DAWSON COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

2024 – 2029 UPDATE

Dawson County
Emergency Management Agency

iParametrics

Dawson County
Multi-Jurisdictional
Hazard Mitigation Plan Update 2024

This document was funded in part by the Hazard Mitigation Planning Grant awarded to the Dawson County Emergency Management Agency by the Georgia Emergency Management Agency to fulfill the requirements of the Federal Disaster Mitigation Act of 2000. Dawson County Hazard Mitigation Plan 2024 was updated by the Dawson County Hazard Mitigation Plan Update Committee and was prepared by iParametrics, LLC. For additional information, please contact Dawson County Emergency Management Agency.

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Resolution – Dawson County

Resolution – Dawsonville

Preface
Mitigation Vision for the Future

Emergency Managers succeed or fail based on how well they follow the following fundamental principles of emergency management, mitigation, preparedness, response, and recovery. Purposefully, our emergency management forefathers put the word mitigation first as a “means” to prevent or minimize the effects of disasters.

Mitigation is commonly defined as sustained actions taken to reduce or eliminate long- term risk to people and property from hazards and their effects. Hazard mitigation focuses attention and resources on community policies and actions that will produce successive benefits over time. A mitigation plan states the aspirations and specific courses of action that a community intends to follow to reduce vulnerability and exposure to future hazard events. These plans are formulated through a systematic process centered on the participation of citizens, businesses, public officials, and other community stakeholders.

Mitigation forms, or should form, the very foundation of every emergency management agency. For the prevention of disasters in communities, emergency management agencies that adopt mitigation practices to reduce, minimize, or eliminate hazards in their community have found, the vision for the future of emergency management. The Federal Disaster Mitigation Act of 2000 has set the benchmark and outlines the criteria for communities with the vision to implement hazard mitigation practices in their communities.

Dawson County and the City of Dawsonville realize the benefits achieved by the development of mitigation plans and implementation of mitigation strategies in our community. Dawson County’s elected officials, public safety organizations, planners, and many others have proven these benefits by working together towards the development and implementation of this plan and have the vision to implement mitigation practices therefore reducing the loss of life and property in their communities.

The areas covered by this plan include:
Dawson County
City of Dawsonville

Table of Contents

Chapter 1. Introduction

1.1. Summary of Updates for Chapter 1

The following table provides a description of each section of this chapter and a summary of the changes that have been made to the Dawson County Hazard Mitigation Plan 2018.

Chapter 1 Section	Updates
Introduction	• Update of goals
Authority	• No update
Funding	• Update of funding information
Scope	• No update
Purpose	• Updated from 2018 Mitigation Plan
Consistency with Federal Guidelines	• Update of information
Plan Review	• Updated from 2018 Mitigation Plan
Hazard Mitigation Plan Update Committee	• Updated committee list to match the 2024 planning participants
Public Participation	• Updated from 2018 Mitigation Plan
Multi-Jurisdictional Considerations	• Updated with requirement descriptions
Incorporation of Existing Plans, Studies, and Resources	• Updated from 2018 Mitigation Plan

1.2. Introduction

The Dawson County Hazard Mitigation Plan Update is the first phase of a multi-hazard mitigation strategy for the entire community. This Plan encourages cooperation among various organizations and crosses political sub-divisions. As written, this Plan fulfills the requirements of the Federal Disaster Mitigation Act of 2000. The Federal Disaster Mitigation Act of 2000 provides federal assistance to state and local emergency management agencies and other disaster response organizations to reduce damage from disasters. The Act is administered by the Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA).

It is important that state and local government, public-private partnerships, and community citizens can see the results of these mitigation efforts; therefore, the goals and strategies need to be achievable. The Dawson County Hazard Mitigation Plan Update Committee identified the following goals during plan development:

GOAL 1: Protect the public health and safety

GOAL 2: Harden community assets against the impact of disasters through the development of new mitigation strategies and enforcement of current regulations

GOAL 3: Reduce and where possible, eliminate loss of life and damage to property from disasters especially with repetitive damaged properties

GOAL 4: Maintain continuity of public and private sector operations during and after hazard events

GOAL 5: Respond promptly, appropriately, and efficiently in the event of natural or manmade hazards

This plan complies with all requirements and scope of work as described in Dawson County's Hazard Mitigation Grant application.

1.3. Authority

In the past, federal legislation has provided funding for disaster relief, recovery, and some hazard mitigation planning. The Disaster Mitigation Act of 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 (HMPG). Section 322 of the Act identifies the new requirements for planning activities and increases the amount of HMPG funds available to states that have developed a comprehensive mitigation plan prior to the disaster.

State and local 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.

Developed in accordance with current state and federal rules and regulations governing local hazard mitigation plans, Dawson County's Updated Hazard Mitigation Plan will be brought forth to each participating jurisdiction in Dawson County to be formally adopted. The Plan shall be routinely monitored and revised to maintain compliance with the following provisions, rules, and legislation:

Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390); and

FEMA's Interim Final Rule was published in the Federal Register on February 26, 2002, at 44 CFR Part 201.

1.4. Funding

The Georgia Emergency Management Agency awarded Dawson County a $30,000 Hazard Mitigation Planning Grant for the update of Dawson County's 2012 Hazard Mitigation Plan. The grant requires a 25% match by Dawson County, which was fulfilled by utilizing "in-kind" services. In-kind service documentation is available upon request.

1.5. Scope

The scope of the Dawson County Hazard Mitigation Plan Update encompasses all areas of Dawson County, including the City of Dawsonville. The Plan identifies all natural and technological hazards that could threaten life and property in Dawson County. The scope of this Plan includes both short and long-term mitigation strategies with implementation and possible sources of project funding.

The Hazard Mitigation Plan Update is organized to incorporate the requirements of Rule 44 CFR 201.6 as well as FEMA Guidance.

Chapter One includes an overview of the Hazard Mitigation Plan Update, the overall goals of the plan, and details of the planning process as required by Rule 44 CFR 201.6©(1) as well as FEMA Guidance.

Chapter Two of the Plan details the Dawson County profile, including the demographics, municipality, and history of Dawson County.

Chapter Three identifies the risk assessment process, past natural hazard events with associated losses, and current natural hazard risks. Potential losses are also analyzed as required by Rule 44 CFFR 201.6(c)(2) as well as FEMA Guidance. Additionally, Chapter Three identifies and analyzes potential technological hazards faced by Dawson County.

Chapter Four identifies Dawson County's hazard mitigation goals and objectives, mitigation strategies and actions, and sources of potential funding for mitigation projects as required by Rule 44 CFR 201.6(c)(3) as well as FEMA Guidance.

Chapter Five identifies the plan maintenance and implementation strategies. The process for evaluation of the hazard mitigation plan implementation progress is also detailed as required by Rule 44 CFR 201.6as well as FEMA Guidance.

1.6. Purpose

The purpose of the Dawson County Hazard Mitigation Plan Update is to:

- Protect life, promote safety, and preserve property by reducing the potential for future damages and economic losses that result from natural and technological hazards;
- Make communities in Dawson County safer places to live, work, and play;
- Qualify for grant funding in both the pre-disaster and post-disaster environments;

- Speed recovery and redevelopment following future disaster events;
- Demonstrate a firm local commitment to hazard mitigation principles; and
- Comply with state and federal legislative requirements for local multi-jurisdictional hazard mitigation plans.

1.7. Consistency with Federal and State Mitigation Policies

The Plan is intended to enhance and complement state and federal recommendations for the mitigation of natural and technological hazards in the following ways:

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

The Federal Emergency Management Agency publishes many guidance documents for local governments for mitigating natural disasters. The updated Dawson County Hazard Mitigation Plan fully recognizes, adopts, incorporates, and endorses the following principles:

- Develop a strategic mitigation plan for Dawson County;
- Enforce current building codes;
- Develop incentives to promote mitigation;
- Incorporate mitigation of natural hazards into land use plans;
- Promote awareness of mitigation opportunities and programs throughout our community continually; and,
- Identify potential funding sources for mitigation projects.

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

- Encourage the creation of a business continuity plan for the continuance of commerce during disasters; and,
- Partner with businesses to communicate with customers about the hazards in our community and possible solutions.

Individual citizens must be made aware of the hazards they may encounter. Additionally, they must be educated on protecting themselves from the hazards they face. They must be shown that mitigation in their community is an important part of reducing loss of life and property. Their support is critical to the success of any mitigation effort. The updated Dawson County Hazard Mitigation Plan supports the following FEMA recommendations regarding individual citizens:

- Become educated on the hazards that citizens may encounter;

- Become part of the process by supporting and encouraging mitigation programs that reduce vulnerability to disasters; and,
- An individual's responsibility is to safeguard his/her family and themselves prior to a disaster event.

1.8. Plan Review (Requirement §201.6(c)(1))

The contracted planner, iParametrics, LLC, was primarily responsible for collecting updated information and presenting data to the committee. The approved 2018 Hazard Mitigation Plan was provided to each Hazard Mitigation Plan Update Committee member. Each chapter was reviewed with updated hazard, risk, and vulnerability data; updated critical infrastructure information; and revised mitigation strategies based upon whether the strategy was completed, needed to be modified, is an ongoing strategy, or no longer applies. All meetings were held virtually. Irregularly attending participants were kept informed with emails containing the updated version of the plan.

Table 1.1 Dawson County Hazard Mitigation Plan Update Meeting Dates

Tuesday, April 4, 2023	Kick-off meeting, Review of Current Plan, Hazards Currently Listed, Future Concerns of the County
Tuesday, May 2, 2023	Current Existing Plans, County Economy, Disaster Declarations
Thursday, June 8, 2023	Discussion of Goals and Objectives in the Plan, Data Needed for Analysis
Tuesday, July 11, 2023	Review of Mitigation Action Items, Data Analysis
Tuesday, August 8, 2023	Critical Facilities, Data Analysis Progress;
Thursday, Sept.19, 2023	Data Analysis, Plan Update Next Steps, Public Comment Plan
Monday, January 29, 2024	Mitigation Plan Final Draft

Each section of Dawson County's 2018 Hazard Mitigation Plan has been revised in some manner. Therefore, a summary of those changes will be listed in the first section of each chapter. Major plan changes include the following:

- Addition of Extreme Temperatures, Cyberattack, Hurricanes, and Active Threat/Shooter
- Additional data from previous years
- Additional information regarding Emerging Infectious Disease with insight from the COVID-19 Pandemic

1.9. Hazard Mitigation Plan Update Committee *(Requirement §201.6(b)(2))*

The following members, representing various jurisdictions, city and county departments, and community organizations and businesses, participated in Dawson County's 2024 Hazard Mitigation Plan update. The list of the Committee from the 2018 update can be found in Appendix B.

Dawson County Hazard Mitigation Plan Update Committee – 13 participants

Chief Troy List
Fire Chief and Emergency Management Director
Dawson County

Brooke Anderson, PE
General Manager
Etowah Water and Sewer Authority

Wesley Sisk
County Chief Ranger
Georgia Forestry Commission

Greg Rowan
Chief Deputy
Dawson County Sheriff's Office

Tony Wooten
Safe Schools Coordinator
Dawson County Schools

Emory Dooley
District 4
Dawson County Commissioner

Ricky Jordan
Director of Public Safety
Big Canoe POA

Matt Payne
Director
Dawson County Parks and Recreation

Lydell Mack
Director of Operations
Big Canoe

Kevin Herrit
Director of Economic Development
Development Authority of Dawson County

Mandy Power
President/CEO
Dawson County Chamber of Commerce

Johnny Irvin
Operations Division Chief
Dawson County Emergency Services

Bob Bolz
City Manager
City of Dawsonville

Trampas Hansard
Operations Manager
City of Dawsonville Public Works

Robert Drewry
Public Works Director
Dawson County

Dawson County convened the Hazard Mitigation Plan Update Committee, which comprises representatives from various participating jurisdictions. The Committee worked with iParametrics, LLC, and provided input at key process stages. Efforts were made to involve municipal, city, and county departments and community organizations that might have a role in implementing the mitigation actions or policies. These efforts included meeting invitations, e-mail updates, and opportunities for input and comment on all draft deliverables.

In addition to the Dawson County Hazard Mitigation Plan Update Committee, all surrounding counties – Cherokee, Fannin, Forsyth, Gilmer, Hall, Lumpkin, and Pickens – will be provided a copy of this FEMA-approved plan for their review. This plan will be provided to each County EMA office.

1.10. Public Participation *(Requirement §201.6(b)(1), State Requirement Element F2)*

Public awareness is a key component of any community's overall mitigation strategy to protect a home, neighborhood, school, business, or city from the potential effects of natural hazards. As citizens become more involved in decisions that affect their safety, they are more likely to gain a greater appreciation of the natural hazards present in their community and take the steps necessary to reduce their impact.

Participation from local organizations and businesses during the update process included Big Canoe Property Owners and the Dawson County Chamber of Commerce Association.

The Dawson County Hazard Mitigation Plan Update Committee took it upon themselves to ensure the processes undertaken for the development, implementation, and maintenance of the Dawson County Hazard Mitigation Plan Update adequately considered public needs and viewpoints.

A list of public outreach initiatives can be found below:

- A Public Meeting was held on August 9, 2018, at the Dawson County Board of Commissioner's Work Session for the public to comment on the 2018- 2023 Dawson County Hazard Mitigation Plan. This meeting was advertised on the Dawson County webpage. No public comments were provided.
- A Public Meeting was held on August 16, 2018, during the Dawson County Board of Commissioner's Voting Session for the public to comment on the 2018-2023 Dawson County Hazard Mitigation Plan. This meeting was advertised on the Dawson County webpage. No public comments were provided.

1.11. Documentation of Public Meeting Notice

1.12. Multi-Jurisdictional Considerations

While cities are not required by FEMA to adopt hazard mitigation plans, the Federal Disaster Mitigation Act of 2000 requires all municipalities that wish to be eligible to receive FEMA hazard mitigation grants to adopt a local multi-hazard mitigation plan and to update the plan every five years. Dawson County's Hazard Mitigation Plan was approved by FEMA in 2012, and the 2018 Plan Update provided the first five-year update. The City of Dawsonville approved the plan to make it a multi-jurisdictional plan. The City of Dawsonville has been critical in this 2024 update and they have sought approval from their City Commission as well. This approved Hazard Mitigation Plan makes Dawson County and its municipality eligible for FEMA's Hazard Mitigation Grant Program, Flood Assistance Mitigation Grants, and Pre-Disaster Mitigation Grants.

