF3 | 218–266 km/h 136–165 mph | Severe damage. Some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance. |
| EF4 | 267–324 km/h 166–200 mph | Devastating damage. Well-constructed houses and whole frame houses completely leveled; structures with weak foundations blown away some distance; trees debarked; cars thrown and small missiles generated. |
| EF5 | >324 km/h >200 mph | Incredible damage. Strong frame houses leveled off foundations and swept away; with strongest winds, brick houses completely wiped off foundations; automobile-sized missiles fly through the air in excess of 100 m (109 yd); cars thrown and large missiles generated; incredible phenomena will occur. |

The most severe category of Tornado recorded in Toombs county is an EF3, occurring on May 11th, 2008. Tornadoes of measuring an EF2 have occurred on three different occasions. Eight injuries total have been reported as a result of Tornadoes in Toombs County.

History

As noted in the NCDC statistics that can be found in Appendix A III, tornadoes have occurred in Toombs County eight times in the last fifty years. The county is located in Wind Zone III as noted on the Wind Map, Appendix A, III. Through the years of 1956-1975, in Toombs County, there were four records of tornado occurrences with a total estimate of \$75,000 in property damage. Two of these were classified as an EF2 and occurred on June 2nd 1968, and January 12th, 1975. Each Tornado resulted in over \$25,000 in property damage with no injuries. From 1984 to 2008 in Toombs County, the NCDC recorded four occurrences of tornados with \$507,500.00 in damages. One notable occurrence was on May 11th 2008, with three individuals receiving injuries, \$500,000 in property damage, and it registered as an EF3.

Overall, Tornados have a remained a moderate threat for Toombs County. Though, there have been no recorded deaths caused by a tornado, there have been multiple injuries and several hundred thousand dollars in property damage.

Probability

As stated above, in the last fifty five years there have been eight recorded occurrences of Tornados. The current chance per year that a tornado can occur is .16, as noted in the Hazard Frequency Table (Appendix D, I). Additionally, the annual frequency for the last ten and twenty years are .2 and .15, respectively. Finally, keeping in mind that the older the data the more incomplete it is, we can see that the annual frequency for the last fifty years is .14, with a historical recurrence interval of 6.38 years. Although tornados may not occur on a yearly basis, it still “Highly Likely” that there will be an occurrence in the next ten years.

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | “Highly Likely” |
| 10-25 | “Likely” |
| 25-50 | “Unlikely” |
| 50 or greater | “Highly Unlikely” |

C. Inventory Assets and Potential Losses

Since Tornados are a non-spatial hazard they have the potential to damage 100% of the structures in the county as noted on Worksheet 3A (Appendix D, III). In Toombs County, there are 26,025 residential structures, 3,024 commercial structures, 138 industrial facilities in Toombs County, 3,890 agricultural structures, 692 religious/non-profit structures; 711 government facilities, 121 educational structures, and 25 utility structures. All of these structures are equally exposed to a Tornado. To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, both of which are in Appendix E, VIII. One of the county’s 134 identified critical facilities on the GEMA Wind Hazard Report received a hazard score of three, the remaining 133 critical facilities received a hazard score of 2.

Estimating the potential losses caused by a tornado is large dependent upon where it touches down within the county. A tornado that stays within the unincorporated portions of Toombs County, which constitutes the majority of the county, will cause far less property damage than one that occurs in downtown Vidalia or Lyons. If a tornado that occurs within a residential area or touches down at an industrial site the potential property damage and loss of life will be significant. At this time, there are no known future buildings, infrastructure or critical facilities to be built requiring special mitigation strategies.

The total built structures, including critical facilities, of Toombs County have an estimated replacement value of \$1,212,199,979. The total value of all residential structures in Toombs County is \$672,272,878. The value of commercial structures in Toombs County is \$46,584,315. Industrial facilities in Toombs County have a value of \$211,404,210. The value of agricultural structures in Toombs County is \$180,074,663. Religious/non-profit structures in Toombs County are valued at \$19,728,920. Government facilities in Toombs County are valued at \$43,615,083. The educational facilities in Toombs County are valued at \$9,403,600. Finally, the value of utility structures in Toombs County is \$29,116,311. At this time, there are no known future buildings, infrastructure or critical facilities to be located in the county requiring special mitigation strategies. It is impossible to accurately estimate the potential losses suffered from a Tornado since it would be largely influenced by the category of Tornado and the location that it touches down. Additionally, with 27,223 residents in Toombs County, any number could be affected by a Tornado.

D. Development Trends

A review of the county comprehensive plan illustrates that the county currently has no land use or development trends specifically related to tornados. In Toombs County, future land use maps cannot address the threat of natural non-spatial occurrences such as tornados. Therefore, there is no way to tell whether new development is in a hazard prone area since all areas are equally vulnerable. In the future, any number of structures (commercial, industrial, public/institutional, residential), critical facilities, and infrastructure, in any part of the county, could potentially be damaged by a tornado.

E. Multi-Jurisdictional Concerns

In the incorporated and unincorporated areas of Toombs County (including Lyons, Vidalia, and Santa Claus), the threat of natural non-spatial occurrences including tornados is equally applicable. All areas of the county are susceptible to non-spatial threats. However, the amount of damage caused by a tornado occurring within the city limits would most likely be greater than one that occurs in the unincorporated area, due to the differences in amount of development and population density.

F. Hazard Summary

Through examination of the hazard occurrence data and historical trends the committee has determined that tornados remain a threat to the county, including the Cities of Lyons, Vidalia, and Santa Claus. Even though the frequency of occurrences is small, the impact from one tornado has

the potential to destroy numerous properties and cause harm to residents. Emergency response teams including the sheriff's department, police, fire and rescue, EMS, and EMA have been utilized during these events along with the county road department. In the future, measures suggested in this plan need to be enacted to limit the amount of impact a tornado can have on Toombs County. The committee reviewed previous Tornado mitigation action steps proposed in the approved 2008 plan. Continuing to address these issues will be an ongoing task for both county and city officials.

IV. Flooding

A. Hazard Identification

A flood is a natural event for rivers and streams. Excess water from rainfall or storm surge accumulates and overflows onto the banks and adjacent floodplains. Floodplains are considered lowlands, adjacent to rivers and oceans that are subject to recurring floods. Adverse impacts may include structural damages, temporary backwater effects in sewers and drainage systems, and unsanitary conditions by deposition of materials during recession.

There are generally considered to be two types of flooding, Coastal and Riverine. Since Toombs County does not border an ocean coast it is only susceptible to riverine flooding. Riverine flooding occurs from inland water bodies such as streams and rivers. Riverine flooding is often classified based on rate of onset, and is typically slow to rise, overflow, and recede; which often allows an adequate amount of time to evacuate the area. The likelihood of a stream or river flooding is dependent upon several factors including topography, ground saturation, the intensity and duration of rainfall, soil type, drainage, erosion and vegetation. In recent years, Floods, and the damage they cause have remained a threat to areas of Toombs County.

Flooding has occurred in different locations throughout Toombs County. There are many creeks that flow throughout the county that have the potential to flood. Localized flooding in low lying areas of Vidalia and Lyons has also occurred in the past.

B. Profile Flooding Events

Location

The majority of flooding that occurs within the county is localized and largely caused by periods of prolonged rainfall. Flooding has occurred in different locations throughout Toombs County. There are many creeks and streams that flow throughout the county that pose a potential threat of flooding. Many of these areas contain various agricultural, industrial and commercial resources that can suffer water damage. The Maps of these areas can be found in Appendix A, IV.

There are several flood zones in Toombs County with the largest area found along the Altamaha River, which is located on the entire southern border of the county. Development is present in this portion of the county. In addition, the Ohoopsee River, Tiger Creek, Swift Creek, Pendleton Creek along with several other creeks in the unincorporated areas of the county, including tributaries to the Altamaha River, are capable of flooding, as noted on the flood map. This area has a GMIS

System hazard score of 3. (Appendix A IV) Additionally, the GMIS System classifies the Cities of Vidalia, Lyons, and Santa Claus with a Hazard Score of one. The remaining portions of the county, including the 133 critical facilities, have a score of zero.

Extent

In order to provide a measurement of extent for flood events in Toombs County, HAZUS Software was used to create a flood depth grid for the county. A flood depth grid allows us to estimate the height that flood waters would reach. The flood depth grid was generated based on a 100 year flood scenario. The depths ranged from a Low of approximately 0 ft. to a High of 36.43 ft. The deepest areas were found in the unincorporated portions of the county, especially along the Altamaha River where there is minimal development. Within the Cities of Vidalia and Lyons the highest projected level is approximately 5 feet and is located in an area of the city with very few structures. Throughout the rest of the city depth varies zero to one foot. Although a flood of this height could cause some structure and property damage the majority of city would most likely be unaffected. (To view the Flood Depth Grid, please see Appendix A, II)

Historical Occurrence

The impact of these events occurring has been minimal in Toombs County over the last fifty years. As pointed out in the National Climatic Data Center (NCDC) statistics that can be found in Appendix A, IV, in the past fifty years, floods were recorded seven times. Because the NCDC has only recently begun to record the number of flood occurrences at the local level, the true number of floods that have occurred in the past fifty years is unknown. According to NCDC data, in the years of 1995, and 2001 a flood occurrence was recorded only once per year. Two floods were recorded in 2009 and three occurred in 1993. There have been two floods recorded in Toombs County since the previous Hazard Mitigation Plan was completed in 2008. These floods occurred April 4th and December 15th 2009.

The recorded floods have resulted in a total of 1.18 million dollars in property damage. However, only five of the seven events have resulted in any reported damage. The most recent flood that occurred on December 15th 2009 for which the Toombs County Emergency Management Director reported minor flooding of Swift Creek along Davis Road northeast of Vidalia. A building adjacent to the creek suffered damage from flooding. Some minor debris removal, adjacent to the creek, was also required. In total, \$3,000 in property damage resulted from this flood event. Additionally no lives have been lost due to floods, nor have there been any injuries. Emergency response teams including the sheriff's department, police, fire and rescue, EMS, and EMA have been utilized during these events.

Probability

As stated above, in the last fifty five years there have been seven recorded occurrences of Flooding. The current chance per year that a flood can occur is .13, as noted in the Hazard Frequency Table (Appendix D, I). Additionally, the annual frequency for the last ten and twenty years are .2 and .35, respectively. Finally, keeping in mind that the older the data the more incomplete it is, we can see that the annual frequency for the last fifty years is .14, with a

historical recurrence interval of 7.43 years. Based on the historical occurrence data it is “Highly Likely” to assume that a flood will occur within the next ten years.

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | “Highly Likely” |
| 10-25 | “Likely” |
| 25-50 | “Unlikely” |
| 50 or greater | “Highly Unlikely” |

C. Inventory Assets and Potential Losses

Through the use of updated FEMA flood maps and housing formation obtained from the Toombs County 911 office, the determination was made that 1% (338) of all structures in the county are within flood zones, as noted on Worksheet 3A (Appendix D, III). Of the structures in located in the flood zones; there are 284 residential (1.1%), 9 commercial (.29%), 42 Agricultural (1.08%), and 3 government (.422%). There are no known industrial, religious/nonprofit, education or utility facilities within the reported flood zones. In terms of the number of people residing or working within the flood zones the estimated numbers are as follows; 297 residential (1%), 20 commercial (.5%), 7 Agricultural (1%), and 7 government (.5%). Please view on Worksheet 3A (Appendix D, III). Of the county’s 134 critical facilities, none are exposed or at risk within designated flood zones.

The total value of all structures within flood zones is estimated to be \$9,603,159 or .792% of the total value of structures in the county. The value of structure within flood zones by category are; \$7,336,234 residential, \$138,644 commercial, \$1,944,251 Agricultural, and \$184,030 Government.

Please see Appendix A, IV to examine this map. Also, there are no NFIP repetitive loss properties in the county. To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, both which are in Appendix A, IV. Each of the 134 critical facilities receive a flood hazard score of zero.

D. Development Trends

There are several areas of potential development. They include: residential, commercial, industrial, public/institutional, transportation/communications/utilities, park/recreation/conservation, agriculture, and forestry. Commercial and industrial growth has been steady in Toombs County with a reliance upon the region’s natural resources and agriculture. There has been moderate residential growth as several areas have developed in order to provide additional housing in the City of Vidalia. Much of the population growth has been located in areas outside of the city limits but in close proximity to the city.

The county has seen moderate transportation/communications/utilities growth. Future economic development is predicted to continue along the US Highway 280 corridor in the cities of Vidalia

and Lyons. Another area identified for future growth locations is the Toombs Corporate Center located on US 1 north of Lyons. A regional recreation facility is planned to be located in Vidalia.