As set forth by Georgia House Bill 489, the Emergency Management Agency is the implementing agency for projects pertaining to hazard mitigation. Dawson County is dedicated to working in the best interests of the County as well as the City of Dawsonville. During the creation and update of this Plan, Dawson County Emergency Management Agency solicited and received participation from the Dawson County City of Dawsonville. Therefore, the result is a truly multi-jurisdictional plan. A few mitigation action steps identified in this plan update may apply to selected jurisdictions. These steps are identified in the appropriate sections. Unless specifically noted otherwise, most steps apply equally to all jurisdictions.

1.13. Incorporation of Existing Plans, Studies, and Resources *(Requirement §201.6(b)(3), State Requirement Element F3)*

Existing Plans

- 2018 Dawson County Multijurisdictional Hazard Mitigation Plan
- 2019 State of Georgia Hazard Mitigation Plan
- Dawson County Local Emergency Operations Plan
- Georgia Forestry Commission's Dawson Co. Community Wildfire Protection Plan 2013-2033 Dawson County Joint Comprehensive Plan
- 2018 Dawson County HAZUS Report

Studies

- 2020 United States Census
- 2022 United States Census Estimates
- 2012 United States Department of Agriculture Ag Census
- 2009 Dawson County Flood Insurance Study
- Radeloff, V. C., R. B. Hammer, S. I Stewart, J. S. Fried, S. S. Holcomb, and J. F. McKeefry. 2005. The Wildland Urban Interface in the United States. Ecological Applications 15:799-805.

Resources

- 2014 City of Boston Natural Hazard Mitigation Plan Update
- 2010 Camden County Joint Hazard Mitigation Plan Update
- 2010 Northern Virginia Hazard Mitigation Plan Update National Climactic Data Center
- National Weather Service
- Dawson County Tax Assessor's Data
- Dawson County Website
- GMIS Database
- City University of New York
- Colorado State University
- United States Geological Survey
- FEMA Flood Insurance Rate Maps National Flood Insurance Program
- United States Coast Guard National Response Center Data
- Georgia Department of Transportation
- Georgia Safe Dams Program

1.14. Application of Existing Plans and Studies

Existing Planning Mechanism	Reviewed? (Yes/No)	Incorporation into Mitigation Plan
2018 Dawson County Multi-Jurisdictional Hazard Mitigation Plan	Yes	Baseline for the 2024 Plan; updated mitigation strategies; updated hazards; updated Dawson County information
2019 State of Georgia Hazard Mitigation Plan	Yes	Hazard descriptions; potential hazards; mapping mechanisms; potential mitigation strategies that could be adopted on a local level
Dawson County Local Emergency Operations Plan (LEOP)	Yes	Identification of current resources; identification of current capabilities
Georgia Forestry's Dawson County Community Wildfire Protection Plan (CWPP)	Yes	Mitigation strategies for wildfire and drought; historical data
2012 USDA Agriculture Census	Yes	Agricultural data regarding potential losses for drought and wildfire
2010 United State Census and 2015 United States Census Estimates	Yes	To update Dawson County's profile information
2009 Dawson County Flood Insurance Study	Yes	Identify potential flood prone areas; prioritization of flood- related mitigation strategies
2013-2033 Dawson County Comprehensive Plan	Yes	To identify future development trends; identify mitigation strategies to curb trends in a direction that considers the hazards of the area
2018 Dawson County HAZUS Report	Yes	To assist with risk and vulnerability assessment; Identify potential hazard impacts and damages
Dawson County Flood Mitigation Assistance Plan	No	No such plan exists

Chapter 2. Dawson County Profile

2.1. Summary of Updates for Chapter Two

The following table provides a description of each section of this chapter and a summary of the changes made to the Dawson County Hazard Mitigation Plan 2018.

Chapter 2 Section	Updates
Past Hazards	• Additional Hazards have been added over the last 5 years.
History	• Information updated as needed.
Past Events	• New events that have occurred in the last 5 years have been added.
Demographics	• Updated data to the 2020 Census information and 2022 Census Estimates
Economy	• Relevant information updated from the previous plan.
Government	• No update needed.
Transportation	• Relevant information updated.
Climate	• Average temperature Chart removed.
Utilities	• No update needed.
NFIP Compliance	• No update needed.

2.2. Past Hazards

Dawson County has faced many hazards in its long history. Severe Thunderstorms have been, perhaps, the most prevalent of these hazards. In the last 50 years, Dawson County has been subjected to 103 documented Severe Thunderstorm events. These events include torrential rainfall, hail, thunderstorm-force winds, and lightning.

Tornadoes, which can sometimes spawn from severe thunderstorms, have also occurred in Dawson County, although with much less frequency. There have been two documented tornadoes in the last fifty years in Dawson County.

Because of heavy rainfall either within or upstream from Dawson County, flooding has occurred in the past as well. Documentation of 13 flooding events exist within the National Climactic Data Center of the National Weather Service for Dawson County.

Winter storms and heavy snowfall have affected Dawson County infrequently in the last 50 years. These events are not a yearly occurrence and typically do not have the pre-planning in place when compared to Northern and Western states who see this type of weather phenomena regularly. The NCDC record 60 documented winter storm or heavy snow events for Dawson County with 13 of those having occurred in the last five years.

Dawson County has been plagued by other less severe or less frequent hazards in the past. These hazards include, but are not limited to, the following: drought, excessive heat, tropical cyclones, earthquakes, and wildfires.

Dawson County has had 12 Federally Declared disasters. These events include tornadoes (1974), drought (1977), winter storms (1993, 2000, 2014, 2015), Tropical Cyclones (1995, 2004, 2020), Storms/Flooding events (1998, 2009), and the COVID -19 Pandemic (2020).

2.3. History

Dawson County was created by a legislative act on December 3, 1857, primarily out of Lumpkin County and smaller parts of Gilmer, Pickens, and Forsyth counties. Georgia's 119th county and the county seat of Dawsonville were named for Judge William C. Dawson, a compiler of the laws of Georgia and commander of a brigade in the Creek Indian War of 1836. Dawson served in both houses of the Georgia state legislature, in Congress from 1836 to 1842, and in the U.S. Senate from 1849 until 1855.

Before the creation of Dawson County, the area enjoyed a rich history. Initially settled by the Cherokee Indians at the time of the American Revolution, the river valleys were dotted with farms, orchards, and numerous modern log structures. Native Americans thrived in the area until the discovery of gold in 1829. By 1832, prospectors had overrun much of the area, and Georgia claimed the region as a new territory. In 1838, those Native Americans who had not voluntarily moved west were forcibly removed to Oklahoma along the Trail of Tears. Although absent as a people from the area for more than 150 years, the legacy of the Cherokee remains in many names found throughout Dawson County: Amicalola, which means "tumbling waters," Etowah, Toto Creek - named for the Cherokee Toter family, and a host of other local names. Throughout the 1830s and 1840s, the area that was to become Dawson County was in the midst of the first gold rush in America. Numerous mines and mining operations - some within the city limits of Dawsonville - were located throughout the area. Remnants of these mines and small mining projects can still be found within the county.

By April 28, 1858, all county officers had the books necessary for the county's records, and these were placed in a log structure built for the temporary use of the court and other officials of the county. James Foster built the log courthouse for the sum of $30.00 and the benches by James Jackson for an additional $1.25.

Plans for a permanent courthouse were not long postponed, and by May 1858, plans were accepted to have a building 50 by 30 feet, with four gables, and the windowsills and steps were to be made of

"good plant." The contract was made to Wesley McGuire, John Hockenhull, and Anderson Wilson. In August of 1858, the plans were changed at the recommendation of the grand jury. The new plans for the structure called for an enlarged building of 54 by 38 feet, two gables, the use of good bricks or other materials "such as the [courthouse] in Gainesville," and window sills to be made of granite, soapstone or marble.

Harrison Summerour, John McAfee and R. N. McClure secured a bond for $9,600.00 to erect the courthouse. As the money came into the county treasurer, the contractors were to be paid, but a difficulty arose, and $2,500.00 was borrowed from Mr. Summerour to meet the deadline of a contract payment. N. H. Goss made chairs for the new building for $4.95. The bricks, which were purchased at $8.00 per thousand, were made by the slaves of John Hockenhull on a branch on the east side of Old Georgia 19 (now Highway 9), across the highway from the building that housed Standard Telephone Company in Dawsonville. It is thought that other bricks were made at John Hockenhull's for "paving and fixing the courthouse outside walls".

In February of 1860, the grand jury commented on the "abused and defaced condition of the building by persons unknown." The damage was repaired and as time passed, the building was kept in good condition through the efforts of the grand jury and its recommendations.

Some of the more interesting recommendations implemented by the grand jury: William Hollingshed ceiled the building, old shingles were removed (and sold for $5.00) and the building recovered, the lathing was removed, the northwest room (which had been rented for $10.00 per month) was fitted for the commissioners' office, the windows were glazed (paned with glass), and from time to time the building was painted. A fence was built and painted around the courthouse (no stock law was in effect). A well, which had been dug earlier on the courthouse grounds, was included inside the fencing. Sawdust was kept on the floor until carpeting was installed, printed material was purchased to make curtains for the windows, and shutters were made and added to the windows. In a contract given to H. C. Thompson, the building was plastered, and later, the plaster was removed, and re-plastering was done through a contract awarded to Mr. Finger. Throughout the years the building received many coats of whitewash to keep it "spic-and-span".

The county's original jail was destroyed by fire soon after it was completed during a failed escape attempt. The county was without a jail until 1881 when a new jail was completed. The old jail is located west of the courthouse and, along with the historic courthouse, is listed in the National Register of Historic Places. Both the jail and the courthouse have undergone extensive renovation to restore them to their original appearance. The Dawson County/Dawsonville Welcome Center was previously housed for several years in the historic jail. Today, the facility serves as the home for Ninth District Opportunity.

For the first hundred years of its existence, Dawson County remained primarily an agricultural economy, largely due to the lack of railroads or major highways in the area. Dawson County was, however, a significant source of illegal corn whiskey (known as 'moonshine') for Atlanta during and after the prohibition era. During prohibition, many bootleggers would modify their cars for better speed and

handling to evade police when delivering their illegal cargo. Even after prohibition, the trend continued, as bootleggers were on the run from state revenue agents who sought to tax their illicit operations. Eventually, these cars were raced for entertainment (and profit), leading to the birth of modern stock car racing and NASCAR.

Bill Elliott, one of NASCAR's most successful drivers, was born in Dawsonville. "Awesome Bill from Dawsonville" won 44 races on the NASCAR circuit, including two Dayton 500 victories and the 1988 NASCAR Winston Cup championship. Elliott won NASCAR's Most Popular Driver Award a record 16 times between 1984 and 2002.

In 1957, the Appalachian Trail was re-routed to a new endpoint about 8 miles north of Amicalola Falls State Park, establishing the county as a major destination for hikers. At the same time, the flooding of the Chattahoochee River plain to form nearby Lake Lanier was completed, resulting in Georgia's largest lake at 39,000 acres. The lake forms the southern end of Dawson County.

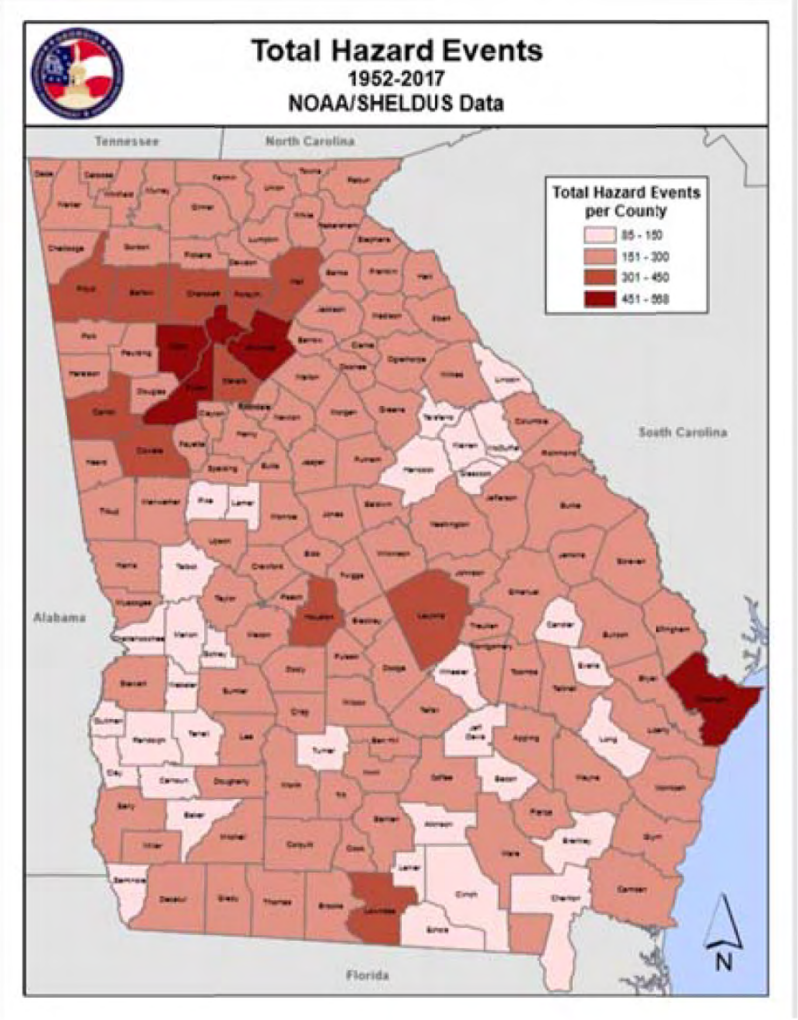
With the construction of the Georgia 400 highway to Atlanta in the 1980s, the county finally had the major highway that it had lacked for a hundred and twenty years. This transportation route, combined with Lake Lanier, Amicalola Falls, and the recent development of the North Georgia Premium Outlets, has helped Dawson County transition from a quiet mountain enclave to one of Georgia's fastest-growing communities.

2.4. Past Events

- 2020, Tropical Storm Zeta (Federal Declaration)
- 2020, COVID-19 Pandemic (Federal Declaration)
- 2017, Hurricane Irma (Federal Declaration)
- 2017, Thunderstorm Wind/Hail Event
- 2017, Winter Storm
- 2016, Heavy Rain/Flood Event
- 2015, Winter Storm
- 2015, Ice Storm (Federal Declaration)
- 2014, Winter Storm
- 2014, Winter Storm/Ice Storm (Federal Declaration)
- 2013, Heavy Rain/Flood Event (Etowah River Historic Crest)
- 2013, Flood Event
- 2013, Ice Storm
- 2010, Winter Storms (3)
- 2009, Heavy Rain/Flood Event
- 2009, Tropical Storm Ida/Heavy Rain/Flood Event (Federal Declaration)
- 2008, Thunderstorm Hail Event
- 2008, Winter Storm

- 2005, Winter Storm
- 2004, Hurricane Ivan/Flash Flood Event (Federal Declaration)
- 2002, Tornado (F2)
- 2000, Ice Storm (Federal Declaration)
- 1998, Thunderstorms/Flood Event (Federal Declaration)
- 1997, Thunderstorm Wind Event
- 1995, Hurricane Opal/Thunderstorm Wind Event (Federal Declaration)
- 1993, Blizzard/Winter Storm (Federal Declaration)
- 1977, Drought (Federal Declaration)
- 1974, Tornado (F4) (Federal Declaration

Figure 2.1 Total hazard events per county (source: 2019 State of Georgia Hazard Mitigation Strategy)



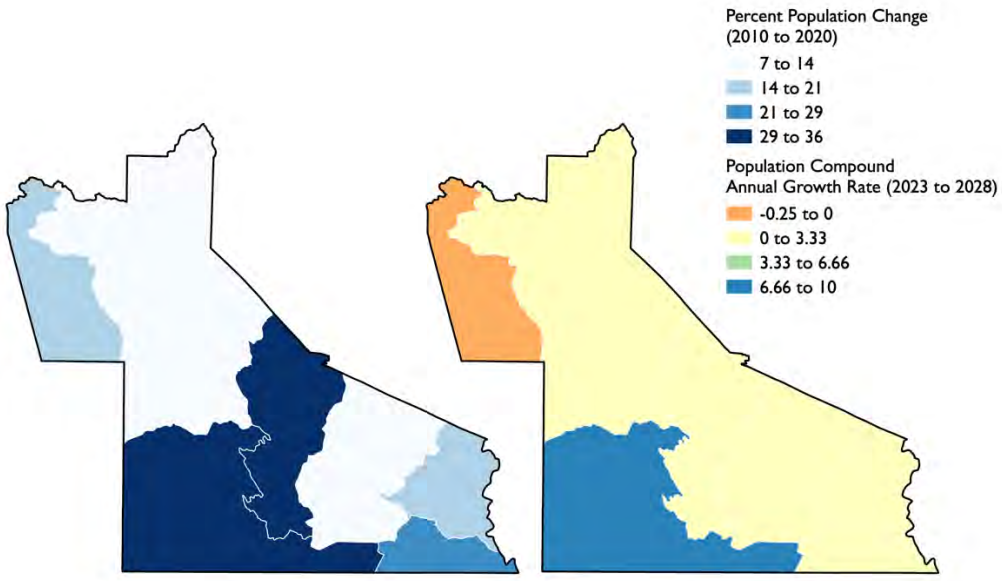
2.5. Demographics

Table 2.1 Demographics for Dawson County and Dawsonville (source: US Census Bureau)

	2020 Census	July 1, 2022 Estimate
Population	26,798	30,138
White	89%	94.7%
African-American	0.8%	1.7%
Hispanic/Latino	6%	6.8%
Asian	0.9%	1.2%
American Indian	0.3%	0.6%
Native Hawaiian and other	0.1%	
Two or More Races	6.4%	1.8%
Median Age	43.8	----
Median Household Income	$72,260	----
Person Below Poverty Line	9.5%	----
Homeowners	80.7%	----

	2020 Census	2022 Estimation
Dawsonville	3,720	4,489

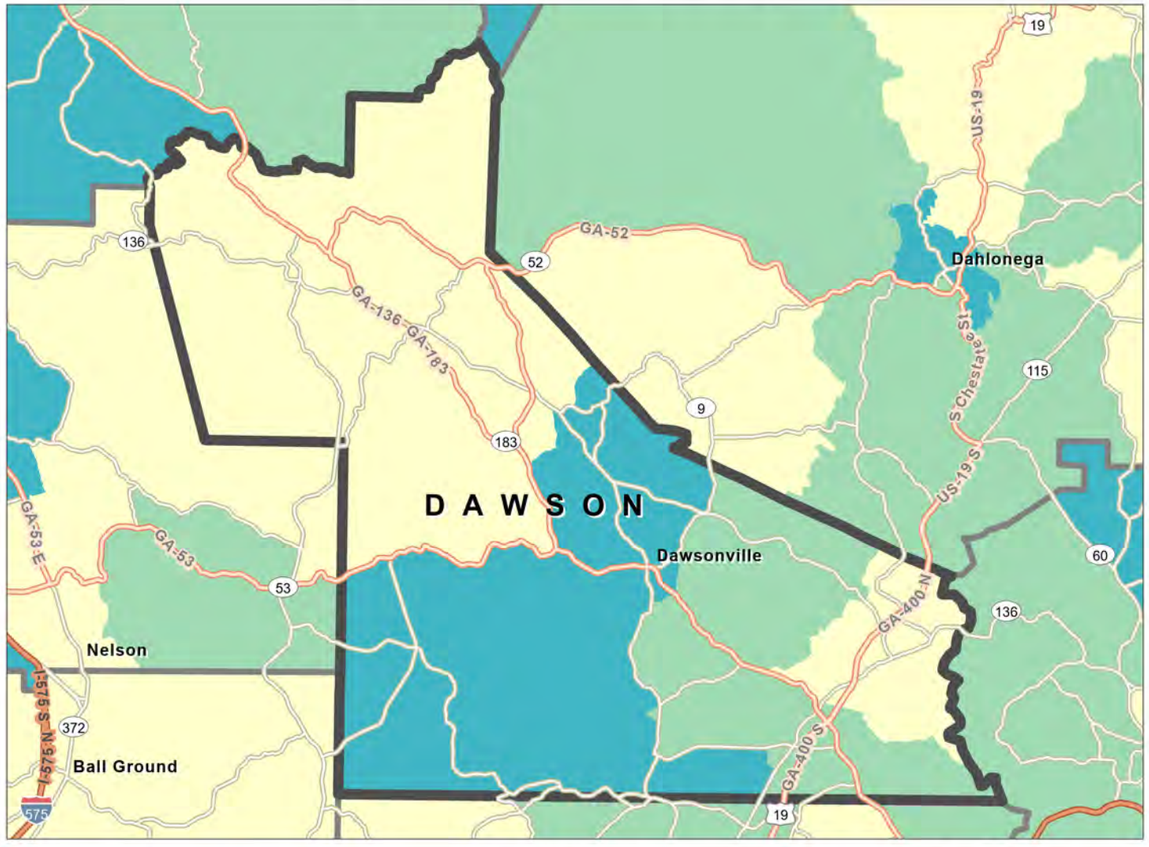
Figure 2.2 Population Change – 2010 to 2020



CDC/ATSDR Social Vulnerability Index 2020

DAWSON COUNTY, GEORGIA

Overall Social Vulnerability[1]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Data Unavailable[3]

0 1 2 4 6
Miles

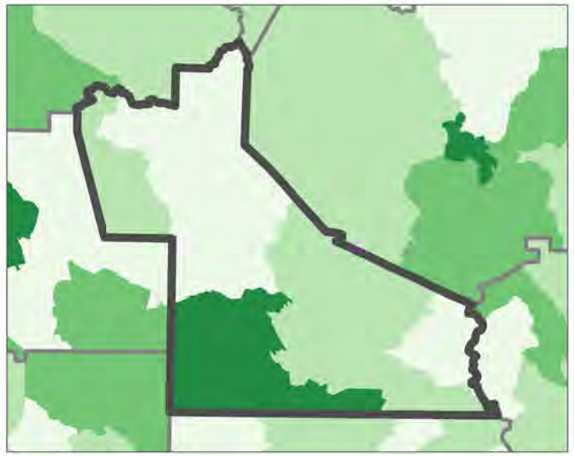
Social vulnerability refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **CDC/ATSDR Social Vulnerability Index (CDC/ATSDR SVI 2020)**[4] **County Map** depicts the social vulnerability of communities, at census tract level, within a specified county. CDC/ATSDR SVI 2020 groups **sixteen census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.

ATSDR Agency for Toxic Substances and Disease Registry

GRASP Geospatial Research, Analysis, and Services Program

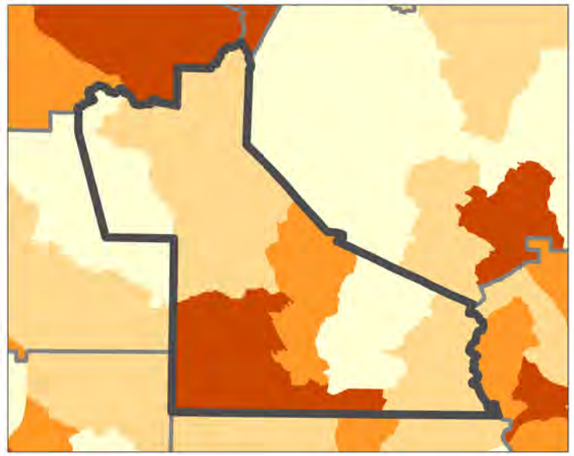
CDC/ATSDR SVI Themes

Socioeconomic Status[5]



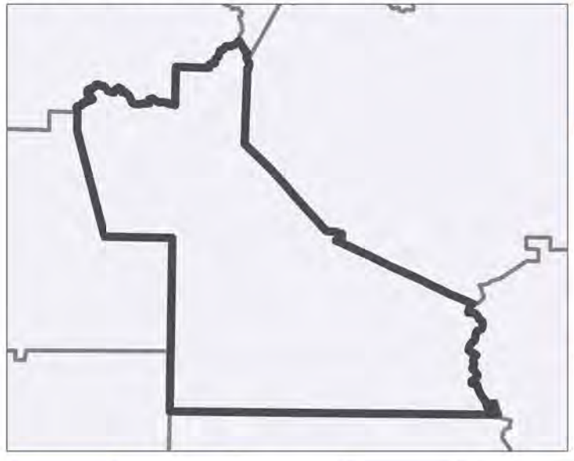
Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Household Characteristics[6]



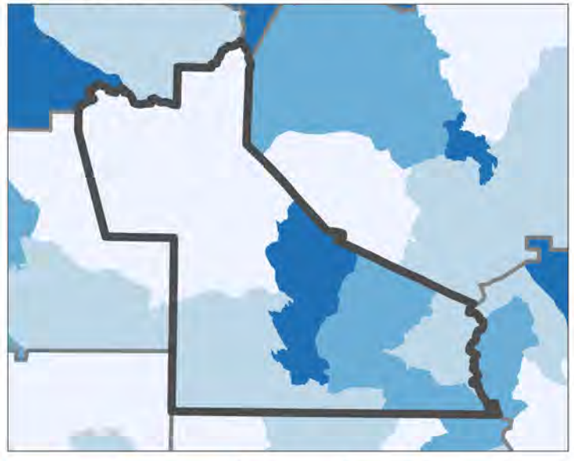
Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Racial and Ethnic Minority Status[7]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Housing Type/Transportation[8]



Highest (Top 4th) — Vulnerability (SVI 2020)[2] — Lowest (Bottom 4th)

Data Sources: [3]CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMapTM Premium.

Notes: [1]Overall Social Vulnerability: All 16 variables. [3]Census tracts with 0 population. [4]The CDC/ATSDR SVI combines percentile rankings of US Census American Community Survey (ACS) 2016-2020 variables, for the state, at the census tract level. [5]Socioeconomic Status: Below 150% Poverty, Unemployed, Housing Costs Burden, No High School Diploma, No Health Insurance. [6]Household Characteristics: Aged 65 and Older, Aged 17 and Younger, Civilian with a Disability, Single-Parent Household, English Language Proficiency. [7]Race/Ethnicity: Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino. [8]Housing Type/Transportation: Multi-Unit Structures, Mobile Homes, Crowding, No Vehicle, Group Quarters.

Projection: NAD 1983 Georgia Statewide Lambert.

References: Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).
CDC/ATSDR SVI web page: https://www.atsdr.cdc.gov/placeandhealth/svi/index.html.

2.6. Economy

Dawson County's economy is primarily agricultural with some light industry. In August 2023, the unemployment rate in Dawson County was 3.3%, which is the same as the State average and below the National average of 3.8%. According to the Census data, Dawson County has a median household income of $77,620, above the national average of $76,330 for 2021. Recent economic challenges in Georgia and nationwide have affected these figures.

Dawson County's Largest Private Employers

- North Georgia Premium Outlets = 1322 full-time employees
- Gold Creek Foods LLC = 292 full-time employees
- Kroger = 145 full-time employees
- Wal-Mart = 353 full-time employees
- BTD Manufacturing = 233 full-time employees
- Publix = 124 full-time employees
- Home Depot Inc. = 172 full-time employees
- Premier Surplus = 125 full-time employees
- Atlanta Motorsports Park = 49.5 full-time employees
- Atlanta Gear Works = 45 full-time employees
- Ingles = 80 full-time employees
- MESH Engineering = 45 full-time employees
- Worldwide Manufacturing Inc. = 55 full-time employees
- Food Lion = 43 full-time employees
- MCC Labels = 124 full-time employees
- Chick-Fil-A = 87 full-time employees

*All employment numbers were verified in August of 2023. This information is provided by the Dawson County Chamber of Commerce.

2.7. Government

The form of government specified in the County Charter is known as Commission- Administrator form of government, which provides for an elected body of Commissioners, one from each of four geographic districts, who are elected in staggered four-year terms and a Chairman, who is elected by the county at-large. Although each County Commissioner is elected as a representative from their respective districts, they represent the interests of the entire county and all its citizens. The Board of Commissioners appoints a County Manager, who is responsible for the day-to-day administrative operation of the county government.

The main duties of the Board of Commissioners are to pass local laws, known as ordinances, that regulate a variety of things that promote the health, safety, and welfare of the citizens covered by them;

to pass a balanced budget each year that funds its own operations as well as to allocate funds to the four Constitutional Officers, other elected officials, the courts and a variety of programs put in place by the State but funded locally; to ensure that necessary services are funded and provided; to set the millage rate for the County government and many other secondary duties.

The Board of Commissioners sets the County millage rate each year to fund a portion of the County budget. They also receive the millage rate that the Board of Education sets and an assessment by the State which is submitted to the Georgia Department of Revenue each year.

The Board receives, deliberates, and passes local ordinances yearly and amends many others to reflect the changing times. Both require a public hearing, normally held during the regular Commission meetings. They also pass several resolutions and proclamations throughout the year. Generally, with some exceptions, the Board can pass any local law and ordinance they feel is needed for the County so long as it does not violate the laws of the State or Federal government or the Constitutional rights of any individual. These are researched thoroughly by legal staff before ever being brought to a hearing.