The county has no basic zoning of land use regulations for the unincorporated areas. This could influence the type and extent of all forms of development in those areas. This also limits the ability to protect the environmental resources in those areas, which could make them more vulnerable to damage from a flood. However, since flooding is a spatial hazard future land use maps can address the threat of flooding in areas and help reduce the exposure of new development. The cities of Lyons and Vidalia do have zoning and land use regulations. Though flooding potential it is not great, there is a threat of flooding in portions of Vidalia and Lyons. Regulations will help in the monitoring and prevention of future damage caused by flooding. Toombs County and the Cities of Vidalia and Lyons will utilize the maps in the flood plan to locate future structures out of localized flood prone areas if possible.

E. Multijurisdictional Concerns

Since Toombs County has three municipalities in close proximity to each other and the majority of potential flood sources fall within the unincorporated areas there are several differences between jurisdictions. However, there are portions of the City of Lyons and Vidalia that fall within a flood zone as indicated on the Flood Map in Appendix A, IV. There are several areas within the city limits and immediately outside the city limits that are considered flood zones. Additionally, in the incorporated areas there is a greater chance that a flood could cause damage to residential, commercial and infrastructure. Toombs County, Vidalia and Lyons are each members of the National Flood Insurance Program (NFIP); no flood hazard was identified in the non-NFIP member City of Santa Claus.

In the unincorporated areas of Toombs County, more areas are prone to flooding because of the lack of drainage, additional bodies of water, and other characteristics that increase the possibility of flooding. Development in these areas is scarcer, with very few structures found within the larger flood zones located in the southwest corner of the county.

Toombs County does not have any floodplain ordinances in place beyond NFIP regulations, but it is in compliance with the NFIP regulations. The current Flood Insurance Rate Map (FIRM) for the entire county, including Lyons and Vidalia, was adopted on August, 19th, 2010. No flooding potential was identified in Santa Claus. Additionally, a Flood Insurance Study (FIS) of the incorporated and unincorporated areas of the county was conducted by FEMA in 2010. Portions of study were consulted for the purposes of this plan.

F. Hazard Summary

Through examination of the updated flood related data and maps, the committee has determined that the occurrence of floods remain a threat to the county, including the portions of Vidalia and Lyons. Though the potential for property damage is greatest within the incorporated areas of the county, these areas are not as prone to floods as the unincorporated portions of the county. The committee reviewed previous flood mitigation action steps proposed in the approved 2008 plan. Addressing these issues will be an ongoing task for both county and city officials. Through a

concerted effort between Toombs County, the Cities of Lyons, Vidalia, Santa Claus and the Pre-Disaster Mitigation Planning Committee, measures will be taken, when feasible, to ensure that future development is conducted in areas where the threat of flooding is minimal. Through future land use regulations and the implementation of the actions included in this plan overall flood damage should continue to decrease.

V. Drought

A. Hazard Identification

According to the National Oceanic and Atmospheric Administration, drought is a deficiency of moisture that results in adverse impacts on people, animals, or vegetation over a sizeable area.

The 2008 *Georgia Hazard Mitigation Plan Standard and Enhanced* points out that one of the most important characteristics of drought conditions is the length of time that a drought persists. Droughts lasting 1 to 3 months are considered short term, while droughts lasting 4 to 6 months are considered intermediate and droughts lasting longer than 6 months are long term.

Drought is also a key factor in wildfire development, establishing the dry conditions necessary to make natural fuels, such as grass, brush, trees and dead vegetation, more fire-prone.

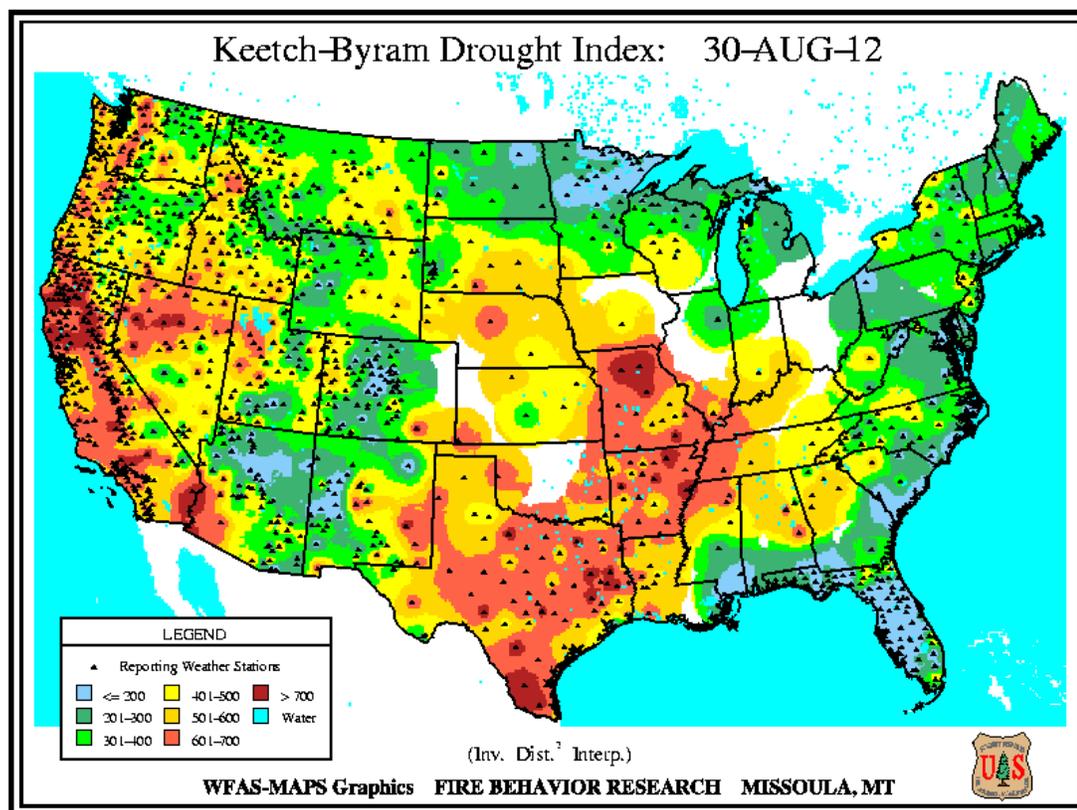
B. Profile Hazard Event

Location

Due to the fact that Drought is a non-spatial hazard and has the potential to effect the entire county it constitutes a significant threat to the prosperity and safety of the residents of Toombs County. The presence of a drought affects the county in several different ways, the destruction of agriculture, depleted drinking water supply, and increasing the potential of wildfires. Much of Toombs County is made up of forest, agriculture and woodlands which are all directly impacted by drought conditions. The adverse effects of an extended period of drought can affect all portions of the county and municipalities.

Extent

The Keetch and Byram drought index (KBDI) is intended to measure the risk of wildfires occurring in a drought stricken area and in doing so provides a measurement of the extent of a drought. The KBDI attempts to gauge the precipitation needed in order for the soil to return to full moisture capacity. The number represents the net effect of evapotranspiration (the combined amount of evaporation and transpiration) and precipitation in producing cumulative moisture deficiency in upper soil layers. Zero is the point of no moisture deficiency and 800 is the maximum drought that is possible. The higher the number the worse drought and the higher risk of wildfire. Along the scale, the index numbers provide the amount of net rainfall that is required to reduce the index to zero, or saturation conditions. Therefore, Toombs County could fall anywhere on the index between 200 and 800 KBDI.



History

Since the adoption of the prior Hazard Mitigation Plan the occurrence of drought has remained a serious threat to the citizens of Toombs County. As pointed out in the NCDC statistics, in the past seventeen years, droughts were recorded twenty-one times. Because the NCDC has only recently begun keeping up with the number of drought occurrences at the local level and no other accurate record is available, the true number of droughts that have occurred in the past fifty years is unknown, but can be assumed to be significantly higher.

Through the examination of recent known occurrences, specifically those occurring in the last five years, we can see that drought has had a consistently negative impact on the county. In 2007, the NCDC reports there having been drought conditions throughout the majority of the year, recording five separate occurrences; May, September, October, November, and December; that can actually be taken as one continuous state of drought. During this time much of the state was similarly afflicted, with 74 Georgia counties classified as being in extreme drought, 79 in severe drought, and six in moderate drought. Toombs County was classified as being in a severe drought. Many local lakes, wells and streams were at noticeably low water levels. In addition, the damage done to summer and early fall crops was devastating. Though local crop damage numbers are unavailable the state as a whole suffered \$787.2 Million in losses. Approximately 44% of these losses occurred within the Peachtree City, Georgia Weather Forecast Office (WFO)

County Warning Area (CWA) that Toombs County is a part of. The impact of the drought is apparent when considering that the county has 341 farms with a total area of 89,889 acres.

See the National Climatic Data Center (NCDC) table in Appendix A, V for additional details regarding past hazard events in Toombs County.

Probability

As stated above, in the last seventeen years there have been twenty-one recorded occurrences of drought. The current chance per year that a drought can occur is 1.24, as noted in the Hazard Frequency Table (Appendix D, II). Additionally, the annual frequency for the last ten and twenty years are .7 and 1.05, respectively. Finally, keeping in mind that the older the data the more incomplete it is, we can see that the annual frequency for the last fifty years is .42, with a historical recurrence interval of .81 years. Since, all twenty-one recorded droughts have occurred in the last twenty years it is reasonable to assume that the number of actual occurrences in the last fifty years is actually quite higher. None the less, based off of the available data the conclusion can still be drawn that the likelihood of droughts occurring on an annual or biannual basis is “Highly Likely”

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | “Highly Likely” |
| 10-25 | “Likely” |
| 25-50 | “Unlikely” |
| 50 or greater | “Highly Unlikely” |

C. Inventory Assets and Potential Losses

The Toombs County Joint Hazard Mitigation Plan Update Committee concluded that drought, in itself, presents no direct threat to the critical facilities. However, Wildfire, as a result of drought, was considered, and the Committee determined that in this manner the hazard poses a significant threat to the county.

In addition, it is important to consider that drought impacts residents, public health, and agriculture. A drought reduces the amount of available water in area and since the majority of homes and businesses draw from underground water sources they are dependent upon it’s availability. Therefore all of the residents of Toombs County, 27,223 are at risk from the impact of a drought. (See Worksheet 3A in Appendix V).

For an estimate of potential losses due to drought it seems most appropriate to focus upon agriculture. To see an estimate of potential losses from a wildfire please refer to Section II of this chapter. In the 2007 Census of Agriculture, Toombs County had a total of 341 farms, with 89,889 acres of farm land in use. (Appendix C).The total market value of products sold for 2007 was \$46,798,000. Crop sales made up 80% (\$37,363,000) of this total and livestock sales the remaining 20 % (\$9,435,000).

D. Development Trends

There are no specific trends concerning drought in the county comprehensive plan. Future land use maps cannot address the threat of natural non-spatial occurrences including drought. However, the addition or growth or any new structures that is agricultural related, has the potential of being vulnerable to and affected by drought.

E Multi-Jurisdictional Concerns

All of Toombs County could potentially be affected by drought conditions, due to its' effect on the water supply and wildfire conditions. However, since most of the county farms and agriculture is located outside the city boundaries there is the greater risk for crop damage and direct economic loss in those areas. Additionally, the potential for wildfires is greater in the unincorporated parts of the county (see Appendix A, V to examine the county).

F. Hazard Summary

Drought has the potential to cause great economic damage to both Toombs County and the state as a whole. In addition to the threat to economic interests, droughts can cause increased wildfires, public health issues, and reduce the water quality/supply. In the future, the update committee and its' partners will make a concerted effort to implement the actions included in this plan in order to lessen the impact of drought on the county's resources and residents.

VI. Severe Winter Storms

A. Hazard Identification

Winter storms are non-spatial hazards that for Toombs County bring the threat of freezing rain and ice storms. A heavy accumulation of ice, especially when accompanied by high winds, devastates trees and power lines, which affect structures, and infrastructures. Direct effects to residences and commercial buildings can include loss of utilities, roof damage and busted water pipes. Additionally, sidewalks, streets, and highways can become extremely hazardous to pedestrians and motorists, resulting in injury or loss of life.

B. Profile Hazard Event

Location

Since Winter Storms are non-spatial entities they have the potential to occur anywhere within Toombs County. Therefore all parts of the county could be potentially subject to Winter Storms and there is no specific area that would necessarily be more likely to have one.

Extent

The extent of winter storms in Toombs County is best measured by viewing the amount of ice and sleet accumulation, since there is rarely any actual snowfall. Past winter storms have resulted

in ice accumulation of up to .5 in. and sleet measuring .10. But due to a limited amount of records it is impossible to completely predict the potential extent of future winter storms.

History

The occurrence of severe winter storms in Toombs County in the past ten years has posed a minimal threat to the citizens. According to NCDC statistics in over seventeen years there has been only two recorded winter storms, occurring in 2002 and 2007. It is important to remember that the NCDC has only recently been keeping up with the number of severe winter storms occurrences at the local level, so the true number of severe winter storms that have occurred in the past fifty years is unknown.

The January 2nd, 2002 winter storm resulted in no property damage, injuries or deaths. The January 10th 2011 winter storm impacted the majority of state resulting in significant snow accumulation in Northern counties. For Toombs County there was a total precipitation accumulation of 1.0 inch of sleet, and 0.25 inch of ice. Additionally, temperatures in the county were reported reaching the teens and single digits. County schools closed for the day and many local organizational meetings were postponed or canceled. However no property damage, injuries or deaths were reported.

Even though the frequency of winter storm occurrences is small, the impact from a severe winter storm has the potential to damage numerous properties (buildings, structures, crops, etc.) and endanger the lives of its citizens.

Probability

Due to the fact that NCDC data shows only had three winter storms in the last seventeen years, the frequency of occurrence per year is projected at .18. Additionally, the annual frequency for the last ten and twenty years are .2 and .15, respectively. Finally, keeping in mind that the older the data the more incomplete it is, we can see that the annual frequency for the last fifty years is .06, with a historical recurrence interval of 5.67 years. The probability that winter storms will occur within the next 10 years is “Highly Likely.”

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | “Highly Likely” |
| 10-25 | “Likely” |
| 25-50 | “Unlikely” |
| 50 or greater | “Highly Unlikely” |

C. Inventory Assets and Potential Losses

The total percentage of the number of structures that are exposed to the non-spatial threat of Winter storms in Toombs County is 100% as noted on Worksheet 3A (Appendix D, I). In Toombs County, there are 26,025 residential structures, 3,024 commercial structures, 138 industrial facilities in Toombs County, 3,890 agricultural structures, 692 religious/non-profit

structures; 711 government facilities, 121 educational structures, and 25 utility structures. All of these structures are equally exposed to a winter storm. Please see Appendix A, VI to examine the county. To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, please see Appendix A, VI. All of these structures are equally exposed to a winter storm. To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, both of which are in Appendix E, VIII. One of the county's 134 identified critical facilities on the GEMA Wind Hazard Report received a hazard score of three, the remaining 133 critical facilities received a hazard score of 2.

The potential damage by a winter storm in Toombs County is difficult to estimate due to several factors, most importantly the severity and duration of the storm. The characteristics of the event, such as whether it involves a large amount of ice, freezing rain or low temperatures, will influence the extent of damage caused.

The total built structures, including critical facilities, of Toombs County have an estimated replacement value of \$1,212,199,979. The total value of all residential structures in Toombs County is \$672,272,878. The value of commercial structures in Toombs County is \$46,584,315. Industrial facilities in Toombs County have a value of \$211,404,210. The value of agricultural structures in Toombs County is \$180,074,663. Religious/non-profit structures in Toombs County are valued at \$19,728,920. Government facilities in Toombs County are valued at \$43,615,083. The educational facilities in Toombs County are valued at \$9,403,600. Finally, the value of utility structures in Toombs County is \$29,116,311. At this time, there are no known future buildings, infrastructure or critical facilities to be located in the county requiring special mitigation strategies. The county's roads and other forms of infrastructure could also be severely affected by ice as a result of a winter storm. Estimates for these losses are unavailable. Additionally, with 27,223 residents in Toombs County, any number could be affected by a winter storm.

D. Development Trends

Toombs County currently has no land use or development trends specifically related to winter storms.

E. Multi-Jurisdictional Hazard

In the incorporated and unincorporated areas of Toombs County (including Vidalia, Lyons, and Santa Claus), the threat of natural non-spatial occurrences including severe winter storms is equally applicable. All areas of the county are susceptible to non-spatial threats. There is not a specific map for this hazard. Therefore, any mitigation steps taken related to winter storms should be applied to the entire county, including the cities of Vidalia, Lyons, and Santa Claus.

F. Summary

Winter storms in Toombs County, though low in occurrence, can cause a significant amount of property damage and pose a threat to personal safety. Ice and freezing rain can damage infrastructure, while also making roads hazardous. They have the potential of occurring anytime

during the winter months and are equally hazardous for all portions of the county. The amount of damage that they cause is dependent upon the extent and severity of the hazard. The mitigation action steps that have been included in this document are focused upon reducing the impact that a winter storm would cause to the property and residents of Toombs County.

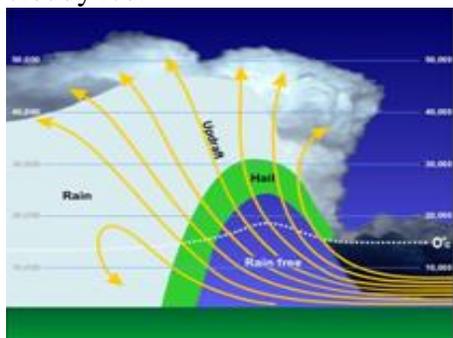
VII. Hailstorms

A. Hazard Identification

Hail is precipitation that is formed when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere. Hail can damage aircraft, homes and cars, and can be deadly to livestock and people.

Hailstones grow by collision with super cooled water drops. (Super cooled drops are liquid drops surrounded by air that is below freezing which is a common occurrence in thunderstorms.) There are two methods by which the hailstone grows, wet growth and dry growth, and which produce the "layered look" of hail.

In wet growth, the hailstone nucleus (a tiny piece of ice) is in a region where the air temperature is below freezing, but not super cold. Upon colliding with a super cooled drop the water does not immediately freeze around the nucleus. Instead liquid water spreads across tumbling hailstones and slowly freezes. Since the process is slow, air bubbles can escape resulting in a layer of clear ice. With dry growth, the air temperature is well below freezing and the water droplet immediately freezes as it collides with the nucleus. The air bubbles are "frozen" in place, leaving cloudy ice.



B. Hazard Profile

Location

Since Hailstorms are non-spatial entities they have the potential to occur anywhere within Toombs County. Therefore all parts of the county could be potentially subject to this hazard and there is no specific area that would necessarily be more likely to have one.

Extent

The extent of a hailstorm is measured by the Hailstorm Intensity Scale (TORRO), which can be viewed below. The scale ranges from H0 to H10 and includes descriptions of the size of the hail, and the extent of the damage it could potentially cause. In the five years since the original plan

was adopted hailstorms in Toombs County have produced hail ranging in size from .75 in to 1.75in, as recorded by the NCDC. Using the TORRO we can see that the intensity of the hail in Toombs County has ranged between a H2 and an H4.

| Hailstorm Intensity Scale (TORRO) | | | | |
|--|---------------------------|------------------------------------|---|--|
| | Intensity Category | Typical Hail Diameter (mm)* | Probable Kinetic Energy, J-m² | Typical Damage Impacts |
| H0 | Hard Hail | 5 | 0-20 | No damage |
| H1 | Potentially Damaging | 5-15 | >20 | Slight general damage to plants, crops |
| H2 | Significant | 10-20 | >100 | Significant damage to fruit, crops, vegetation |
| H3 | Severe | 20-30 | >300 | Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored |
| H4 | Severe | 25-40 | >500 | Widespread glass damage, vehicle bodywork damage |
| H5 | Destructive | 30-50 | >800 | Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries |
| H6 | Destructive | 40-60 | | Bodywork of grounded aircraft dented, brick walls pitted |
| H7 | Destructive | 50-75 | | Severe roof damage, risk of serious injuries |
| H8 | Destructive | 60-90 | | (Severest recorded in the British Isles) Severe damage to aircraft bodywork |
| H9 | Super Hailstorms | 75-100 | | Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open |
| H10 | Super Hailstorms | >100 | | Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open |

History

The NCDC reports that since 1971 there have been twenty-eight recorded hailstorms in Toombs County. However, the actual number of occurrences and the amount of property damage is likely unknown. Seven of these have occurred since the previous plan was adopted.

One notable storm occurred on June 5th, 2012. The public reported that golf ball sized hail fell in Vidalia for 15 minutes. Property damages from the June 5th were reported at \$134,500. Two hail storms were reported on March 24th 2013, fortunately these events did not result in any reported property or crop damage.

Probability

As stated above, in the last fifty years there have been twenty-eight recorded occurrences of Hailstorms. The current chance per year that a hailstorm can occur is .55, as noted in the Hazard Frequency Table (Appendix D, II). Additionally, the annual frequency for the last ten and twenty years are 1.2 and 1.1, respectively. Finally, keeping in mind that the older the data the more incomplete it is, we can see that the annual frequency for the last fifty years is .56, with a historical recurrence interval of 1.82 years. The probability that hailstorms will continue to occur every couple of years is “Highly Likely.”

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | “Highly Likely” |
| 10-25 | “Likely” |
| 25-50 | “Unlikely” |
| 50 or greater | “Highly Unlikely” |

C. Inventory Assets and Potential Losses

The total percentage of the number of structures that are exposed to the non-spatial threat of Winter storms in Toombs County is 100% as noted on Worksheet 3A (Appendix D, I). In Toombs County, there are 26,025 residential structures, 3,024 commercial structures, 138 industrial facilities in Toombs County, 3,890 agricultural structures, 692 religious/non-profit structures; 711 government facilities, 121 educational structures, and 25 utility structures. All of these structures are equally exposed to a Hailstorm. Please see Appendix A, VII to examine the county. To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, both of which are in Appendix A, VII. One of the county’s 134 identified critical facilities on the GEMA Wind Hazard Report received a hazard score of three, the remaining 133 critical facilities received a hazard score of 2.

Though not necessarily directly life threatening, all of the county’s 27,223 residents could potentially be affected by a hailstorm through hazardous road conditions, power outages, and property damage.

The total built structures, including critical facilities, of Toombs County have an estimated replacement value of \$1,212,199,979. The total value of all residential structures in Toombs County is \$672,272,878. The value of commercial structures in Toombs County is \$46,584,315. Industrial facilities in Toombs County have a value of \$211,404,210. The value of agricultural structures in Toombs County is \$180,074,663. Religious/non-profit structures in Toombs County are valued at \$19,728,920. Government facilities in Toombs County are valued at \$43,615,083. The educational facilities in Toombs County are valued at \$9,403,600. Finally, the value of utility structures in Toombs County is \$29,116,311. Each of the counties 134 critical facilities are exposed to the threat of hailstorm. At this time, there are no known future buildings, infrastructure or critical facilities to be located in the county requiring special mitigation strategies.

In addition to the potential damage to structures, crop damage as a result of hail could have a severe impact upon the county's local economy and food supply. Crop sales totaled \$46,798,000 in 2007.

D. Land Use and Development Trends

Toombs County and the Cities of Lyons, Vidalia, and Santa Claus currently have no land use or development trends related to hailstorms. In the future, any number of structures (commercial, industrial, public/institutional, residential), critical facilities, and infrastructure will be vulnerable to thunderstorms because they are a non-spatial hazard.

E. Multi-Jurisdictional Concerns

In the incorporated and unincorporated areas of Toombs County (including municipalities), the threat of natural non-spatial occurrences including Hailstorms is equally applicable. All areas of the county are susceptible to non-spatial threats. However, due to the greater amount of development and structures within the Cities of Vidalia, Lyons, and Santa Claus than in the unincorporated portions, there is a higher potential for property damage inside the city limits. There is not a specific map for this hazard.

F. Hazard Summary

Due to their lack of frequency Hailstorms present a minimal threat to the county. None the less, there is still the potential for damage to be cause by hailstorms and the hazard cannot be ignored. The mitigation action steps that have been included in this plan are focused upon reducing the impact that a hailstorm would cause to the property and residents of Toombs County.

VIII. Hurricanes

A. Hazard Identification

A hurricane is a category of tropical storm of wind speeds greater than 74 or more miles per hour. Hurricanes develop over warm waters and are caused by the atmospheric instability created

by the collision of warm air with cooler air originating in the tropical regions of the Atlantic Ocean or Caribbean Sea. They then travel north, northwest, or northeast from its point of origin, and they usually involve heavy rains. Hurricanes are characterized by a large spiral of wind around a calmer center called the eye of the storm, which has the potential to be 20-30 miles wide. When a hurricane hits land, it may cause devastating rains, winds, and flooding. The hurricane season for the Atlantic coast lasts from June to November, but could occur outside of periods. Though each may not be considered significant, on average, five hurricanes strike the United States every year. Because hurricanes are large moving storm systems, they can affect entire states or entire coastlines.

B. Profile Hurricane Events

Location

Since Hurricanes are non-spatial entities they have the potential to occur anywhere within Toombs County and will be a countywide weather hazard event. Therefore all parts of the county could be subject to Hurricanes and the effects stemming from the weather event. There is no specific area that would necessarily be more likely to have one.

Extent

The extent of a hurricane can range from very mild damage to extreme devastation. The National Weather Service measures the extent of a hurricane using the Saffir-Simpson Hurricane Wind Scale. The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale also estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. However, Category 1 and 2 storms still have the potential to cause a large amount of damage to property and infrastructure.