The Board of Commissioners provides many services that citizens expect through the revenues that are raised annually. These include Fire and Ambulance protection, E-911 dispatch services, Zoning and Planning, Inspections, Code Enforcement, Animal Control, Public Library, Parks and Recreation, Public Works, Dawson Transit, and agencies that service all these, such as Building Maintenance and Vehicle Maintenance. The budget also funds state-mandated services such as Law Enforcement and Detention; Superior, Probate, Magistrate, and Juvenile courts; Tax Assessment and Tax Collection services; Elections management; District Attorney (shared with other counties); and some smaller funding for local agencies under the State of Georgia.

The City of Dawsonville has its own government as well. The City of Dawsonville has a Council-Manager form of government. They have a Mayor as well as four Council members who are elected by a City-wide popular vote. These officials serve four year terms. This Council serves as the legislative and policy-making body of the City. They appropriate funds to conduct business within the City and create policies and procedures.

The Dawsonville City Manager runs the operations of Dawsonville. They ensure the day-to-day operations of the City government run efficiently. The City of Dawsonville has four departments: Administration, Planning & Zoning, Public Works, and Utilities. Dawsonville also has various authorities, committees, and commissions that make recommendations to the City Council.

2.8. Transportation

Dawson County's transportation system consists primarily of state highways and county-maintained roads. US Highway 19 (better known as Georgia 400) and State highways 9, 52, 53, 136, and 183 are major transportation routes that carry most passenger and commercial traffic in and out of Dawson

County. Congestion in these transportation corridors creates traffic problems, primarily because of population growth. This is particularly true along US Highway 19/ Georgia Highway 400.

In addition to the US and State Routes, Dawson Forest Road, Kelly Bridge Road, and Lumpkin Campground Road are significant county-maintained corridors.

Dawson County currently has one airport, which is privately owned and called Elliott Field. Over the past few years, there have been discussions about the City of Dawsonville potentially purchasing this airport, but no final decisions have been made at the time of this update. It's also worth noting that there has never been a passenger or freight railroad located within Dawson County.

2.9. Climate

Dawson County, like much of Georgia, enjoys a temperate climate. Dawson County experiences four distinct seasons, with warm to hot summers, brisk fall temperatures, relatively brief cool winters, and a warm spring season. This extended growing season is ideal for ornamental and economically significant agricultural plants in Georgia. Due to its proximity to the Atlantic Ocean, Dawson County's climate can differ from other parts of Georgia, resulting in milder winters and warmer, wetter summers.

2.10. Utilities

Dawson County's utility needs are met by various public and private entities. Amicalola EMC, Sawnee EMC, and Georgia Power provide electrical power to Dawson County. Propane and natural gas are the primary sources of heating and cooking fuel for Dawson County's residents. This fuel is delivered to residents and businesses by tank truck on an ongoing basis, especially during peak winter months. Atlanta Gas Light provides limited natural gas service in Dawson County. There are many propane distributors with large quantities of propane stored on-site.

2.11. NFIP Compliance

Table 2.2 NFIP compliance status for jurisdictions (source: Federal Emergency Management Agency)

Jurisdiction	Participating?	Participation Date
Dawson County	Yes	12/15/1990
Dawsonville	Yes	5/21/1982

Chapter 3 Hazard Profiles

3.1. Summary of Updates for Chapter 1

The following table provides a description of each section of this chapter, and a summary of the changes that have been made since the Dawson County Hazard Mitigation Plan 2018.

Chapter 3 Section	Updates
Risk Assessment	• Updated the Risk Assessment conducted for the update (restructured and added components to THIRA)
Natural Hazard Thunderstorms	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Natural Hazard Winter Storms	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Natural Hazard Flooding	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Natural Hazard Tornado	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Natural Hazard Drought	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Natural Hazard Wildfire	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Natural Hazard Earthquake	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Natural Hazard Tropical Cyclone	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Natural Hazard Extreme Temperatures	• New section – not in 2018 Plan
Technological Hazard Hazardous Materials	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Technological Hazard Dam Failure	• Updated and consolidated hazard profile.

	• Added probability, impacts, impacts from future conditions sections
Technological Hazard Transportation	• Updated and consolidated hazard profile • Added probability, impacts, impacts from future conditions sections
Technological Hazard Terrorism	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections. Added probability, impacts, impacts from future conditions sections
Technological Hazard Communications Failure	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Technological Hazard Emergent Infectious Diseases	• Updated and consolidated hazard profile. • Added probability, impacts, impacts from future conditions sections
Technological Hazard Cyberattack	• New section – not in 2018 Plan
Technological Hazard Active Shooter/Threat	• New section – not in 2018 Plan
Hazard Assessment	• New section – not in 2018 Plan

3.2. Risk Assessment (Requirement §201.6(c)(2)(i and ii), Requirement §201.6(d)(3))

The Dawson County Hazard Mitigation Planning Committee (HMPC) conducted a comprehensive Threat and Hazard Identification and Risk Assessment (THIRA) for Dawson County and the City of Dawsonville. This assessment developed the hazard basis for this plan. The assessment includes the following components for each hazard:

- **Hazard Identification:** The HMPC identified nine natural hazards and eight technological hazards for this Hazard Mitigation Plan. This is an increase of one natural hazard (extreme temperatures), two technological hazard (cyberattack and active shooter/threat) compared to the previous plan. The list of hazards is based upon frequency, extent, previous occurrences, probability, and impacts.
- **Hazard Description:** Each hazard was described in detail. Many hazard descriptions came from the Georgia Hazard Mitigation Strategy.
- **Hazard Profile (Location, Extent, Previous Occurrences):** Each hazard was described based on:
    - Location: The geographic area within the planning area that is affected by the hazard
    - Extent: The expected range of intensity for each hazard
    - Previous Occurrences: The history of hazard events

- **Probability:** The probability of each hazard was evaluated using historical data as well as future condition data (e.g. climate change, population change, etc.). In some cases, probability levels were determined using the following scale:
    - Unlikely: Occurring every 50 years or less
    - Somewhat Likely: Occurring every 20 to 50 years
    - Likely: Occurring every 5 to 20 years
    - Highly Likely: Occurring every 1 to 5 years
    - Extremely Likely: Occurring every 1 year or more
- **Impacts:** The impacts (to infrastructure, agriculture, and people) were evaluated for each hazard. Example impacts include loss of life, building damage, crop damage, etc.
- **Impacts from Future Conditions:** The changes in impacts from future conditions, including climate change, population change, and land use change, were described for each hazard.
- **Multi-Jurisdictional Concerns:** Each jurisdiction was considered when determining the potential hazard impact.

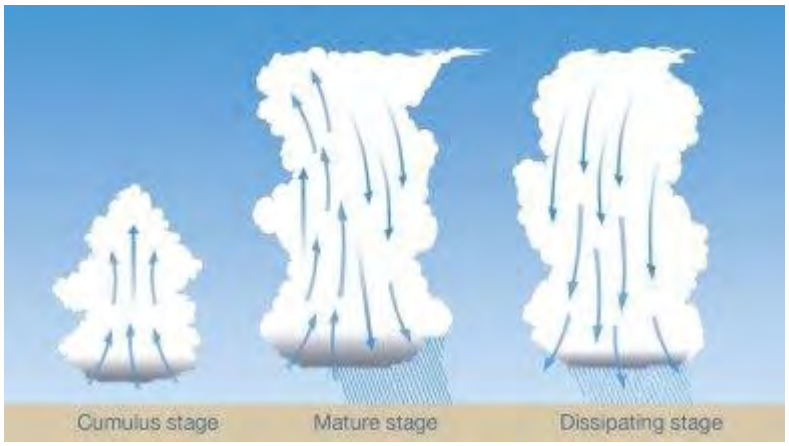
Along with this assessment, GEMA conducted a HAZUS assessment, which is incorporated in this chapter and found in Appendix G.

3.2.1. Natural Hazard: Thunderstorms

3.2.1.1. Hazard Description

Thunderstorms: Thunderstorms are formed when moist air near the earth's surface is forced upward through some catalyst (convection or frontal system). As the moist air rises, the air condenses to form clouds. Because condensation is a warming process, the cloud continues to expand upward. When the initial updraft is halted by the upper troposphere, both the anvil shape and a downdraft form. This system of up-drafting and down-drafting air columns is termed a "cell."

Figure 3.1 The sequential development of a thunderstorm cell (source: Australian Government Bureau of Meteorology)



As the process of updrafts and downdrafts feeds the cell, the interior particulates of the cloud collide and combine to form rain and hail, which falls when the formations are heavy enough to push through the updraft. The collision of water and ice particles within the cloud creates a large electrical field that must discharge to reduce charge separation. This discharge is the lightning that occurs from cloud to ground or cloud to cloud in the thunderstorm cell. In the final stage of development, the updraft weakens as the downdraft-driven precipitation continues until the cell dies.

Each thunderstorm cell can extend several miles across its base and to reach 40,000 feet in altitude. Thunderstorm cells may compound and move abreast to form a squall line of cells, extending farther than any individual cell's potential.

In terms of temporal characteristics, thunderstorms exhibit no true seasonality in that occurrences happen throughout the year. Convectively, driven systems dominate the summer while frontal driven systems dominate during the other seasons. The rate of onset is rapid in that a single cell endures only 20 minutes. However, various cells in different stages of development may form a thunderstorm that lasts up to a few hours as it moves across the surface.

In terms of magnitude, the National Weather Service defines thunderstorms in terms of severity as a severe thunderstorm that produces winds greater than 57 mph and/or hail of at least 1 inch in diameter and/or a tornado. The National Weather Service chose these measures of severity as parameters more capable of producing considerable damage. Therefore, these are measures of magnitude that may project intensity.

Lightning: Lightning occurs when the difference between the positive and negative charges of the upper layers of the cloud and the earth's surface becomes great enough to overcome the resistance of the insulating air. The current flows along the forced conductive path to the surface (in cloud to ground lightning) and reaches up to 100 million volts of electrical potential. In Georgia, lightning strikes peak in July, with June and August being second highest in occurrence.

Hail: Hail is a form of precipitation that forms during the updraft and downdraft-driven turbulence within the cloud. The hailstones are formed by layers of accumulated ice (with more layers creating larger hailstones) that can range from the size of a pea to the size of a grapefruit. Hailstones span a variety of shapes but usually take a spherical form. Hailstorms mostly endanger cars but have been known to damage aircraft and structures.

Figure 3.2 Reference of hailstone size and wind speed

Hailstone size	Measurement		Updraft Speed	
	in.	cm.	mph	km/h
bb	< 1/4	< 0.64	< 24	< 39
pea	1/4	0.64	24	39
marble	1/2	1.3	35	56
dime	7/10	1.8	38	61
penny	3/4	1.9	40	64
nickel	7/8	2.2	46	74
quarter	1	2.5	49	79
half dollar	1 1/4	3.2	54	87
walnut	1 1/2	3.8	60	97
golf ball	1 3/4	4.4	64	103
hen egg	2	5.1	69	111
tennis ball	2 1/2	6.4	77	124
baseball	2 3/4	7.0	81	130
tea cup	3	7.6	84	135
grapefruit	4	10.1	98	158
softball	4 1/2	11.4	103	166

3.2.1.2. Hazard Profile (Location, Extent, Previous Occurrences)

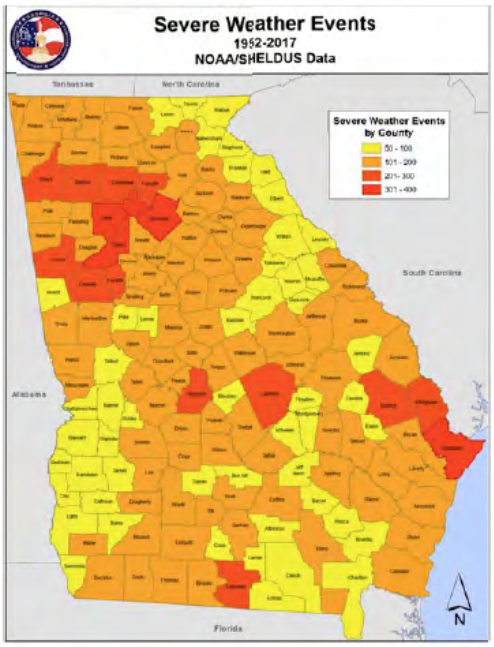
The Dawson County Hazard Mitigation Plan Update Committee utilized data from the National Climatic Data Center, the National Weather Service, numerous weather- related news articles, and the Dawson County LEOP in researching severe thunderstorms and their potential impacts on the County.

Severe thunderstorms, including high winds, hail, and lightning, are a serious threat to the residents and infrastructure of Dawson County. Severe thunderstorms are the most frequently occurring natural hazard in Dawson County. Severe thunderstorms are non-spatial and can occur anywhere in the County. The extent of the storms can include high winds, lightning, and hail. Hail up to 2.75 inches was recorded in Dawson County on several occasions, most recently in 2008.

While there have been dozens of documented thunderstorm events affecting Dawson County over the last 50 years, it is likely that the official number is a low estimate due to poor record keeping in decades past. For example, only 13 thunderstorm events were recorded between 1967 and 1990, likely a vast underestimation of actual events.

Below are two maps that identify the wind risk and the hazard wind score for the State of Georgia, including Dawson County. A legend is included to show the scale used by the Hazard Wind Score map.

Figure 3.3 Wind risk and hazard wind score for counties in Georgia (source: 2019 State of Georgia Hazard Mitigation Strategy)



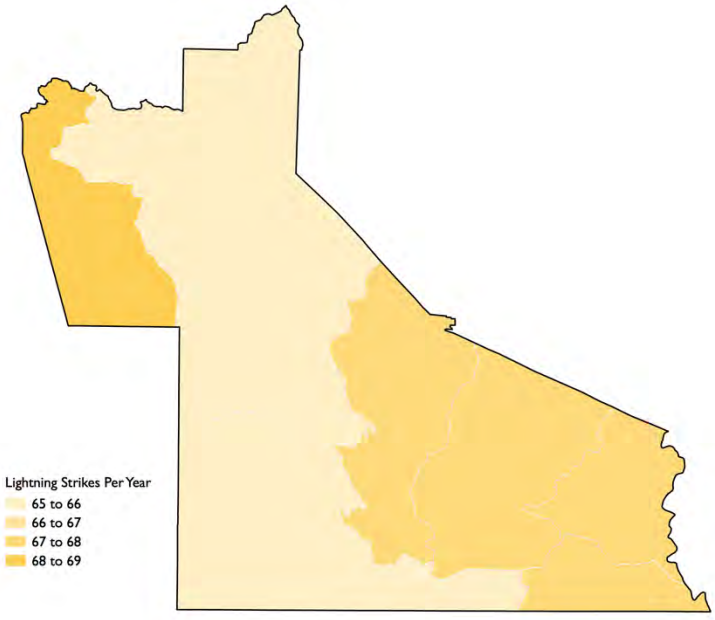
Hazard Score	Wind Speeds
1	<90 mph gust
2	91 – 100 mph gust
3	101 – 110 mph gust
4	111 – 120 mph gust
5	>120 mph gust

During the last 50 years, 104 thunderstorm events were recorded in Dawson County, with 91 of those occurring in the last 25 years. This number includes 39 hail events and only 8 lightning reports. According to these records, Dawson County has a 0.6% chance daily of a thunderstorm event based upon data from the last 25 years. Due to improved record keeping protocols, the Dawson County Hazard Mitigation Plan Update Committee believes the data from the last ten years provides a more accurate representation of the thunderstorm threat to the county. The Dawson County Hazard Mitigation Plan Update Committee has also determined that the lightning threat is severely under-reported, as shown in the NCDC data numbers. For additional historical data, please see Appendix D.