Toombs County has never had a hurricane, therefore the severity of a future occurrence is likely to be mild, most likely a category one or two.

| Saffir-Simpson Hurricane Wind Scale | | |
|--|---------------------------------------|--|
| Category | Sustained Winds | Types of Damage Due to Hurricane Winds |
| 1 | 74-95 mph 64-82 kt 119-153 km/h | Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days. |

| Saffir-Simpson Hurricane Wind Scale | | |
|--|---|---|
| Category | Sustained Winds | Types of Damage Due to Hurricane Winds |
| 2 | 96-110 mph 83-95 kt 154-177 km/h | Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks. |
| 3 (major) | 111-129 mph 96-112 kt 178-208 km/h | Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes. |
| 4 (major) | 130-156 mph 113-136 kt 209-251 km/h | Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months. |
| 5 (major) | 157 mph or higher 137 kt or higher 252 km/h or higher | Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months. |

History

The threat of hurricanes in Toombs County is minimal. According to NCDC data over the past fifty-two years, there have been zero occurrences of hurricanes in Toombs County, as noted in the Hazard Frequency Table (Appendix D, II). The impact of these events occurring has been minimal in Toombs County over the past fifty years. The past recorded events have resulted in zero dollars in property damage. No lives have been lost due to hurricanes.

However, there have been indirect effects to the county resulting from Hurricanes. This has included receiving large amounts of rain and wind coming from hurricanes along the coasts. Also, Toombs County is on a route for evacuees from coastal Georgia and Florida to come to in the event of a hurricane. US Interstate 16, north of Toombs County running east to west, US Highway 280, running east to west, and US Highway 1, running north to south, are utilized as

major evacuation routes for the Atlantic Coast of Georgia. For Hurricane Floyd in 1999, U.S. 1 and I-16 were considered major corridors for evacuees attempting to escape the hurricane's path. Evacuees were traveling from as far south as Daytona Beach Florida to locations above Macon and Dublin Georgia. This large amount of evacuees, many seeking shelter in the counties along I-16 and above, placed a great deal of strain upon communities that were not prepared to accommodate them. In order to be better prepared for a similar situation in the future the county has included goals and objectives that they feel will help address these issues.

Probability

Based upon the frequency of historical occurrences obtained from the National Climatic Data Center the probability that a hurricane would occur in Toombs County is extremely low. There has never been a hurricane in Toombs County, therefore it is "Highly Unlikely" that a Hurricane will occur in the future.

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | "Highly Likely" |
| 10-25 | "Likely" |
| 25-50 | "Unlikely" |
| 50 or greater | "Highly Unlikely" |

C. Inventory Assets and Potential Losses

The total percentage of the number of structures that are exposed to the non-spatial threat of Hurricanes in Toombs County is 100% as noted on Worksheet 3A (Appendix D, III). In Toombs County, there are 26,025 residential structures, 3,024 commercial structures, 138 industrial facilities in Toombs County, 3,890 agricultural structures, 692 religious/non-profit structures; 711 government facilities, 121 educational structures, and 25 utility structures Please see Appendix A, IV to examine the county. To address specific critical facilities and infrastructure, each facility was examined on an individual basis, entered into the GEMA database, and located on maps, both of which are in Appendix E, VIII. One of the county's 134 identified critical facilities on the GEMA Wind Hazard Report received a hazard score of three, the remaining 133 critical facilities received a hazard score of 2.

The total built structures, including critical facilities, of Toombs County have an estimated replacement value of \$1,212,199,979. The total value of all residential structures in Toombs County is \$672,272,878. The value of commercial structures in Toombs County is \$46,584,315. Industrial facilities in Toombs County have a value of \$211,404,210. The value of agricultural structures in Toombs County is \$180,074,663. Religious/non-profit structures in Toombs County are valued at \$19,728,920. Government facilities in Toombs County are valued at \$43,615,083. The educational facilities in Toombs County are valued at \$9,403,600. Finally, the value of utility structures in Toombs County is \$29,116,311. At this time, there are no known future buildings, infrastructure or critical facilities to be located in the county requiring special mitigation strategies.

D. Development Trends

The county currently has no land use or development trends specifically related to Hurricanes. The largest concerns during a hurricane event for Toombs County would result from the large amount of rainfall that could cause flooding in the incorporated and unincorporated parts of the county. Increased enforcement of building codes related to flooding and the continuing efforts to improve drainage throughout the county will serve the community well in the event of a hurricane.

E. Multi-Jurisdictional Concerns

Due to the non-spatial nature of a hurricane, any part of Toombs County could potentially be affected by its' occurrence. However, in regards to the possible flooding caused by the heavy rains from a hurricane, the most structural damage is likely to occur within the city limits of Vidalia or Lyons. The unincorporated portions of the county that fall within flood zones are largely undeveloped, therefore there is less possibility of damage occurring.

F. Hazard Summary

As pointed out in the NCDC statistics, in the past fifty years no hurricanes have been recorded in Toombs County. This largely due to the county's' inland location and distance from the coast. The past recorded events have resulted in zero dollars in property damage. Additionally, no lives have been lost due to hurricanes.

However, the hazard mitigation plan update committee made the decision to include hurricanes in their list of hazards because of the severe direct and indirect effects that an occurrence could have. This includes localized flooding, fallen trees, utility damage, and destruction of property. Additionally, the occurrence of a hurricane in a different part of the state has the potential to affect the county, due the presence of a major evacuation route U.S. 1 and short distance from I-16. The measures put into place by this plan are intended to decrease or eliminate these negative effects.

All areas of the county are susceptible to non-spatial threats. In the incorporated and unincorporated areas of Toombs County (including Vidalia, Lyons and Santa Claus), the threat of natural non-spatial occurrences including hurricanes is equally applicable. Therefore, any mitigation steps take related to Hurricanes should be applied to the entire county, including each municipality.

IX. Dam Failure

A. Hazard Identification

By definition, a dam is a barrier used to prevent the flow of a liquid; esp., a bank of earth, or wall of any kind, as of masonry or wood, built across a water source, to confine and keep back flowing

water. In the event of failure, a dam could release tremendous amounts of water, engulfing and destroying structures that lie in the flow zone area.

B. Hazard Profile

Location

The Georgia Safe Dams Database reports that there are fifty total dams in Toombs County, thirty-two of these dams are classified as low hazards with the remaining dams either exempt or proposed classification. (A list of these can be found in (Appendix IX) The majority of these dams are privately owned and used for recreation or irrigation purposes.

Extent

To measure the possible extent of a dam failure the FEMA Hazard Potential Classification System for Dams is used. This system assigns a risk level to each dam based on the probable loss of human life and the potential for economic losses, environmental damage, and/or disruption to lifelines caused by failure or mis-operation of the dam or its appurtenances. The system takes into account the potential effects of a failure or mis-operation during both normal and flood flow conditions.

There are three possible levels of hazard classification; Low, Significant and High. In 2012 the Georgia Safe Dams Database identified forty-one of the fifty dams as Low Hazard. With the remaining nine dams classified as Exempt.

1. LOW HAZARD POTENTIAL

Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

2. SIGNIFICANT HAZARD POTENTIAL

Dams assigned the significant hazard potential classification are those dams where failure or mis-operation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

3. HIGH HAZARD POTENTIAL

Dams assigned the high hazard potential classification are those where failure or mis-operation will probably cause loss of human life.

Toombs County does not currently have any dams classified as High.

| Hazard Potential Classification | Loss of Human Life | Economic, Environmental, Lifeline |
|--|--------------------------------|---|
| Low | None Expected | Low and generally limited to owner |
| Significant | None Expected | Yes |
| High | Probable, One or More Expected | Yes (but not necessary for this classification) |

History

There have been no recorded instances of Dam Failure in Toombs County.

Probability

Due to the lack of dams classified as having the potential to fail and there being no past recorded occurrences, the likelihood of such an occurrence is low. However, due to the large number of dams in the county and two located inside the Vidalia city limits, the committee felt it necessary to consider the future occurrence as “Unlikely”, instead of “Highly Unlikely.”

| Occurrence Probability in Years | Likelihood of Future Occurrence |
|--|--|
| 1-10 | “Highly Likely” |
| 10-25 | “Likely” |
| 25-50 | “Unlikely” |
| 50 or greater | “Highly Unlikely” |

C. Inventory Assets and Potential Losses

Since dam failure is a spatial threat, potential losses are restricted to the areas surrounding the dams that have the potential to fail. Due to dam locations throughout Toombs County having no High-Hazard classification, the county does not have any immediate threatened assets to report. A close examination of the map provided for this plan will provide a greater outlook of the potential impact of dam failure and locations (Appendix A, IX). As currently reported, dam failure does not pose a threat to any residential, commercial, industrial, agricultural, religious/non-profit, government, educational, or utility structures. There are no critical facilities in the immediate hazard areas of the dams located for this plan. All structure information came from the Toombs County Tax Assessor.

D. Development Trends

There are no specific trends in the county comprehensive plan concerning dam failure. The land-use and development ordinances of Toombs County and its municipalities do currently not address dam failure. There are no known existing land use or development trends that would be affected by dam failure. However, future property owners and developers will be notified of their proximity to the dam and of the hazard potential associated with a failure.

E Multi-Jurisdictional Concerns

The forty dams that are identified as having a Low Hazard are spread throughout the county and the City of Vidalia. Following information from the Georgia Safe Dams Database and Army Corps of Engineers, the committee did not recognize an immediate threat of multi-jurisdictional concern. Locations of Dams reported by the Army Corps of Engineers and the Georgia Safe Dam Database can be found in Appendix A, XI.

F. Hazard Summary

Generally, due to the lack of development and flat topography in the areas surrounding the majority of the dams in Toombs County, Dam Failure poses minimal risk to the citizens and structures of the county. Toombs County does not have a High Risk Dam as classified by the Georgia Safe Dams Database or Army Corps of Engineers. Therefore, the committee believes overall potential for a Dam Failure to occur is relatively low but remains a potential hazard to the citizens and structures of Toombs County.

Chapter 3 – Local Natural Hazard Mitigation Goals & Objectives

| Chapter 3 Section | Updates to Section |
|---|--|
| I. Introduction | <ul style="list-style-type: none"> • Priorities Altered, Capability Assessment updated. |
| II. Natural Hazard Thunderstorms/Windstorms | <ul style="list-style-type: none"> • Goal text revised, content unchanged from previous plan. Revision of objectives, tasks, and actions steps to meet recommendations of committee |
| III. Natural Hazard Wildfire | <ul style="list-style-type: none"> • Goal text revised, content unchanged from previous plan. Revision of objectives, tasks, and actions steps to meet recommendations of committee |
| IV. Natural Hazard Tornado | <ul style="list-style-type: none"> • Goal text revised, content unchanged from previous plan. Revision of objectives, tasks, and actions steps to meet recommendations of committee |
| V. Natural Hazard Flood | <ul style="list-style-type: none"> • Goal text revised, content unchanged from previous plan. Revision of objectives, tasks, and actions steps to meet recommendations of committee |
| VI. Natural Hazard Drought | <ul style="list-style-type: none"> • Goal text revised, content unchanged from previous plan. Revision of objectives, tasks, and actions steps to meet recommendations of committee |
| VII. Natural Hazard Winter storm | <ul style="list-style-type: none"> • Goal text revised, content unchanged from previous plan. Revision of objectives, tasks, and actions steps to meet recommendations of committee |
| VIII. Natural Hazard Hailstorm | <ul style="list-style-type: none"> • Goal text revised, content unchanged from previous plan. Revision of objectives, tasks, and actions steps to meet recommendations of committee |
| IX. Natural Hazard Hurricane | <ul style="list-style-type: none"> • Goal text revised, content unchanged from previous plan. Revision of objectives, tasks, and actions steps to meet recommendations of committee |
| X. Natural Hazard Dam Failure | <ul style="list-style-type: none"> • New Hazard |

I. Introduction to Mitigation Strategy

A. Priority Changes

Goals and objective statements have been updated from the 2008 Plan to reflect the progress that Toombs County has made, as well as to reflect any new developments related to mitigation actions. The county has taken steps to implement many of the previously identified mitigation strategies, achieving successes in several of the objective areas. The update committee felt that the majority of the actions steps still felt to be relevant from the previously approved plan remain the same, as the committee still feels that they hold relevance to the community. Financial difficulties experienced by the county, similar to those felt throughout the entire nation, limited Toombs County's ability to achieve more of their goals and objectives. Overall there have not been any major developments that have altered the prioritization of objectives or goals. However, in reviewing each of the action steps the committee made decisions to change the assigned priority level of certain actions based upon a variety of factors. Changes in priority levels have been noted next to each action. A more detailed description of the process used to determine prioritization can be found in Section C, IV.

B. Capability Assessment

The Toombs County Emergency Management Agency (EMA) Director will coordinate with the appropriate city agency personnel in order to execute any and all multi-jurisdictional steps. The EMA Director will function as the coordinator of the Hazard Mitigation action plan implementation efforts. The director will work with the appropriate county and municipality officials, boards and committees on the various aspects of the plan.

Toombs County currently utilizes comprehensive land use planning and building codes to guide and control development in the city and county. The city and county jointly fund a trained building inspector. The current land use regulations and building codes will provide the basis for additions and revisions that are related to hazard mitigation. In addition, the city and county have designated officials responsible for development and building code-related issues, including the creation of additional regulations.