3.2.1.3. Probability

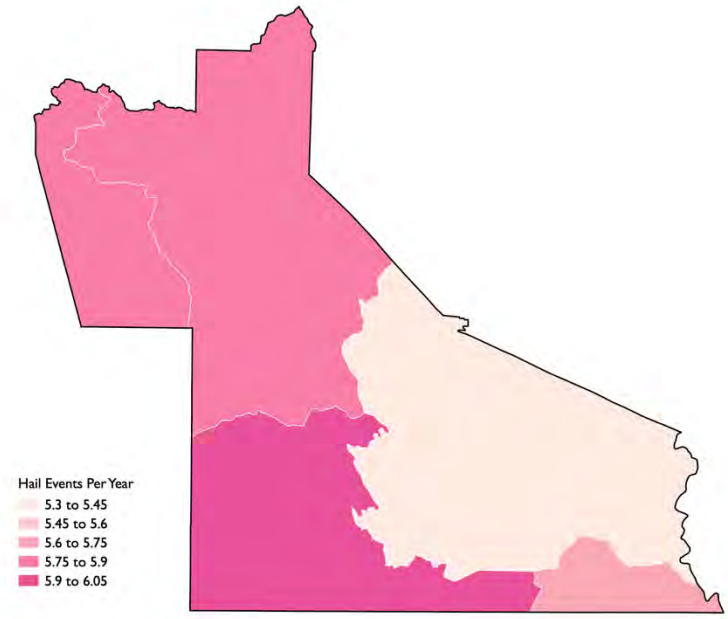
The annualized frequencies of strong wind, hail, and lightning events were calculated as an initial step in determining thunderstorm probability. The annualized frequency of lightning strikes occurring in the County is based on a prototype dataset from NOAA's NCEI with all recorded cloud-to-ground lightning strikes from 1991 to 2012 made available through FEMA.

Figure 3.4: Annualized frequency analysis of lightning events in Dawson County (source: Federal Emergency Management Agency)



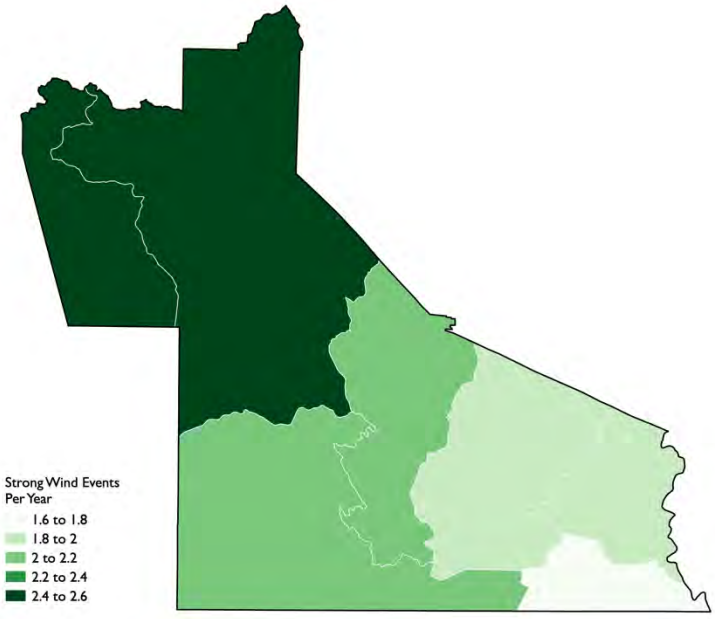
NOAA's Storm Prediction Center provides access to reported hail events since 1986 that can be used to calculate the annualized frequency. The dataset includes events that meet a hail size threshold of 0.75" (before 2010) and a threshold of 1.0" (after 2010).

Figure 3.5: Annualized frequency analysis of hail events in Dawson County (source: National Oceanic and Atmospheric Administration)



NOAA's Storm Prediction Center provides access to reported damaging wind events since 1986 that can be used to calculate annualized frequency. The dataset includes events with wind speeds greater than or equal to 50.4 knots (58 mph).

Figure 3.6 Annualized frequency analysis of strong wind events in Dawson County (source: National Oceanic and Atmospheric Administration)



Based on the above annualized frequency analysis, the probability of having a thunderstorm in the County is extremely likely (occurring every 1 year or more).
The impact of climate change on the frequency and severity of thunderstorms is not currently well known. According to the 2019 Georgia Hazard Mitigation Strategy, the anticipated frequency and severity will remain close to historical records.

3.2.1.4. Impacts

In evaluating assets that are susceptible to severe thunderstorms, the Dawson County HMPC determined that all public and private property is at threat by severe thunderstorms, including all critical facilities. This is due to the lack of spatial prejudice of severe thunderstorm events.

Estimates of damage for the past events of the last 50 years are over $3.5 million, or $70,000 annually. These numbers are thought to be a gross underestimation of actual past damages though as most of the available information relating to severe thunderstorm events in Dawson County fails to describe damage estimates in any detail. With each thunderstorm event, there are likely unreported costs related to infrastructure costs, public safety response costs, utility repair costs, and personal home and business repair costs. Thunderstorms have occurred during all parts of the day and night and in every month in Dawson County.

3.2.1.5. Impacts from Future Conditions

As described above, impacts from climate change are not well defined yet, but Dawson County could see impacts from land use changes and population growth. More specifically, Dawson County has seen continued and significant population growth (from 2010 to 2020, Dawson County's population increased by 4,731 (21.19%), according to Census Bureau's Population Estimates Program) – this population growth is also related to land use changes as the County becomes more developed to account for the increased population. Even if the frequency and severity of thunderstorms remain constant, damage to life and property will likely increase.

3.2.1.6. Multi-Jurisdictional Considerations

Thunderstorm events have occurred across all areas of Dawson County. Crop damage from thunderstorm events would likely have the greatest impact in the rural areas of Dawson County. However, property damage numbers would be highest in more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, due to greater population density. Thunderstorms have the potential to impact all areas of Dawson County.

3.2.1.7. Hazard Summary

Thunderstorm events pose one of the greatest threats of property damage, injuries, and loss of life in Dawson County. Thunderstorm events are the most frequently occurring weather event that threatens Dawson County. As a result, the Dawson County HMPC recommends that the mitigation measures identified in this plan for thunderstorms should be aggressively pursued due to the frequency of this hazard and the ability for this hazard to affect any part of Dawson County.

3.2.2. Natural Hazard: Winter Storms

3.2.2.1. Hazard Description

Severe winter storms bring the threat of ice and snow. There are many types of frozen precipitation that could create a severe winter weather event. Freezing rain consists of super cooled falling liquid precipitation freezing on contact with the surface when temperatures are below freezing. This results in an ice glazing on exposed surfaces including buildings, roads, and power lines. Sleet is easily discernable from freezing rain in that the precipitation freezes before hitting the surface. Often this sleet bounces when hitting a surface and does not adhere to the surface. However, sleet can compound into sufficient depths to pose some threat to motorists and pedestrians.

A heavy accumulation of ice, which is often accompanied by high winds, can devastate infrastructure and vegetation. Destructiveness in the southern states is often amplified due to the lack of preparedness and response measures. Also, the infrastructure was not designed to withstand certain severe weather conditions such as weight build-up from snow and ice. Often, sidewalks and streets become extremely dangerous to pedestrians and motorists. Primary industries, such as farming and fishing, suffer losses through winter seasons that produce extreme temperatures and precipitation.

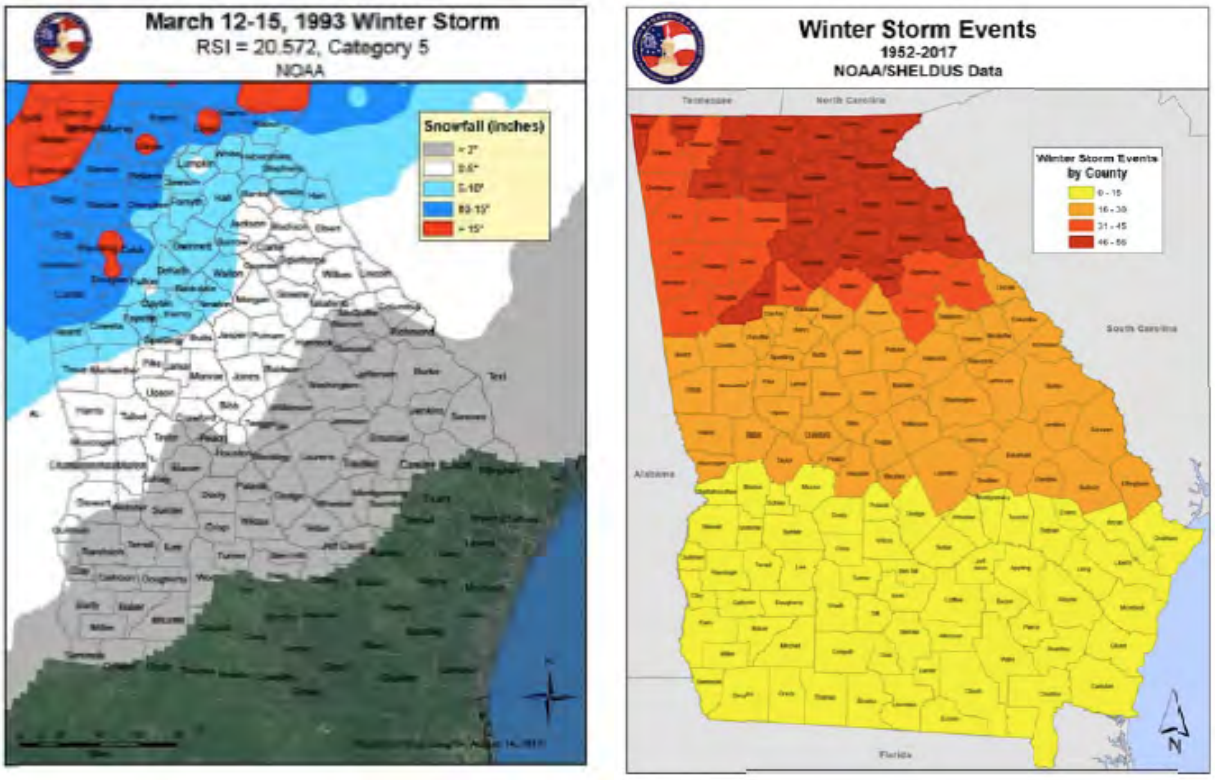
Severe winter weather exhibits seasonal qualities in that most occur within the months of January to March, with the highest probability of occurrence in February. The rate of onset and duration varies from storm to storm, depending on the weather system driving the storm. Severe winter weather rarely frequents the State of Georgia. However, the impacts of the storms substantiate severe winter weather's inclusion in the risk assessment.

3.2.2.2. Hazard Profile (Location, Extent, Previous Occurrences)

All portions of Dawson County could potentially be impacted by a winter storm, including freezing rain, sleet, and snow.

Individual events of winter weather can be drastically different depending on many factors, including the duration of the event, the type of precipitation involved, and the depth of the precipitation. Winter storm events can be a light dusting of snow, ¼ inch of ice, or over a foot of snow. Other factors, such as wind, can influence the strength of these events, as happened with wind-blown snow during the March 1993 Winter Storm event. During this event, over a foot of snow was reported in multiple areas across Dawson County and most areas received at least 6 inches of snow.

Figure 3.7 Historic snowfalls for the March 1993 Winter Storm event and number of total winter storm events (source: 2019 State of Georgia Hazard Mitigation Strategy)



The National Weather Service weather forecast offices issue weather warnings when an office has at least an 80% confidence level of an event occurrence (generally within 24 to 36 hours). Warnings

related to severe winter weather include blizzard and winter storm warnings. Blizzard warnings are issued when sustained winds or frequent gusts greater than or equal to 35 mph and considerable falling and/or blowing snow frequently reducing visibility for greater than or equal to 3 hours are forecasted to occur. Winter storm warnings are issued when (1) more than one predominant hazard (ie. heavy snow and blowing snow (below blizzard conditions), snow and ice, snow and sleet, sleet and ice, or snow, sleet and ice) meets or exceeds warning criteria for at least one of the precipitation elements (2) at least 6 inches of snow or sleet is forecasted in a 12 hour period or (3) at least 9 inches of snow or sleet is forecasted in a 24 hour period. Previous occurrences of winter weather warnings can be seen in Appendix D.

3.2.2.3. Probability

The annualized frequencies of ice storms and winter weather events were calculated using data from the United States Army Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL) and archived NWS warnings compiled by Iowa State University's Iowa Environmental Mesonet.