The City Fire Departments of Vidalia and Lyons and Toombs County volunteer fire departments provide an excellent resource for achieving many of the outline hazard mitigation actions. Coordination between the departments will provide a unified approach to mitigation initiatives. Members of all departments are continuously obtaining additional training and certifications in order to increase the overall safety of the county. These departments are also regularly applying for and receiving grants to increase their capabilities and effectiveness.

County officials regularly coordinate and cooperate with the efforts of the local offices of both the Georgia Forestry Commission and the UGA Cooperative Extension Agency. Both of these organizations provide excellent partners for implementing many of the Hazard Mitigation Actions related to drought and wildfire.

The Toombs County Hazard Mitigation Plan will be presented to the committees and persons responsible for updating Comprehensive Plans and Capitol Improvement plans, for their use in incorporating the Hazard Mitigation goals and objectives. A copy will also be given to Toombs County Community Wildfire Protection Plan Committee, who works with the Georgia Forestry Commission to update the Community Wildfire Protection Plan. This provides an additional resource for Wildfire mitigation actions. Resources and personnel that are already in place will be utilized for these efforts.

Other officials and organizations to be involved in the implementation of the mitigation actions include; Vidalia Police Department, Lyons Police Department, Toombs County public works, Vidalia Fire Department, Lyons Fire Department, Toombs County Sheriff's Office, Toombs County Health Department, Lyons City Council, the Vidalia City Council, City of Santa Claus Administration, and the Toombs County Commission.

C. Community Mitigation Goals

In order to develop the mitigation goals the Update Committee analyzed the updated risk assessment data, and reviewed the implementation status of the 2008 goals. From this they were able to determine the relevancy and importance of each goal. After open discussion and deliberation a decision was made to maintain the goals included in the original plan. Additionally, no new goals were added.

The goals are listed below. The order in which they placed reflect the overall perceived threat that each hazard poses to Toombs County, as decided by the update committee.

Goal 1: Reduce damage caused by severe storms and high winds that result from windstorms in Toombs County.

Goal 2: Prevent damage caused by wildfire in Toombs County.

Goal 3: Reduce damage caused by severe storms and high winds in Toombs County.

Goal 4: Reduce flood damage in Toombs County.

Goal 5: Reduce the economic impact of drought in Toombs County.

Goal 6: Reduce damage resulting from ice, sleet, and snow during severe winter storms in Toombs County.

Goal 7: Reduce damage caused by ice during hailstorms in Toombs County.

Goal 8: Reduce damage caused by the high winds that occur during hurricanes in Toombs County.

Goal 9: Reduce damage caused by dams that result from breakage in Toombs County.

D. Identification & Analysis of Range of Mitigation Options

1. Structural and Non-Structural Mitigation

The committee identified structural and non-structural mitigation measures to ensure that the community addresses issues related to this hazard. Structural goals include retrofitting critical facilities, adopting/enforcing building codes, notifying new builders if they are in a floodplain, adding additional storm drainage in throughout each municipality, repairing existing irrigation ponds and development of community safe shelter. The non-structural measures include acquiring additional firefighting equipment, increasing citizen preparedness, and regular training of emergency response members.

2. Existing Policies, Regulations, Ordinances and Land Use

The land use policies, regulations and building ordinances were reviewed. The committee made the recommendation to continue seeking the inclusion of more thorough policies to address appropriate hazards. Existing FEMA Firm maps have been recently updated. Toombs County, Lyons and Vidalia are members of the National Flood Insurance Program, however no flood hazards are found in Santa Claus. This will be addressed in the mitigation action plan for Floods. The Cities of Vidalia and Lyons currently have building and zoning regulations within the city limits, but the unincorporated portions of the county do not. The County and Cities will continue to adopt and implement policies, regulations and ordinances related to hazard mitigation.

3. Community values, historic & special considerations

The mitigation strategies pose no threat to historical properties or any facility that requires special consideration. Community values are reflected in the proposed measures, as reflected in concerns expressed in the Toombs County Joint Comprehensive Plan. The strategies will preserve the rural/agrarian culture and community values of Toombs County, protecting the hometown feel of each jurisdiction while increasing each municipality's preparedness for this type of event.

4. Prioritization of Actions

To evaluate action step priorities, committee members used the STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria provided by FEMA as a guide. Each mitigation strategy step was evaluated using STAPLEE criteria to identify those steps most relevant to Toombs County. (Appendix D III) Based on these considerations, steps were ranked as high priority, medium priority, or low priority. Past occurrences of disasters and local expertise aided committee members in assigning priorities. The ranking of each step is listed under the appropriate section for that strategy.

II. Thunderstorms/Windstorms

I. Goal 1: Reduce damage caused by severe storms and high winds that result from windstorms in Toombs County.

Objective 1.1: Protect life, health and property of residents from high winds from windstorms.

- **Action 1.1** Seek funding to retrofit buildings to reinforce windows, roofs and doors – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 1-2 Years |
| Cost | \$50,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 1.2** Increase public awareness of the assistance the local Emergency Management Agency can provide – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 3-4 Years |
| Cost | \$5,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

II. Future Building and Infrastructure-

The update committee discussed development trends and the impact that thunderstorm/windstorm occurrence could have upon future structures. The mitigation steps included above are intended to apply to both new and existing structures. Specifically, new builders will be encouraged to remove hazardous trees on their property. All new buildings and infrastructure will be required to comply, where applicable.

III. Existing Buildings and Infrastructure

The mitigation steps included above are intended to apply to both new and existing structures. Existing buildings and infrastructure will be included in recommendations to retrofit to withstand wind and storm conditions. Additionally current property owners will be encouraged to remove hazardous trees as needed.

IV. Special Multi-Jurisdictional Strategy and Considerations

Due to the fact that this is a non-spatial hazard, the threat is present in both the incorporated and un-incorporated parts of Toombs County. The occurrence of this event is unpredictable; therefore, all considerations and strategies apply equally to each jurisdiction.

V. Completed and deleted action steps from original plan.

Completed: None

Deleted: None

VI. **Unchanged action steps:**

All of the action steps remain unchanged. The Toombs County Hazard Mitigation Update Committee reviewed the STAPLEE criteria for this hazard and feels that these action steps remain pertinent for preparing the community for possible disaster situations. Action 1.1 was lowered in priority to a Low Priority. Action 1.2 is seen as an ongoing effort, with significant progress having already been made.

III. **Wildfire**

I. **Goal 2: Prevent damage caused by wildfire in Toombs County.**

Objective 2.1: Prevent destruction of forests and structures.

- **Action 2.1** Improve access to airborne fire protection (Water Access) – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Georgia Forestry Commission |
| Coordinating Org.(s) | Toombs County-EMA Director Georgia Forestry Commission |
| Timeline | 5 Years |
| Cost | \$2,000.00 (Staff Time) |
| Funding Source(s) | General Fund/GEMA/Assistance to Firefighters Grant |

- **Action 2.2** Seek state and federal grants to acquire better fire equipment – H

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-Volunteer Fire Depts./Chiefs |
| Timeline | 1-2 Years |
| Cost | \$600,000.00 (Staff Time/Vehicles, etc.) |
| Funding Source(s) | General Fund/FEMA |

- **Action 2.3** Improve wildland training at the local fire department level – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) Georgia Forestry Commission, City of Lyons Fire Department, City Of Vidalia Fire Department |
| Coordinating Org.(s) | Toombs County-Volunteer Fire Depts./Chiefs |
| Timeline | 3-4 Years |
| Cost | \$5,000.00 (Materials) |
| Funding Source(s) | General Fund/FEMA |

- **Action 2.4** Improve public awareness of wildfire techniques such as putting out small fires with garden hose and the importance of fire buffers around the home by publishing articles in the local newspaper, holding town hall meetings, radio announcements and providing bulletins to local churches and schools – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 5 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 2.5** Support Georgia Forestry Commission Public Outreach efforts – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.)Georgia Forestry Commission |
| Coordinating Org.(s) | Toombs County-Volunteer Fire Depts./Chiefs Georgia Forestry Commission |
| Timeline | 5 Years |
| Cost | \$0.00 |
| Funding Source(s) | N/A |

- **Action 2.6** Seek funds from EPD in increase public awareness about current disposal method of tires and continue current method of disposal for tires – H

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-Volunteer Fire Depts./Chiefs |
| Timeline | 1-2 Years |
| Cost | \$50,000.00 (Materials) |
| Funding Source(s) | General Fund/FEMA/EPD |

- **Action 2.7** Develop/enforce fire and safety codes – M

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) City of Lyons, City Of Vidalia |
| Coordinating Org.(s) | Toombs County (Co. Adm.) Georgia Forestry Commission |
| Timeline | 3-4 Years |
| Cost | \$2,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund |

- **Action 2.8** Educate citizens on an ordinance to enforce burn permits – L

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) City of Lyons, City Of Vidalia |
| Coordinating Org.(s) | Toombs County (Co. Adm.) Georgia Forestry Commission |
| Timeline | 5 Years |
| Cost | \$10,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/FEMA |

- **Action 2.9** Investigate methods to provide landowners an incentive to prescribe burn timberland thereby minimizing heavy fuel loads – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) Georgia Forestry Commission |
| Coordinating Org.(s) | Toombs County-Volunteer Fire Depts./Chiefs |
| Timeline | 5 Years |
| Cost | \$10,000.00 (Staff Time) |
| Funding Source(s) | General Fund/GEMA |

Objective 2.2: Reduce threat of wildfire occurrence during periods of drought.

- **Action 2.10** Designate water resources that are available for fire protection (Dry Hydrants) – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) Georgia Forestry Commission |
| Coordinating Org.(s) | Toombs County-Volunteer Fire Depts./Chiefs |
| Timeline | 5 Years |
| Cost | \$10,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/FEMA |

- **Action 2.11** Seek funding to acquire more fire pumpers and floater pumps for local fire departments – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-Volunteer Fire Depts./Chiefs |
| Timeline | 1-2 Years |
| Cost | \$600,000.00 (Staff Time/Vehicles, etc.) |
| Funding Source(s) | General Fund/FEMA |

- **Action 2.12** 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, holding town hall meetings, radio announcements and providing bulletins to local churches and schools – M

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) Georgia Forestry Commission, Safe Kids Program, City of Vidalia, City of Lyons |
| Coordinating Org.(s) | Toombs County-Volunteer Fire Depts./Chiefs |
| Timeline | 3-4 Years |
| Cost | \$5,000.00 (Materials/ News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/FEMA |

- **Action 2.13** Seek funding to locate wet and dry hydrants throughout the County – M

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director & Volunteer Fire Depts./Chiefs |
| Timeline | 1-2 Years |
| Cost | \$10,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/FEMA |

Objective 2.3: Protect life and health of residents from threat of wildfire.

- **Action 2.14** Seek grants to train firefighters on wildfire tactics and equipment – L

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director & Volunteer Fire Depts./Chiefs |
| Timeline | 5 Years |
| Cost | \$10,000.00 (Materials) |
| Funding Source(s) | General Fund/FEMA/AFG/ Local Funding |

- **Action 2.15** Seek state and federal grants to acquire and maintain better fire-fighting equipment – H

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director & Volunteer Fire Depts./Chiefs |
| Timeline | 1-2 Years |
| Cost | \$600,000.00 (Staff Time/Vehicles, etc.) |
| Funding Source(s) | General Fund/FEMA |

- **Action 2.16** Increase public awareness of wild land fire interface issues – L

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) Georgia Forestry Commission |
| Coordinating Org.(s) | Toombs County-EMA Director & Volunteer Fire Depts./Chiefs |
| Timeline | 5 Years |
| Cost | \$2,000.00 (News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 2.17** Seek funding for additional storage space for local fire departments – M

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director & Volunteer Fire Depts./Chiefs |
| Timeline | 1-2 Years |
| Cost | \$10,000.00 (Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 2.18** Seek funding to recruit, train, and supply fire personnel at volunteer stations throughout Toombs County – H

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director & Volunteer Fire Depts./Chiefs |
| Timeline | 1-2 Years |
| Cost | \$30,000.00 (Materials/Staff) |
| Funding Source(s) | General Fund/GEMA |

II. Future Building and Infrastructure-

The update committee discussed development trends and the impact that wildfire occurrence could have upon future structures. The mitigation steps included above are intended to apply to both new and existing structures. All new buildings and infrastructure will be required to comply to new building codes and ordinances, where applicable. The construction of new buildings and development was specifically examined in regards to developing and implementing building, fire and safety codes, as well as addressing growing urban interface issues.

III. Existing Buildings and Infrastructure

The mitigation steps included above are intended to apply to both new and existing structures. Existing buildings and infrastructure will be subject to any changes in building, fire and safety codes.

IV. Special Multi-Jurisdictional Strategy and Considerations

In the incorporated areas of Toombs County, the threat of wildfires is low to moderate due to the relatively low fuel load that is present within the Vidalia, Lyons and Santa Claus city limits. However, in the unincorporated areas of Toombs County, the threat of wildfires is much higher due to the moderate to high fuel loads that exist in the more rural locations. These fuel load areas significantly increase the threat of wildfires, especially during drought conditions when all of the existing vegetation is drier. While the unincorporated areas are at greater risk, wind direction and fuel loads can quickly push a fire toward the City of Vidalia, Lyons or Santa Claus. As such, the mitigation measures should be applied across each jurisdiction within Toombs County. The update committee stressed the need for cooperation and inter-coordination between the Cities and County, as well as with local Georgia Forestry Commission efforts. Detailed jurisdictional information and mitigation efforts are addressed in the Toombs County Community Wildfire Protection Plan, which was consulted by the update committee in the development of the Hazard Mitigation Plan.

V. Completed and deleted action steps from original plan.

Completed: None

Deleted: None

VI. Unchanged action steps:

The action steps remain unchanged except for a change in priority for 2.11. Action 2.11 was lowered in priority from a High to a Medium priority because of the acquisition of equipment, however the step remains relevant to completion of the objectives identified in this plan. The Toombs County Hazard Mitigation Update Committee reviewed the STAPLEE criteria for this hazard and feels that these action steps remain pertinent for preparing the community for possible disaster situations. Many of the actions are considered ongoing efforts including those related to public awareness, firefighter training and enforcing related codes. These actions have allowed for progress to be made in mitigating wildfire occurrence and will be continued as necessary.

Additionally, several actions were unable to be completed due to budgetary constraints. However the county has deemed these as still relevant and will continue to attempt to implement them. These include Actions; 2.5, 2.9 and 2.11.

VII. New Action Step:

IV. Tornado

I. Goal 3: Reduce damage caused by severe storms and high winds in Toombs County.

Objective 3.1: Protect life, health and property of residents from force of tornadoes.

- **Action 3.1** Seek funds to establish reception centers as community safe shelters – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 5 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 3.2** Seek funding to maintain a Emergency Public Address System (Warning System) – H

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) City of Vidalia (City Manager) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$125,000.00 (Staff Time/System Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 3.3** Increase public awareness of emergency topics by publishing articles in the local newspaper, holding town hall meetings, and providing bulletins to local churches and the schools (i.e. NOAA Weather Radio Systems, Local Emergency Shelters, individual safe rooms, National Weather Service Operations, Local Emergency Plans, and the Local Emergency Management Agency, etc.) – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 5 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 3.4** Seek funding to retrofit public buildings to reinforce windows, roofs and doors –L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 1-2 Years |
| Cost | \$50,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 3.5** Update all Emergency Response Plans – L

| | |
|----------------------|----------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 5 Years |
| Cost | \$2,000.00 (Staff Time) |

| | |
|-------------------|--------------|
| Funding Source(s) | General Fund |
|-------------------|--------------|

- **Action 3.6** Educate citizens to develop and have an emergency plan and survival kit – H

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 3.7** Seek funding to maintain and enhance the E-911 System’s capability of locating all cellular phones throughout the County by utilizing GPS (Phase II) – L

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) |
| Timeline | 1-2 Years |
| Cost | \$75,000.00 (Staff Time/System Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 3.8** Notify Citizens of foreign languages (Spanish) with public service announcements and local newspapers – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 3-4 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

II. Future Building and Infrastructure-

The update committee discussed development trends and the impact that wildfire occurrence could have upon future structures. The mitigation steps included above are intended to apply to both new and existing structures. All new buildings and infrastructure will be required to comply to new codes and ordinances, where applicable.

III. Existing Buildings and Infrastructure

The mitigation steps included above are intended to apply to both new and existing structures. Existing buildings and infrastructure will be subject to any changes in building, fire and safety codes.

IV. Special Multi-Jurisdictional Strategy and Considerations

All structures and facilities within Toombs County could be damaged by a tornado. The Cities of Vidalia, Lyons, Santa Claus and the unincorporated portions of the county are both equally at risk to damage from a Tornado. The update committee stressed the need for cooperation and inter-coordination between the Cities and County in mitigation and response efforts.

V. Completed and deleted action steps from original plan.

- **Completed:** 1. Seek funding to implement reverse dial out on 911
- **Deleted:** 1. Seek funding to obtain NOAA Weather Radio Systems that have Specific Area Message Encoding.
This action was deleted due to the county’s recent implementation of the Code Red System, which allows them alert residents in specific areas.
- 2. Seek funding to expand an Emergency Public Address System (Warning System)
This action was deleted due to the county’s recent implementation of the Code Red System, which functions as a warning system.

VI. Unchanged action steps:

The Toombs County Hazard Mitigation Update Committee reviewed the STAPLEE criteria for this hazard and feels that these action steps remain pertinent for preparing the community for possible disaster situations. Action 3.4 was lowered to a Low Priority. Many of the actions are considered ongoing efforts including those related to public awareness, and updating Emergency Response Plans.

Additionally, the county has made applied for grant funds to build a Community Safe Shelter (Action 3.1), however these application have not been awarded. County officials will continue to seek funding for this project as it is necessary to protecting citizens from hazards, including Tornadoes.

VII. New Action Steps:

New: None

V. Flooding

I. Goal 4: Reduce flood damage in Toombs County.

Objective 4.1: Minimize losses to existing and future structures, especially critical facilities, due to flooding.

- **Action 4.1** Seek funding to assess storm water run-off, watershed plans and effectiveness of present drainage ditching, culverts, storm water and sanitation network – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 5 Years |

| | |
|-------------------|--------------------------|
| Cost | \$10,000.00 (Staff Time) |
| Funding Source(s) | General Fund |

- **Action 4.2** Update the local FEMA Firm Maps – M

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (EMA Director) Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 3-4 Years |
| Cost | \$2,000.00 (Staff Time) |
| Funding Source(s) | General Fund |

- **Action 4.3** Improve floodplain and building regulations and update zoning regulations in the City of Lyons – M

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | City of Lyons (Mayor) |
| Coordinating Org.(s) | City of Lyons (Mayor) |
| Timeline | 3-4 Years |
| Cost | \$30,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund |

- **Action 4.4** Improve floodplain and building regulations and update zoning regulations in the City of Vidalia – M

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | City of Vidalia (Mayor) |
| Coordinating Org.(s) | City of Vidalia (Mayor) |
| Timeline | 3-4 Years |
| Cost | \$30,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund |

- **Action 4.5** Improve floodplain and land use regulations and enforce building regulations in the unincorporated areas of Toombs County – H

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) |
| Timeline | 1-2 Years |
| Cost | \$30,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund |

- **Action 4.6** Educate citizens on FEMA regulations and ordinances – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 5 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund |

- **Action 4.7** Continue to notify residents that reside in a flood plain through– M

| | |
|----------------------|--------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) |
| Timeline | 3-4 Years |
| Cost | \$0.00 |
| Funding Source(s) | General Fund |

- **Action 4.8** Seek funding to add additional storm drainage where practical – H

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 1-2 Years |
| Cost | \$100,000.00 (Staff Time/Drainage Materials) |
| Funding Source(s) | General Fund/GEMA/CDBG/FEMA Funds |

- **Action 4.9** Improve the floodplain management program – M

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) |
| Timeline | 3-4 Years |
| Cost | \$30,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 4.10** Have additional building inspectors knowledgeable on flood plain management in the Cities of Lyons – M

| | |
|----------------------|--|
| Responsible Org.(s) | City of Vidalia (Mayor), City of Lyons (Mayor) |
| Coordinating Org.(s) | City of Vidalia (Mayor), City of Lyons (Mayor) |
| Timeline | 3-4 Years |
| Cost | \$60,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 4.11** Have additional building inspectors knowledgeable in flood plain management in the unincorporated areas of Toombs County once funding becomes available for more building inspectors – H

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (EMA Director) |
| Timeline | 1-2 Years |
| Cost | \$60,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 4.12** Develop a plan to decrease flood areas around pump stations – L

| | |
|----------------------|--|
| Responsible Org.(s) | City of Vidalia (Mayor), City of Lyons (Mayor) |
| Coordinating Org.(s) | City of Vidalia (Mayor), City of Lyons (Mayor) |
| Timeline | 1-2 Years |
| Cost | \$30,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

II. **Future Building and Infrastructure-**

The update committee discussed development trends and the impact that flood occurrence could have upon future structures. The mitigation steps included above are intended to apply to both new and existing structures. The update committee discussed in detail the need to ensure that future property owners and builders are made aware if they are in a floodplain. All new buildings and infrastructure will be required to comply with any flood related building codes or ordinances, where applicable.

III. **Existing Buildings and Infrastructure**

Existing buildings and infrastructure located in or adjacent to floodplains will be impacted by changes to floodplain management, storm water run-off and drainage improvements. These measures are designed to improve conditions and prevent relief from flooding issues. Property owners located in a floodplain area will be notified. All existing buildings and infrastructure will be required to comply with any flood related building codes or ordinances, where applicable.

IV. **Special Multi-Jurisdictional Strategy and Considerations**

In the unincorporated areas of Toombs County, more areas are prone to flooding because of the lack of drainage, bodies of water, and other measures that increase the possibility of flooding. The Altamaha river area located on the southern county boarder, is classified as flood zone three.

In the incorporated area of Toombs County, the threat of flooding is still present within the city limits of Vidalia and Lyons in low-lying areas. Additionally, in the incorporated areas there is a greater chance that a flood could cause damage to residential, commercial and infrastructure. The Cities of Lyons and Vidalia are located in zone one. The remainder of the county, with exception of the Altamaha River area, is located in zone zero.

Toombs County, Vidalia and Lyons are each members of the National Flood Insurance Program (NFIP); no flood hazard was identified in the non-NFIP member City of Santa Claus. Toombs County does not have any floodplain ordinances in place beyond NFIP regulations, but it is in compliance with the NFIP regulations. Lyons passed a flood plain ordinance in 2010 to lessen the impact of flooding in the city. The current Flood Insurance Rate Map (FIRM) for the entire county, including Vidalia and Lyons, was adopted on August, 19th, 2010. Additionally, a Flood Insurance Study (FIS) of the incorporated and unincorporated areas of the county was conducted by FEMA in 2010. Portions of study were consulted for the purposes of this plan. (Appendix A, IV) In the future the county will continue to improve and maintain their flood maps. They will also continue to comply with all NFIP requirements and find areas where feasible to exceed requirements, in an effort to increase the overall wellbeing of the citizens of the county.

V. **Completed and deleted action steps from original plan.**

Completed: None

Deleted: None

VI. Unchanged action steps:

All of the action steps remain unchanged except action 4.12 which was lowered to a Low Priority action step. The Toombs County Hazard Mitigation Update Committee reviewed the STAPLEE criteria for this hazard and feels that these action steps remain pertinent for preparing the community for possible disaster situations. Many of the hazards are considered ongoing, and are part of continued mitigation efforts. However, these actions are still viewed as necessary to mitigation efforts and will be explored when possible.

VII. New Action Steps:

New: None

VI. Drought

I. Goal 5: Reduce the economic impact of drought in Toombs County.

Objective 5.1: Minimize economic impact of drought.

- **Action 5.1** Promote more efficient use of surface irrigation – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-Extension Service Agent |
| Timeline | 5 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/USDA/NRCS |

- **Action 5.2** Promote to the public the resources and information available through USDA and NRCS – M

| | |
|----------------------|---------------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-Extension Service Agent |
| Timeline | 3-4 Years |
| Cost | \$0.00 |
| Funding Source(s) | USDA/NRCS |

II. Future Building and Infrastructure

New buildings and infrastructure will not be impacted by these proposed measures.

III. Existing Buildings and Infrastructure

Existing buildings and infrastructure will not be impacted by these proposed measures.

IV. Special Multi-Jurisdictional Strategy and Considerations

Drought has the potential to affect the entire county, including the cities of Vidalia, Lyons, and Santa Claus. The agricultural damage and reduction in drinking water will impact both the

incorporated and unincorporated portions of the county. However, the committee's greatest concern is potential for the threat of wildfire resulting from extreme drought. As addressed earlier in the action plan for Wildfire occurrence, though the potential for a wildfire is greater in the unincorporated portions of the county it could easily spread to the city limits. Detailed jurisdictional information and mitigation efforts are addressed in the Community Wildfire Protection Plan, which was consulted by the update committee in the development of the Hazard Mitigation Plan.

V. **Completed and deleted action steps from original plan.**

- **Completed:** None
- **Deleted:**
 1. Locate unused irrigation wells for non potable water use during times of drought.
 2. Promote construction of farm ponds for irrigation
 3. Seek funds to repair existing ponds

VI. **Unchanged action steps:**

All of the action steps remain unchanged. The Toombs County Hazard Mitigation Update Committee reviewed the STAPLEE criteria for this hazard and feels that these action steps remain pertinent for preparing the community for possible disaster situations. As indicated, many of the actions are considered ongoing efforts including those related to public awareness and the designation of additional water sources. Several others were deferred or removed for several reasons, including lack of funding. However the update committee still views the action steps listed as valid.