Figure 3.8: Annualized frequency analysis of ice storm events in Dawson County (source: Federal Emergency Management Agency)

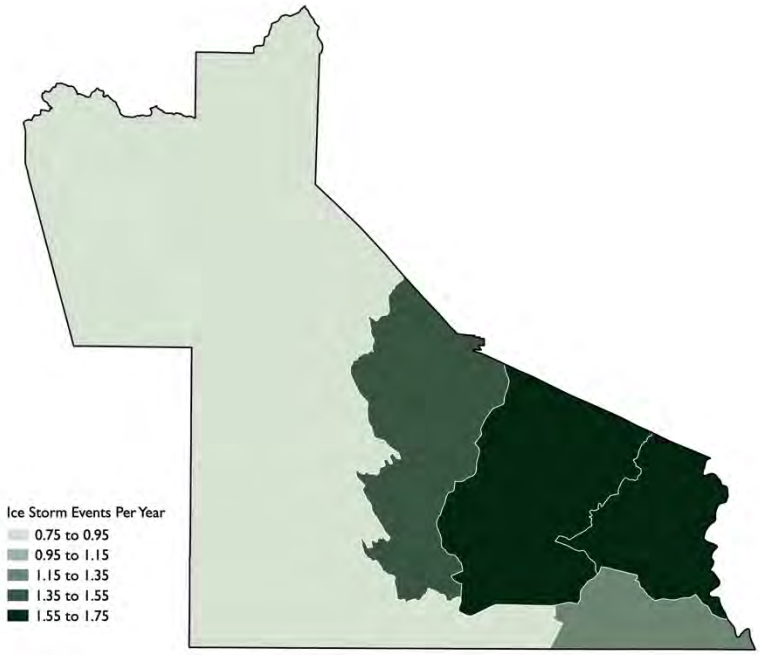
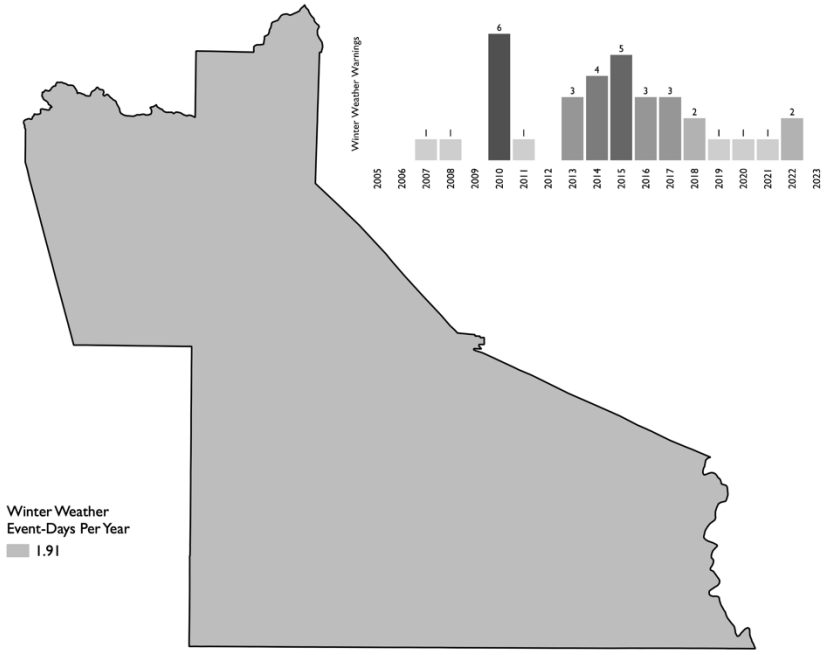


Figure 3.9: Annualized frequency analysis of winter weather events in Dawson County (source: Iowa State University)



Based on the above annualized frequency analysis, the probability of having a winter storm event in the County is extremely likely (occurring every 1 year or more).
Similar to thunderstorms, the impacts of climate change on winter storms is not entirely understood yet. Referencing the 2019 Georgia Hazard Mitigation Strategy though, winter storms have increased in frequency and intensity since the 1950s, but their tracks have shifted northward over the United States. While the trend in increased frequency will likely continue over the United States, Dawson County can expect similar levels as historical records due to the offset by the northward shift of the tracks.

3.2.2.4. Impacts

While winter storms are not as frequent of an occurrence in Dawson County as they are in areas in the Northern US, they still have the potential to wreak havoc on the community when they do occur. Winter storms in Dawson County typically cause drastic damage to infrastructure, such as roads, power lines, and bridges. They also can cause damage to private property, businesses, and trees throughout the county. Due to the county's elevation changes, many highways have steep grades that can become dangerous during icy conditions. The large number of trees in Dawson County can also become a hazard when the tree limbs become weighed down with snow and ice and begin to break and fall to the ground, potentially damaging private property, public property, or injuring people and animals.

Since winter storms are indiscriminate about location, the Dawson County HMPC determined that all public and private property, including all critical infrastructure, are susceptible to impacts from winter storms.

Total estimated losses for winter storm events of the last 50 years indicate a total of over $1.2 million in losses. Extrapolated over 50 years, this averages out to $25,940 per year. However, nearly all the documented winter storms with loss information have occurred over the last 20 years. As such, the average loss per year for the last 20 years is $64,850 per year. It is estimated that these numbers are a gross underestimation of the impact of past winter storms and caution is expressed when using these figures to make loss determinations for winter storms in Dawson County.

3.2.2.5. Impacts from Future Conditions

Impacts from future conditions for winter weather mirrors the impacts from future conditions for thunderstorms for Dawson County. Climate change is not expected to have a significant impact, but Dawson County could see impacts from land use changes and population growth. Even if the frequency and severity of winter storms remain constant, damage to life and property will likely increase.

3.2.2.6. Multi-Jurisdictional Considerations

All portions of Dawson County could potentially be impacted by a winter storm, including freezing rain, sleet, and snow. However, property damage numbers would be highest in more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, due to greater population density. Therefore, all mitigation actions identified regarding winter storms should be pursued on a countywide basis and include the City of Dawsonville.

3.2.2.7. Hazard Summary

Winter storms, which can include freezing rain, sleet, or snow, typically afford communities some advance warning, which is different from many other severe weather phenomena. The National Weather Service issues winter storm watches, advisories, and warnings as much as a day before the storm's impacts begin. Unfortunately, communities in the Southern United States are not equipped to handle winter storms due to their relative infrequent nature. Oftentimes, communities can face severe impact from these storms. The Dawson County HMPC recognizes the potential threats winter storms could have on the community and have identified specific mitigation actions as a result.

3.2.3. Natural Hazard: Flooding

3.2.3.1. Hazard Description

Flooding is a temporary overflow of water on normally dry lands adjacent to the source of water, such as a river, stream, or lake. The causes of flooding include mass sources of precipitation, such as tropical cyclones, frontal systems, and isolated thunderstorms combined with other environmental variables, such as changes to the physical environment, topography, ground saturation, soil types, basin size, drainage patterns, and vegetative cover. Adverse impacts may include structural damages, temporary backwater effects in sewers and drainage systems, death of livestock, agricultural crop loss, loss of egress and access to critical facilities due to roads being washed-out or over-topped and unsanitary conditions by deposition of materials during recession of the floodwaters.

Floods are loosely classified as either coastal or riverine. Coastal flooding occurs when normally dry, low-lying land is flooded by sea water. Coastal flooding is usually associated with tropical cyclones in

Georgia. Riverine flooding occurs from inland water bodies such as streams and rivers. Riverine flooding is often classified based on rate of onset. The first is slow to build, peak, and recede, often allowing sufficient time for evacuations. The other type of riverine flood is referred to as a "flash" flood, which rapidly peaks and recedes, thus giving insufficient time for evacuations. Flash floods are typically considered the most dangerous of these types.

On a broad scale, flooding can occur around any body of water or low-lying surface given enough precipitation or snowmelt. The spatial extent of the flooding event depends on the amount of water overflow but can usually be mapped because of existing floodplains (areas already prone to flooding).

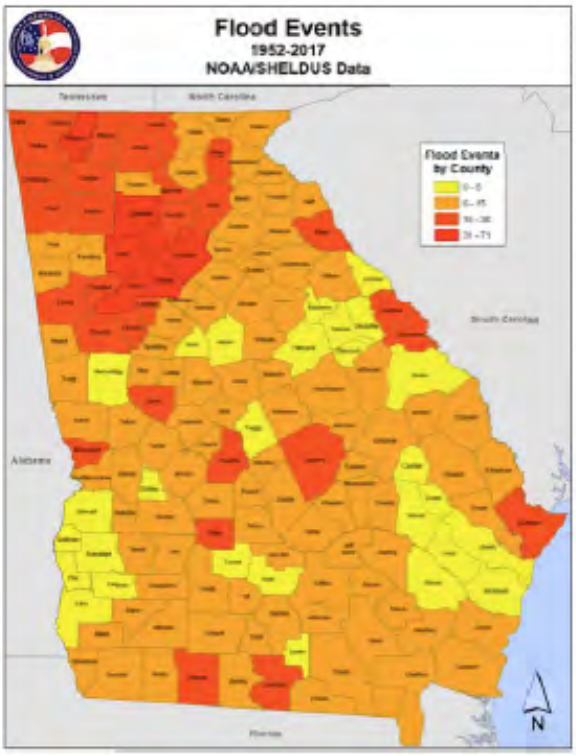
Flooding in Georgia is highly dependent on precipitation amounts and is highly variable. Certain seasons are more prone to flooding to a greater likelihood of excessive precipitation. Typically, the wet seasons are during the winter, early spring, and midsummer. Late spring and fall are usually drier seasons.

3.2.3.2. Hazard Profile (Location, Extent, Previous Occurrences)

Flood events within Dawson County are typically associated with areas of special flood hazard as identified on Flood Rate Insurance Maps (FIRMs) published by FEMA. The flood maps delineate areas of high, moderate, and low flood risk by indicating areas of inundation under different flooding return periods (e.g. 100-year, 500-year floods). Dawson County is within the 100-year and 500-year floodplains depending on the location.

The HMPC researched flooding information for the last fifty years. The main sources of information used came from the NCDC, the Dawson County Emergency Operations Plan, and news media sources. It was determined that flooding has caused significant damage on a relatively small number of occasions over the last 20 years. One significant flooding event that affected Dawson County occurred in September of 2004. The flash flood event led to two bridges and multiple culverts being washed out, four mobile homes flooded, and one breached dam. This event caused nearly $500,000 in reported damages. While data was collected for the entire 50-year timeframe, little information was available regarding flood events over that period, possibly due to poor record keeping. The Etowah River reaches major flood stage at 21 feet near Dawsonville and 31 feet near Landrum. At these levels, GA Highway 9 floods in low-lying areas and water levels reach the bottom of the GA Highway 136 bridge. Homes along Riverbend Road and Etowah River Road become inundated with 4-10 feet of water (flooding of homes begins at "moderate" flood level near Landrum in unincorporated Dawson County). The highest crest of the Etowah River near Dawsonville (unincorporated Dawson County) is 15.9 feet in 2013, which is just below "moderate" flood stage. For additional historical data, please see Appendix D.

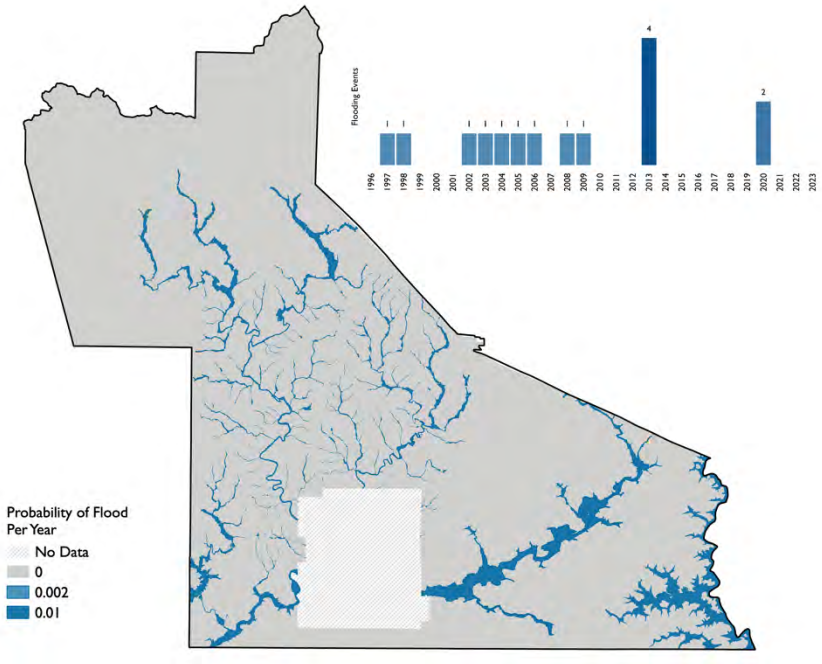
Figure 3.10 Past flood events in Georgia counties (source: 2019 State of Georgia Hazard Mitigation Strategy)



3.2.3.3. Probability

To evaluate the probability of flooding in Dawson County, the HMPC looked at the FEMA flood maps and events in the NCEI Storm Events Database since 1996. The County is within the 100-year and 500-year floodplains depending on the location within the County and had 15 flood event reports over 28 years within the database. According to FEMA, any place with a 1% chance or higher chance of experiencing a flood each year has at least a 25% chance of flooding during a 30-year mortgage. The probability of flooding in Dawson County is highly likely (occurring every 1 to 5 years).

Figure 3.11: FEMA flood zones in Dawson County and counts of historical flooding events (source: Federal Emergency Management Agency, National Oceanic and Atmospheric Administration)



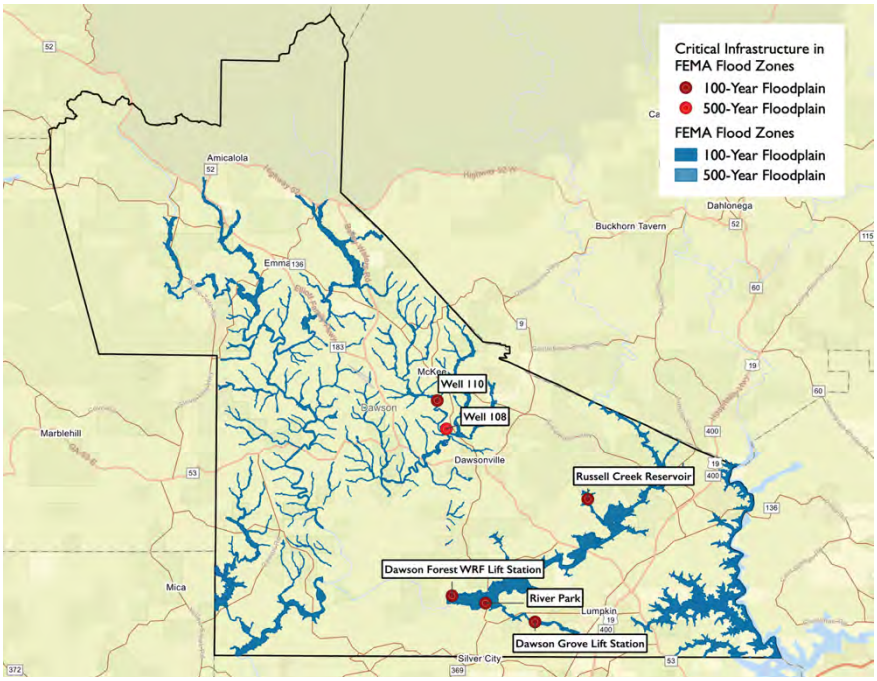
Climate change is projected to impact precipitation, and thus the probability of flooding. As shown in Figure 3.15, the County is expected to see an increase of 4-5 inches of precipitation by the end of the century as well as an increase of 3-4 days that have heavy rains.