VII. **New Action Step:**

New: None

VII. **Severe Winter Storms**

I. **Goal 6: Reduce damage resulting from ice, sleet, and snow during severe winter storms in Toombs County.**

Objective 6.1: Protect life, health and property of residents from high winds from severe winter storms.

- **Action 6.1** Seek funding to retrofit buildings to reinforce windows, roofs and doors – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 1-2 Years |
| Cost | \$50,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 6.2** Seek funding to purchase generators – L

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$30,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 6.3** Seek funding to retrofit buildings to install generators in critical buildings (i.e., health department, wells and pump stations of the cities of Lyons and Vidalia) – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 1-2 Years |
| Cost | \$50,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

II. Future Building and Infrastructure

The update committee discussed development trends and the impact that Winter Storm occurrence could have upon future structures. The mitigation steps included above are intended to apply to both new and existing structures.

III. Existing Buildings and Infrastructure

All existing buildings and infrastructure will be required to comply with any building codes or ordinances, where applicable.

IV. Special Multi-Jurisdictional Strategy and Considerations

Winter Storms have the potential to equally affect the entire county, including each municipality. The occurrence of this event is unpredictable; therefore, all considerations and strategies apply equally to each jurisdiction.

V. Completed and deleted action steps from original plan.

Completed: None

Deleted: None

VI. Unchanged action steps:

All of the action steps remain unchanged. The Toombs County Hazard Mitigation Update Committee reviewed the STAPLEE criteria for this hazard and feels that these action steps remain pertinent for preparing the community for possible disaster situations. As indicated, each of the actions are considered ongoing efforts. Action 6.1 was determined to have a lower priority

in this plan and was given a Medium Priority instead of a High rating. However, the update committee still views these action steps listed as essential to mitigation efforts for this hazard.

VII. **New Action Step:**

New: None

VIII. **Hailstorms**

I. **Goal 7: Reduce damage caused by ice during hailstorms in Toombs County.**

Objective 7.1: Protect life, health and property of residents from damage and high winds from hail.

- **Action 7.1** Seek funding to retrofit buildings to reinforce windows, roofs and doors – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 1-2 Years |
| Cost | \$50,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 7.2** Increase public awareness of emergency topics by publishing articles in the local newspaper, holding town hall meetings, and providing bulletins to local churches and the schools (i.e., NOAA Weather Radio Systems, Local Emergency Shelters, individual safe rooms, National Weather Service Operations, Local Emergency Plans, and the Local Emergency Management Agency, Code Red System, etc.) – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 5 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 7.3** Seek funding to purchase generators – L

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$30,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

II. **Future Building and Infrastructure**

The update committee discussed development trends and the impact that Hail storm occurrence could have upon future structures. The mitigation steps included above are intended to apply to both new and existing structures.

III. **Existing Buildings and Infrastructure**

All existing buildings and infrastructure will be required to comply with future building codes or ordinances, where applicable.

IV. **Special Multi-Jurisdictional Strategy and Considerations**

Hail Storms have the potential to equally affect all of Toombs County, including the Cities of Lyons, Vidalia, and Santa Claus. The occurrence of this event is unpredictable; therefore, all considerations and strategies apply equally to each jurisdiction.

V. **Completed and deleted action steps from original plan.**

Completed: None

Deleted: None

VI. **Unchanged action steps:**

All of the action steps remain unchanged except in priority level. The committee discussed the progress made with actions 7.1 and 7.3, as a result, the committee determined 7.1 and 7.3 should have lower priority ratings due to the progress made on these actions since the last plan. Action 7.1 was lowered from a High Priority to a Medium Priority. Action 7.3 was lowered from a High Priority to a Low Priority. The Toombs County Hazard Mitigation Update Committee reviewed the STAPLEE criteria for these hazards and feels that these action steps remain pertinent for preparing the community for possible disaster situations. Each of the action steps are ongoing efforts. Action 7.1, is largely dependent upon available funding and will be pursued when possible.

VII. **New Action Step:**

New: None

IX. **Hurricanes**

I. **Goal 8: Reduce damage caused by the high winds that occur during hurricanes in Toombs County.**

Objective 8.1: Protect life, health and property of residents from high winds from hurricanes.

- **Action 8.1** Seek funding to retrofit buildings to reinforce windows, roofs and doors – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 1-2 Years |

| | |
|-------------------|------------------------------------|
| Cost | \$50,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.2** Educate citizens on evacuation routes and existing shelters to support Coastal Regions – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 3-4 Years |
| Cost | \$2,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.3** Seek funding to purchase generators –L

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$30,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.4** Seek funding to retrofit buildings to install generators in critical buildings (i.e., radio stations, shelters, health department, Vidalia Fire Station, wells and pump stations of the cities of Lyons and Vidalia) – L

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Coordinating Org.(s) | Toombs County (Co. Adm.), Cities of Vidalia (Mayor), Lyons (Mayor) |
| Timeline | 1-2 Years |
| Cost | \$50,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.5** Seek funding for overnight supplies (i.e., cots, blankets, and pillows) – L

| | |
|----------------------|-----------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$5,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.6** Seek funding for a facility to house animals in an emergency situation – M

| | |
|----------------------|-----------------------------------|
| Responsible Org.(s) | Lyons (Mayor), Vidalia(Mayor) |
| Coordinating Org.(s) | Lyons (Mayor), Vidalia(Mayor) |
| Timeline | 3-4 Years |
| Cost | \$5,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.7** Seek funding to upgrade the local animal shelter – M

| | |
|----------------------|-----------------------------------|
| Responsible Org.(s) | Lyons (Mayor), Vidalia(Mayor) |
| Coordinating Org.(s) | Lyons (Mayor), Vidalia(Mayor) |
| Timeline | 3-4 Years |
| Cost | \$5,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.8** Seek funding to maintain the generators located at the E-911 center, EMA Communications Tower, and the Vidalia Police Department –M

| | |
|----------------------|------------------------------------|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$10,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.9** Establish a list of private generator donors in case of an emergency – H

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$5,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.10** Educate citizens in a joint effort with other counties to plan for items to bring with them if they are locating in a shelter in Toombs County during an emergency – H

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$5,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.11** Educate citizens in a joint effort with other counties to plan for which companies in Toombs County they may contact for items such as medical supplies and medicine if they are locating in a shelter in Toombs County during an emergency – H

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 1-2 Years |
| Cost | \$5,000.00 (Staff Time/News Articles/Town Hall Meetings) |
| Funding Source(s) | General Fund/GEMA |

- **Action 8.12**Develop a plan for the upkeep of generators (i.e., responsible parties, log book, and time schedule) - M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) City of Lyons (Mayor) City of Vidalia (Mayor) |
| Coordinating Org.(s) | Toombs County-EMA Director |
| Timeline | 3-4 Years |
| Cost | \$5,000.00 (Staff Time/News Articles/Town Hall Meetings) |

| | |
|-------------------|-------------------|
| Funding Source(s) | General Fund/GEMA |
|-------------------|-------------------|

II. **Future Building and Infrastructure**

The update committee discussed development trends and the impact that a Hurricane occurrence could have upon future structures. The mitigation steps included above are intended to apply to both new and existing structures. The update committee also discussed in detail the need to ensure that future property owners and builders are made aware if they are in a floodplain. All new buildings and infrastructure will be required to comply with any flood related building codes or ordinances, where applicable.

III. **Existing Buildings and Infrastructure**

Existing buildings and infrastructure located in or adjacent to floodplains will be impacted by changes to floodplain management, storm water run-off and drainage improvements. These measures are designed to improve conditions and prevent relief from potential flooding issues caused by a hurricane. Property owners located in a floodplain area will be notified. All existing buildings and infrastructure will be required to comply with any flood related building codes or ordinances, where applicable.

IV. **Special Multi-Jurisdictional Strategy and Considerations**

The effect of a Hurricane occurring along the Georgia coast has the potential to affect the entire county. The resulting flooding and strong winds could impact low lying incorporated and the unincorporated portions of the county. Also a Hurricane has the potential to create a large amount traffic as a result of evacuees. An event causing a mass evacuation of the Georgia Coastal and Florida Atlantic counties would likely result in many people traveling on U.S. Highway 280 and U.S. 1. Therefore, the city and county will coordinate together and with the state to address mitigation actions related to Hurricanes.

V. **Completed and deleted action steps from original plan.**

Completed: None

Deleted: None

VI. **Unchanged action steps:**

The action steps remain unchanged except in priority level. Actions 8.1 8.3, 8.4 and 8.5 were lowered from a High Priority to a Low Priority due to the progress made toward these actions since the last plan. Action 8.8 was changed from seeking an upgrade of machinery at these locations to now seeking maintenance funding for said machinery; an upgrade of generators at these locations occurred since the previous plan. The Toombs County Hazard Mitigation Update Committee reviewed the STAPLEE criteria for this hazard and feels that these action steps remain pertinent for preparing the community for possible disaster situations. As indicated, all of the actions, with the exception of Action 8.12, are considered ongoing. Several of the actions are continuing efforts intended to increase the knowledge and preparedness of the public. Furthermore, Action 8.1 has been deferred in the past due to a lack of available funding.

VII. New Action Step:

New: None

X. Dam Failure

I. Goal 9: Reduce damage caused by dams that result from breakage in Toombs County.

Objective 9.1: Protect life, health and property of residents from dams.

- **Action 9.1** Seek funding to repair pond dams endangering public roads (i.e., lake dams) – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) County EMA Director |
| Timeline | 3-4 Years |
| Cost | \$1,000,000(Construction/ Material) |
| Funding Source(s) | General Fund/USDA |

- **Action 9.2** Educate citizens who are located in areas threatened by dam breakage – H

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) County EMA Director, Volunteer Fire Departments, Sheriff's Department Extension Service Agent |
| Timeline | 3-4 Years |
| Cost | \$40,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/USDA |

- **Action 9.3** Seek funding to maintain dams according to GA EPD regulations – M

| | |
|----------------------|--|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) County EMA Director |
| Timeline | 1-2 Years |
| Cost | \$40,000.00 (Staff Time/Materials) |
| Funding Source(s) | General Fund/USDA |

- **Action 9.4** Educate Citizens about obtaining permits prior to building dams on private properties. –M

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) County EMA Director, Volunteer Fire Departments, Sheriff's Department, Extension Service Agent |
| Timeline | 1-2 Years |
| Cost | \$5,000 (Staff Time/Materials) |
| Funding Source(s) | General Fund/USDA |

- **Action 9.5** Develop and Maintain a Road Damage Notification System.- L

| | |
|----------------------|---|
| Responsible Org.(s) | Toombs County (Co. Adm.) |
| Coordinating Org.(s) | Toombs County (Co. Adm.) County EMA Director, Volunteer Fire Departments, Sheriff's Department, Extension Service Agent, Toombs County Schools Superintendent |
| Timeline | 1-2 Years |
| Cost | \$5,000 (Staff Time) |
| Funding Source(s) | General Fund/USDA |

II. Future Building and Infrastructure

The update committee discussed development trends and the impact that a Dam Failure occurrence could have upon future structures that are within the hazard area. The committee discussed notifying new builders and property owners of their vicinity to a dam and the risks associated with its' possible failure. The mitigation steps included above are intended to apply to both new and existing structures.

III. Existing Buildings and Infrastructure

Although no dam in Toombs County is currently listed as a High Hazard, any existing buildings and infrastructure located in or adjacent to a high hazard dam failure area will be impacted by repairs to dams, any changes to floodplain management, storm water run-off and drainage improvements. In addition, repair efforts on existing pond dams should lessen the probability and impact of a dam failure. These measures are designed to improve conditions and prevent loss of life or property damage caused by dam issues. Property owners located in a high hazard area will be notified. All existing buildings and infrastructure will be required to comply with any flood related building codes or ordinances, where applicable.

IV. Special Multi-Jurisdictional Strategy and Considerations

The potential impact of a dam failure in Toombs County will most likely affect the unincorporated portions of the county. Dam locations can be viewed in Appendix A, X. In the event of a dam failure, it would most likely require a coordinated, multi-jurisdictional response and therefore each municipality is aware of the hazard. These mitigation action efforts will be involve the county and state agencies.

V. Completed and deleted action steps from original plan.

Completed: None

Deleted: None

VI. Unchanged action steps:

New Hazard

VII. New Action Steps:

Action 9.1 Seek funding to repair pond dams endangering public roads (i.e., lake dams) – M

Action 9.2 Educate citizens who are located in areas threatened by dam breakage – H

Action 9.3 Seek funding to maintain dams according to GA EPD regulations – M

Action 9.4 Educate Citizens about obtaining permits prior to building dams on private properties. –M

Action 9.5 Develop and Maintain a Road Damage Notification System-L

Chapter 4 – Plan Implementation

| Chapter Four | Updates to Section |
|---|---|
| I. Integration into Local Planning Mechanisms | Section Revised and reduced |
| II. Monitoring, Evaluation, Updating | Section Revised and reduced. Additional description of Monitoring, Evaluation and Updating process. |
| III. Conclusion | Section Revised and Reduced |
| IV. References | Section Revised |

I. Integration into Local Planning Mechanisms

A. Incorporation into Future Local Planning Mechanisms

This plan will be presented to the county commissioners and city councils to ensure its inclusion in their planning documents, as well as any other ordinances, capital improvement projects etc., that they may undertake in regards to hazard mitigation. The Toombs County EMA Director will serve as a facilitator to help incorporate appropriate portions of the plan into other documents.

The plan will also be presented to the committee(s) responsible for updating the comprehensive plan. The Toombs County Joint Comprehensive Plan was previously updated in 2009. The comprehensive plan provides an excellent tool for guiding the growth of Toombs County and the Cities of Lyons, Vidalia and Santa Claus. The continued incorporation of portions of the Hazard Mitigation Plan into the comprehensive planning process will ensure the inclusion of importation mitigation issues. Though the entire Hazard Mitigation plan will be made available to the comprehensive plan committee, the “Risk Assessment and “Mitigation Strategy” will specifically be focused upon. These two sections are the most directly tied to future development, since they highlight key risks and strategies that will need to be considered by the committee.

Some key areas of overlap between the two plans include; the need for additional zoning regulations and building codes, increasing public safety, street/drainage improvements, and future residential development in the unincorporated portions of the county. These issues among others will be addressed in the comprehensive plans’ “Community Issues and Opportunities Section” and “Implementation Program” section. An evaluation and assessment of mitigation actions will also be included the Comprehensive Plan and the Short Term Work Program upon their revision.

In addition, the County Commission and city administrators will ensure that the local authorities responsible for the Local Emergency Operations Plan (LEOP) and other plans, including the development of goals established in the local comprehensive plan, utilize them as they relate to the Pre-disaster Mitigation Plan. A copy will also be given to the Georgia Forestry Commission and incorporated into their Community Wildfire Protection Plan updates.

B. Previous Plan Incorporation into Local Planning Mechanisms

The original Toombs county Hazard Mitigation Plan was regularly incorporated into other planning mechanisms in the five years since it's' adoption. The plan has been made available to key individuals and groups involved in the development of these other planning documents. The Toombs County Joint Comprehensive Plan was fully updated in 2009. Many of the mitigation strategies from the original Hazard Mitigation Plan were incorporated into the comprehensive plan update. These included building code improvements, seeking additional equipment and training for emergency response personnel, and adding additional fire stations in the county.

The development of the Local Emergency Operations Plan has also included portions of the original Hazard Mitigation plan. The data and maps included in the Hazard mitigation plan have provided additional tools in the development of other documents. Incorporation efforts have also included also included the county commission and municipal governing bodies using the plan as a guide in related capital improvement plans and general decision making in regards to hazard mitigation activities

II. Monitoring, Evaluation, Updating

A. Original Plan Monitoring, Evaluation, Updating

The original Toombs County Hazard Mitigation Plan included a detailed process for monitoring, evaluating and updating the plan in a five year period. This plan was largely dependent upon the coordination of the overall process by the county EMA Director. The implementation process was envisioned as being directed and initiated by the EMA office, with appropriate organizations and entities being responsible for specific mitigation actions. Each municipality delegated responsibility for implementation of actions to the appropriate city department or employee. For example, the city Fire Chief and his staff were tasked with seeking funding for additional fire equipment. Similarly, county departments and staff were given duties based upon the mitigation actions that were applicable. For actions that involved city and county cooperation, the EMA director was the primary coordinator. The EMA director was also in charge of monitoring progress and obtaining updates from the other city and county departments involved in implementation.

The original plan also outlined an evaluation strategy of holding a hazard mitigation review committee meeting in January of every odd numbered year. It was envisioned that at these meetings that representatives from all of the implementation departments and agencies would reconvene to discuss progress, obstacles and changes. This would also be an opportunity to make any needed changes to the mitigation action plan and to develop solutions to any problems. A report was to be developed from this meeting and presented at a county commissioners meeting and a city council meeting, which would allow the opportunity for public comment. Unfortunately, these formal evaluation meetings did not occur. This could be attributed to several causes, including changes in key city and county leadership positions. Instead, evaluation was less structured and more pragmatic, with city and county employees reporting progress to

their respective elected officials. Additionally, the EMA director kept informed on progress and changes made through discussion with stakeholders.

A strategy for updating the original plan was also outlined. This included incorporating in to the plan the changes discussed at the meetings held in January of each odd numbered year. However, formal changes made to the plan did not occur until the Heart of Georgia Altamaha Regional Commission was contracted to facilitate the mandatory five year update process. This process was described in more detail in Chapter One, Section II-III.

Due to issues with the feasibility and effectiveness of the original Monitoring, Evaluation and Update strategy the decision was made to make a couple important adjustments. These changes include altering the time line for the review committee meeting that was originally scheduled for January of every odd numbered year. The review committee will now reconvene in January of each year. The update committee felt that by meeting annually enable to more efficiently update and evaluate the progress being made with the mitigation actions. This meeting will be advertised to the public in advance and a report will be made to the each city council and Toombs County Commissioner. Any changes made to the Hazard Mitigation Plan at the committee meetings will be incorporated into the next mandatory five year update. A more detailed description of the Monitoring, Evaluations, and Update strategy can be found in sections B, C and D.

B. Monitoring Strategy

i. Method:

The primary method used to monitor the implementation of the update will be to observe the progress made towards achieving specific mitigation actions. City employees and officials directly involved in implementing the actions will be responsible for providing the City Manager with regular updates, who will inform the County EMA Director. Likewise, county employees and officials will report to the EMA Director about progress made. By monitoring the status of the mitigation action plan as it is being implemented, the EMA Director will be able to remain informed and involved.

ii. Responsibility

The Toombs County Emergency Management Agency Director is the primary individual responsible for the monitoring of the plan. It is his/her responsibility to coordinate with the city and county departments' responsibility for implementing the different portions of the plan. Through regular discussions and personal involvement, the EMA director will be able to properly monitor the progress. The EMA Director will also actively seek public comment and involvement.

For the municipalities, responsibility falls upon the city administrators to monitor progress for city implemented portions of the plan and to provide updates to the EMA director. Furthermore, all department heads, as well as any officials, that are involved in the implementation process, will have the responsibility to help monitor and provide updates to the EMA Director.

iii. Timeframe

The monitoring process will be ongoing throughout the five years that the plan is valid. The annual meeting of the update committee will convene in January of each year. This meeting will provide an additional opportunity for the EMA director to stay up to date on progress being made.

C. Evaluation Strategy

i. Method:

In order to properly evaluate the plan and implementation of its action strategy two major factors will be considered. The first being whether or not the mitigation action has actually been implemented, taking into consideration that some actions are ongoing. Secondly, whether or not the action appears to be successful in helping to reach the overall objective it is intended to. This will include utilizing a checklist to determine what mitigation actions have been undertaken or accomplished, the completion date (if applicable), the cost associated with each completed action, and whether actions are deemed successful.

ii. Responsibility

The Hazard Mitigation Plan review committee will hold the primary duty of evaluating the success of the plan. The committee will be able to properly evaluate the plan through their involvement in its implementation. The EMA Director and representatives will be tasked with presenting a summary of the evaluation at the county commission and city council meetings, respectively. Additionally, public input will also be sought for the evaluation of strategies. The public provides an excellent source for measuring the successfulness of mitigation actions.

iii. Timeframe

The formal evaluation of the mitigation action plan will occur at the committee meeting each January. At this time the Mitigation strategy should be reviewed with status reports given by the members of the committee upon whether each action has been implemented and whether or not it has been successful. The checklist used for this evaluation will then be developed into a summary to be presented for the County Commission and City Councils once the plan has been evaluated. This summary will be given at the February commission and council meetings. Both the county commission and city council meetings are publically advertised, providing an opportunity for public comment on the plan evaluation and any changes made.

D. Updating

i. Method

Due to the requirements set forth in the Disaster Mitigation Act of 2000, Toombs County is required to formally update and revise the plan every five years. The EMA Director, as well as any organization or individual contracted to help facilitate the update process, will reconvene the review committee on a monthly basis prior to the expiration date of the current plan. The EMA Director will ensure that the committee consists of representatives from the appropriate organizations and if needed invite new members. Efforts will also be made to again obtain the involvement of the public in the update process.

In the update process the committee will review the mitigation goals, objectives and action items to determine their relevance to changing situations in the county, as well as changes in State or Federal policy, and to ensure they are addressing current and expected conditions. The committee will also review the risk assessment portion of the plan to determine if this information should be updated or modified, given any new available data. The list of critical facilities for the county should also be reexamined for accuracy and modified as needed.

Through the use of the monitoring and evaluation strategies outlined in sections II B and II C, the committee should already have an up to date record of the implementation and success of the plan. This record will greatly aid the review committee in their preparation of the 2018 Hazard Mitigation Plan.

The plan update will be submitted to Georgia Emergency Management Agency and the Federal Emergency Management Agency for their review and approval.

Updates of the plan will be presented to the Toombs County Commission and each City Council for approval.

ii. Responsibility

The Toombs County Emergency Management Agency Director is responsible for the ensuring that the Pre-Disaster Hazard Mitigation Plan is updated. He/she will coordinate the process and reconvene the review committee. If an individual or organization is contracted to aide in the update process then they will share in the responsibility for the update process with the EMA Director. All city and county employees/officials are responsible for aiding in the update process as determined by the EMA Director.

iii. Timeframe

In order to update the plan in the five-year period the EMA director will reconvene the review committee at least one year in advance of the plan expiration date. They will meet on a monthly basis, or as decided by the committee, and continue until the update of the plan has been completed. These meetings will be in addition to the annual January meeting.

No later than the conclusion of the five-year period following initial approval of the plan, the EMA Director shall submit a revised Hazard Mitigation Plan to the Georgia Emergency Management Agency and the Federal Emergency Management Agency for their review and coordination.

E. Public Involvement

Toombs County is dedicated to involving the public directly in the continual monitoring, evaluating and updating of the Hazard Mitigation Plan. In order to help ensure public participation during the monitoring and evaluation process the annual meeting will be announced at a city council and county commissioner meeting prior to the date. Additionally the EMA Director and City administrators will make reports to the county commission and city councils after each annual meeting. This will give the public an opportunity to comment and ask questions about the ongoing implementation of the mitigation actions. Moreover, many of the mitigation actions taken by the city or the county will be discussed at their monthly meetings, such as capital projects, grant awards etc.

Public Involvement will also be sought during the five year update process. Public notice of at least two of the update meetings will be published in the local newspaper. Although the Plan Review Committee will represent the public to some extent, the public will be invited to participate with the plan review committee to directly comment on and provide feedback about the Plan. In addition regular reports will be made at each City Council and Toombs County Commissioners' Meetings. All city and county officials, as well as any employees, will be encouraged to notify citizens of meetings and any changes being made.

An updated copy of the plan will be available at the Toombs County EMA office, Vidalia, Lyons, and Santa Claus City Hall and the County Commissioner's Office. The existence and location of these copies will be publicized in the local newspaper. All comments and questions will be directed to the local EMA office for follow-up.

Conclusion

I. Conclusion Summary

Because of the time and effort put into the hazard mitigation update process, Toombs County officials and employees have obtained a great deal of information and knowledge regarding the County's disaster history, the presence of natural hazards, the likelihood of each of these hazards occurring within the county, and the potential impacts and challenges these hazards present to the community.

The mission of the Toombs County Hazard Mitigation Update Committee is: To make the citizens, businesses, communities and local governments of Toombs County less vulnerable to the effects of natural hazards through the effective study of hazard mitigation, hazard risk assessments, wise flood plain management, and a coordinated approach to mitigation policy through federal, state, regional, and local planning activities.

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

IV. References

A. Publications

FEMA Pre-Disaster Mitigation How-to Guides #1, 2, 3, 4, 5, 6, 7, 8, 9 (FEMA)

GEMA Supplements to FEMA Pre-Disaster Mitigation How-to Guides (GEMA)

2008 Georgia Hazard Mitigation Strategy Standard and Enhanced

2011 Toombs County Comprehensive Plan

The Georgia County Guide 2009

USGS Droughts in Georgia

2010 U.S. Census

Toombs County Community Wildfire Protection Plan

2007 USDA Toombs County Census of Agriculture

B. Web Sites

FEMA (www.fema.gov)

GEMA (www.gema.state.ga.us)

National Climatic Data Center (www.ncdc.noaa.gov)

US Army Corps of Engineers (www.geo.usace.army.mil)

University of South Carolina Weather Database: SHIELDUS (<http://webra.cas.sc.edu/hvri/products/sheldus.aspx>)

C. Other

American Red Cross

Toombs County Tax Assessor

Forest Inventory and Analysis

Georgia Department of Natural Resources

Georgia Forestry Commission

United States Department of Agriculture

United States Geological Survey