3.2.3.4. Impacts

Relatively little information is available regarding flooding damage estimates. However, with each flooding event, it is likely that significant costs arose related to road repair, infrastructure repair, and public safety response operations. Most of the flood damage in Dawson County's history appears to be related to roads and culverts washing out because of flood waters.

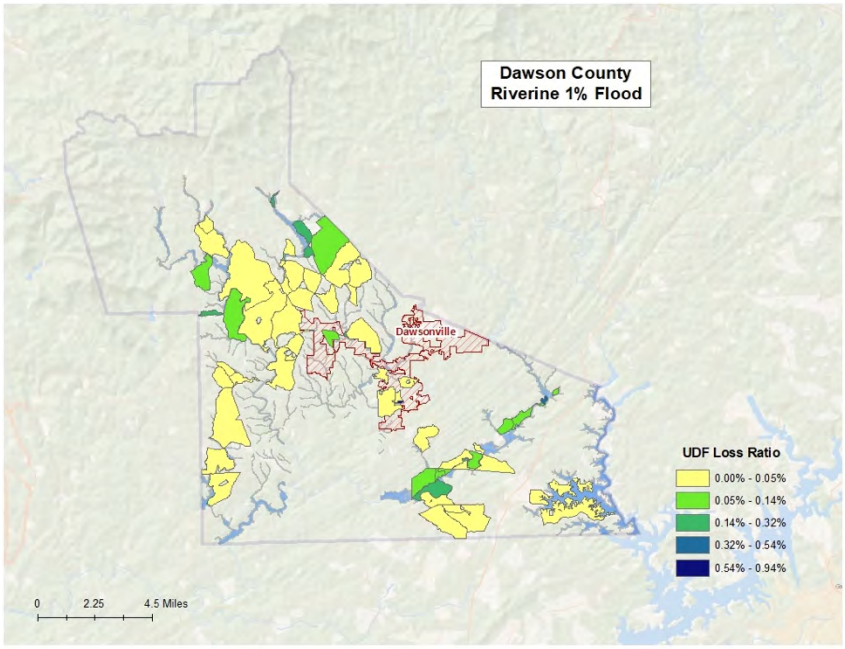
To evaluate the assets that would potentially be impacted by flooding, the Dawson County HMPC attempted to identify known structures within, or close to, the 100-year floodplain.

Figure 3.12 Critical infrastructure within flood zones (source: Federal Emergency Management Agency)



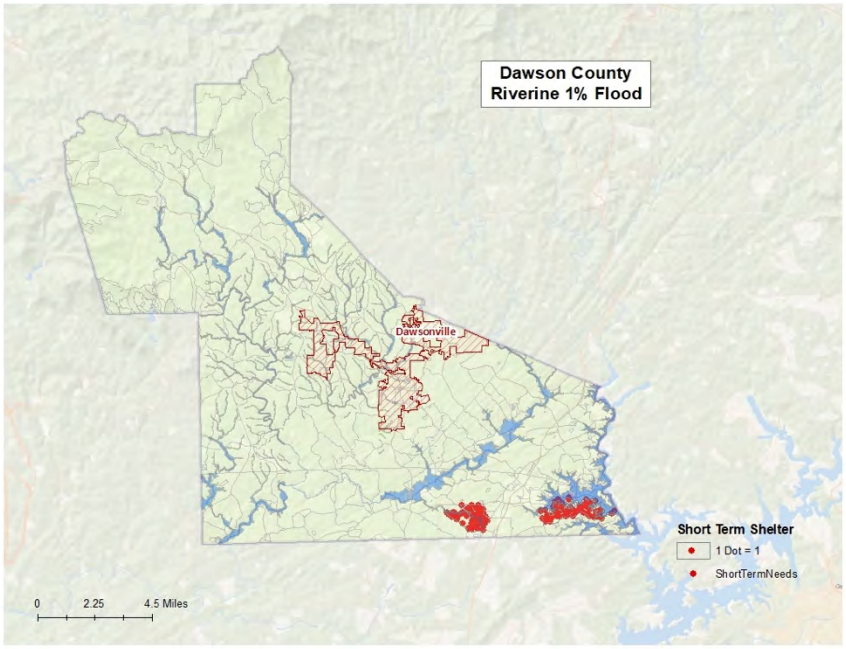
Based upon the 2024 Dawson County HAZUS report, a flood equivalent to the 1% riverine flood levels could result in losses in excess of $5 million. However, it is possible that some areas may not experience total losses while others may be inundated with flood waters who are not designated in the 1% riverine flood areas. The analysis identified no essential facility that were subject to damage in the Dawson County riverine 1% probability floodplain.

Figure 3.13 Dawson County potential loss ratios of total building exposure to losses sustained to buildings from the 1% riverine flood by 2010 census block (source: 2024 Dawson County HAZUS Report)



The analysis also estimated the number of households that are expected to be displaced from their homes due to riverine flooding and the associated potential evacuation. The model estimated 281 households might be displaced due to the flood. Displacement includes households evacuated within or very near to the inundated area. Displaced households represent 844 individuals, of which 368 may require short term publicly provided shelter.

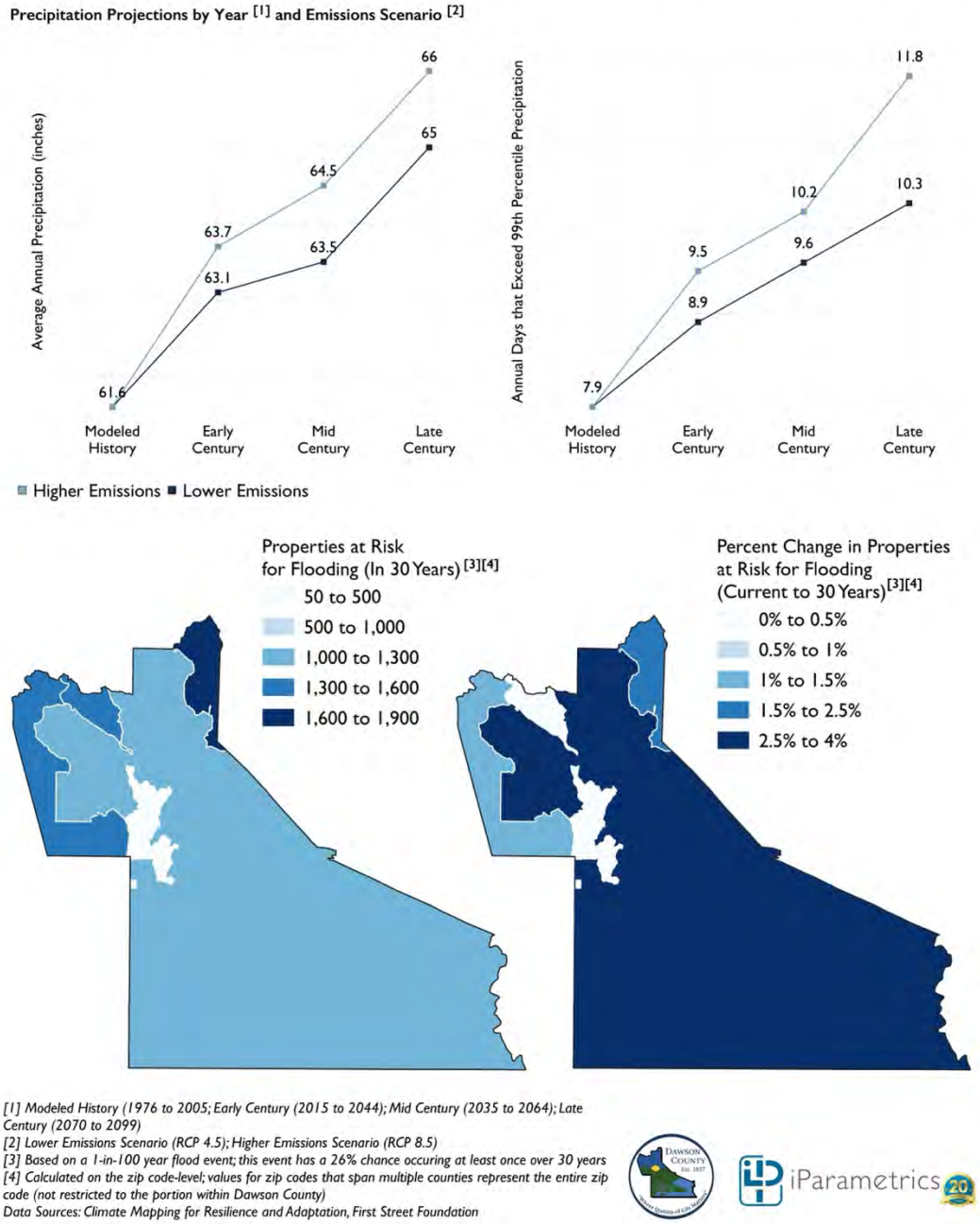
Figure 3.14 Riverine 1% estimated flood shelter requirements (source: 2024 Dawson County HAZUS Report)



3.2.3.5. Impacts from Future Condition

Dawson County is projected to see an increase in precipitation leading to an increase in the number of properties that are prone to flooding in 30 years. There is also a projected increase in the percent of properties that are at risk of flooding between now and 30 years from now.

Figure 3.15 Projected precipitation levels in Dawson County under various emissions scenarios and impacts to property flooding (source: Climate Mapping for Resilience and Adaptation, First Street Foundation)



Dawson County participates in the National Flood Insurance Program (NFIP) and follows the program's guidelines to ensure future development is carried out in the best interests of the public. The County (CID No. 130304) first entered the NFIP on December 15, 1990. According to the NFIP guidelines, the County has executed a Flood Damage Prevention Ordinance. This ordinance attempts to minimize the loss of human life and health as well as minimize public and private property losses due to flooding. The ordinance requires any potential flood damage be evaluated at the time of initial construction and

that certain uses be restricted or prohibited based on this evaluation. The ordinance also requires that potential homebuyers be notified that a property is located in a flood area. In addition, all construction must adhere to the Georgia State Minimum Standard Codes and the International Building Codes. Currently, the Dawson County municipality of Dawsonville also participates in NFIP. There are no repetitive loss properties identified in Dawson County. This includes the City of Dawsonville.

3.2.3.6. Multi-Jurisdictional Considerations

During a large-scale flood event, many portions of Dawson County would potentially be impacted by flooding. However, the areas most prone to flooding have historically been those areas located within the 100-year floodplain. This is particularly true for areas along the Etowah River, which is in unincorporated areas of Southern Dawson County. The City of Dawsonville would be less likely to see direct impacts from flooding. However, a flood impacting unincorporated areas of the county would still have significant impacts on the City of Dawsonville. All of Dawson County and the City of Dawsonville could potentially be impacted.

3.2.3.7. Hazard Summary

Flooding has the potential to inflict significant damage within Dawson County, particularly along Lake Lanier and its tributaries. Mitigation of flood damage requires the community to be aware of flood-prone areas, including roads, bridges, and critical facilities. The Dawson County HMPC identified flooding as a hazard requiring mitigation measures and identified specific goals, objectives, and action items they deemed necessary to lessen the impact of flooding for their communities. These maps were updated since the previous plan. There are no repetitive loss properties identified in Dawson County.

3.2.4. Natural Hazard: Tornado

3.2.4.1. Hazard Description

A tornado is a violently rotating column of air (seen only when containing condensation, dust, or debris) that is in contact with the surface of the ground. Exceptionally large tornadoes may not exhibit the classic “funnel” shape, but may appear as a large, turbulent cloud near the ground or a large rain shaft. Destructive because of strong winds and windborne debris, tornadoes can topple buildings, roll mobile homes, uproot vegetation, and launch objects hundreds of yards.

Most significant tornadoes (excluding some weak tornadoes and waterspouts) stem from the right rear quadrant of large thunderstorm systems where the circulation develops between 15,000 and 30,000 feet. As circulation develops, a funnel cloud, a rotating air column aloft, or tornado descends to the surface. These tornadoes are typically stronger and longer-lived. The weaker, shorter-lived tornadoes can develop along the leading edge of a singular thunderstorm. Although tornadoes can occur in most locations, most of the tornado activity in the United States in the Midwest and Southeast. Tornadoes can occur anywhere within the State of Georgia.

In terms of the continuum of area of impact for hazard events, tornadoes are isolated. Typically ranging from a few hundred to one or two miles across, tornadoes affect far less area than larger meteorological events such as tropical cyclones, winter storms and severe weather events. An exact

season does not exist for tornadoes. However, most occur between early spring to mid-summer (February-June). The rate of onset of tornado events is rapid. Typically, the appearance of the first signs of the tornado is the descending funnel cloud. This sign may be only minutes from the peak of the event, giving those in danger minimal sheltering time. However, meteorological warning systems attempt to afford those in danger more time to shelter. The frequency of specific tornado intensities is undetermined because no pattern seems to exist in occurrence. Finally, the duration of tornado events ranges from the few minutes of impact on a certain location to the actual tornado lasting up to a few hours.

Tornadoes are measured after the occurrence using the subjective intensity measures. The Enhanced Fujita Scale describes the damage and then gives estimates of magnitude of peak 3-second gusts in miles per hour.

Figure 3.16 Wind gust speed intervals for Enhanced Fujita Scale ratings

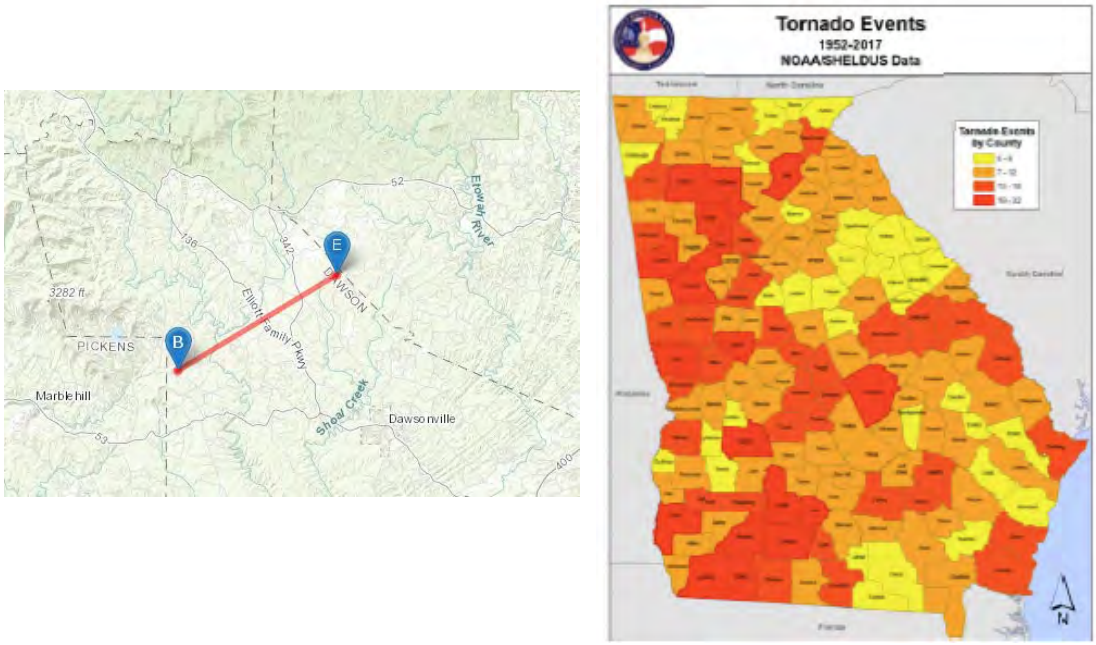
The Enhanced Fujita Scale	
EF Rating	3 second gust (mph)
0	65-85
1	86-110
2	111-135
3	136-165
4	166-200
5	over 200

3.2.4.2. Hazard Profile (Location, Extent, Previous Occurrences)

All areas within Dawson County are vulnerable to the threat of a tornado. Due to the indiscriminate and unpredictable nature of tornadoes, there is no reliable method to determine where or when a tornado will strike. There have been only two documented tornadoes in the last 50 years in Dawson County. It is likely that other tornadoes have occurred within this timeframe, but available records are limited in nature.

Individual tornado events can cause extreme damage to an area. This holds true for Dawson County, as well. The strongest and costliest documented tornado to impact Dawson County was an EF4 in 1974. This storm traveled through the community of Juno. The storm caused $2.5 million in damages and led to 15 injuries and three deaths in Dawson County. For additional historical data, please see Appendix D.

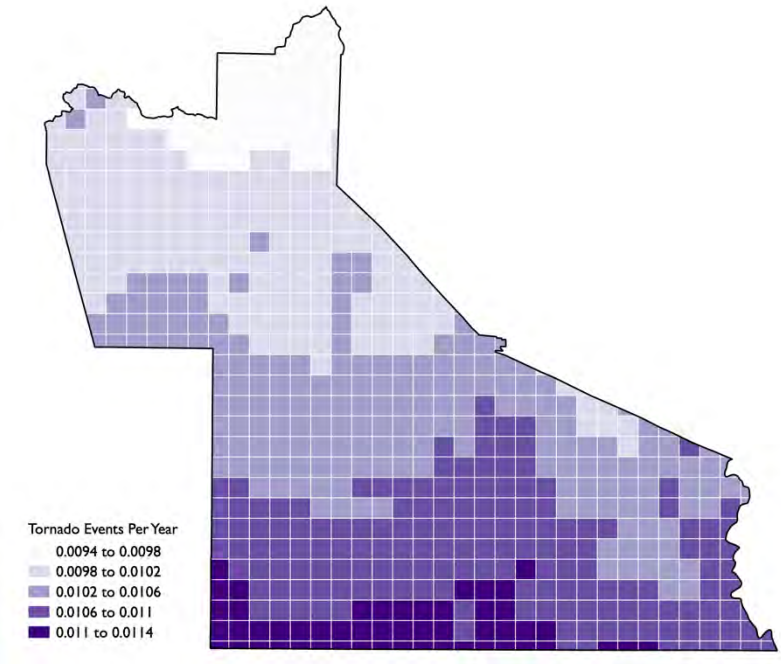
Figure 3.17 1974 EF4 tornado track and historical tornado events in Georgia counties (source: National Climatic Data Center, 2019 State of Georgia Hazard Mitigation Strategy)



3.2.4.3. Probability

NOAA's Storm Prediction Center provides access to reported tornado events since 1986 that can be used to calculate annualized frequency. The dataset includes events with a rating of EF0 to EF5.

Figure 3.18 Annualized frequency analysis of tornado events in Dawson County (source: National Oceanic and Atmospheric Administration)



The probability of a tornado is Dawson County is somewhat likely (occurring every 20 to 50 years).

The impact of climate change on the frequency and severity of tornadoes is not currently well known. According to the 2019 Georgia Hazard Mitigation Strategy, the anticipated frequency and severity will remain close to historical records.

3.2.4.4. Impacts

In evaluating assets that are susceptible to tornadoes, the Dawson County HMPC determined that all public and private property is threatened by tornadoes, including all critical facilities. This is due to the lack of spatial prejudice of tornadoes.

Estimates of damage for the past events of the last 50 years are $2.7 million, or $54,000 annually. When only events of the last 25 years are considered, yearly estimations decrease dramatically to $10,000 annually.

3.2.4.5. Impacts from Future Conditions

Impacts from future conditions for tornados mirrors the impacts from future conditions for other hazards where the effects from climate change are not well known or expected. Even if the frequency and severity of tornadoes remain constant, damage to life and property will likely increase due to land use and population changes.

3.2.4.6. Multi-Jurisdictional Considerations

All portions of Dawson County could potentially be impacted by a tornado due to the indiscriminate nature of tornadic events. However, property damage numbers would be highest in more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, due to greater population density. Unincorporated areas of the county that have a tourism focus, such as Amicalola Falls State Park, could be particularly impacted by a tornado event. Therefore, all mitigation actions identified regarding tornadoes should be pursued on a countywide basis and include the City of Dawsonville.

3.2.4.7. Hazard Summary

Dawson County remains at risk to potential damage from tornadoes. Should a tornado strike in densely populated areas of the county, significant damage or loss of life could occur. Due to the destructive power of tornadoes, it is essential that the mitigation measures identified in this plan regarding tornado activity receive full consideration.

3.2.5. Natural Hazard: Drought

3.2.5.1. Hazard Description

Drought is a normal, recurrent feature of climate consisting of a deficiency of precipitation over an extended period (usually a season or more). This deficiency results in a water shortage for some social or environmental sector. Drought should be judged relative to some long-term average condition of

balance between precipitation and evapotranspiration in a particular area that is considered "normal." Drought should not be viewed as only a natural hazard because the demand people place on water supply affects perceptions of drought conditions. From limited water supplies in urban areas to insufficient water for farmland, the impacts of drought are vast.

Droughts occur in virtually every climatic zone and on every continent. Because the impacts of drought conditions are largely dependent on the human activity in the area, the spatial extent of droughts can span a few counties to an entire country.

Temporal characteristics of droughts are drastically different from other hazards due to the possibility of extremely lengthy durations as well as a sluggish rate of onset. Drought conditions may endure for years or even decades. This factor implicates drought as having a high potential to cause devastation on a given area. The duration characteristic of droughts is so important that droughts are classified in terms of length of impact. Droughts lasting one to three 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. With the slow rate of onset, most populations have some inkling that drought conditions are increasingly present. However, barring drastic response measures, most only must adapt to the changing environment.

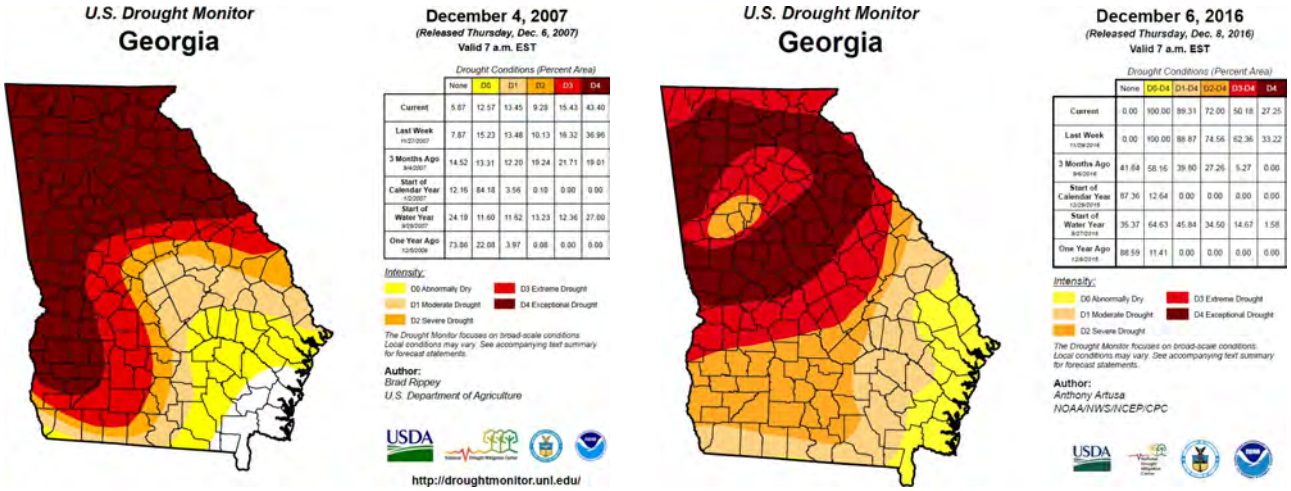
Seasonality has no general impact on droughts in terms of calendar seasons. However, "wet" and "dry" seasons obviously determine the severity of drought conditions. In other words, areas are less susceptible to drought conditions if the area is experiencing a wet season. The frequency of droughts is undetermined, because the hazard spans such a long period of time. However, climatologists track periods of high and low moisture content similarly to the tracking of cooling and warming periods.

3.2.5.2. Hazard Profile (Location, Extent, Previous Occurrences)

All portions of Dawson County could potentially be impacted by a drought, but agricultural areas of the county are potentially more at risk. The Dawson County HMPC reviewed data for the last 50 years regarding drought conditions. Historically, agricultural losses have accounted for the vast number of losses related to drought conditions.

There have been two recent examples of "exceptional" drought events affecting Dawson County. These events occurred in 2007 and 2016. Both events reached the D4 (Exceptional Drought) designation, according to data from the United States Drought Monitor. Below are maps of these two events.

Figure 3.19 Records from 2007 and 2016 exceptional droughts in Dawson County (source: USDA Drought Monitor – University of Nebraska-Lincoln)

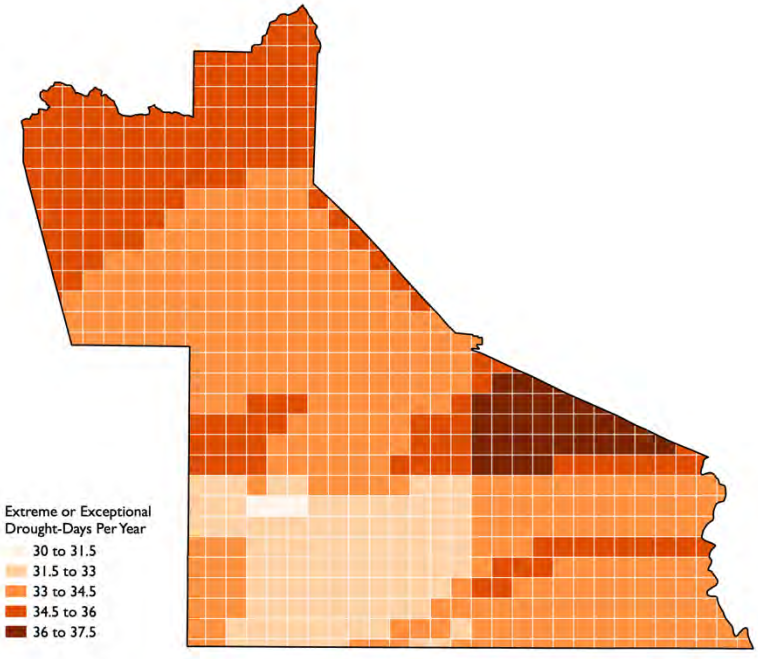


Due to poor record keeping and the unpredictable nature of drought conditions, reliability of historical data for the last 50 years is low. Dawson County has been impacted by 10 drought events in the last 20 years, according to data from the National Climatic Data Center.

3.2.5.3. Probability

The USDA monitors drought conditions based on precipitation, streamflow, reservoir levels, temperature and evaporative demand, soil moisture and vegetation health – historical data can be used to calculate annualized frequency.

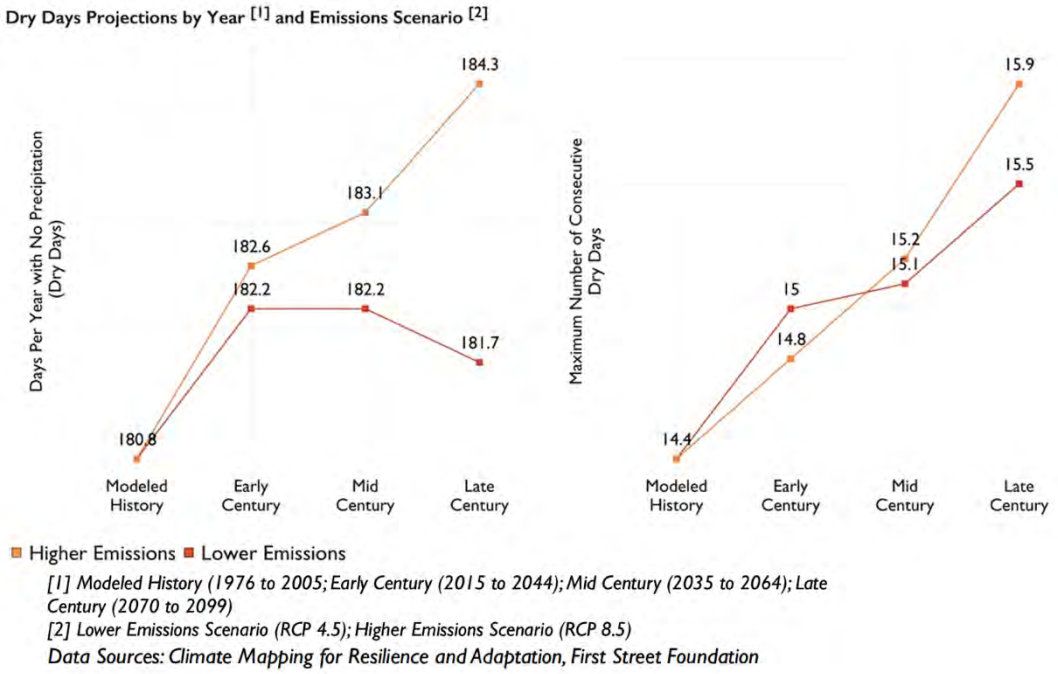
Figure 3.20 Annualized frequency analysis of drought events in Dawson County (source: United States Department of Agriculture)



The probability of a drought event in Dawson County is highly likely (occurring every 1 to 5 years).

Climate change is going to impact the drought projections for Dawson County. The data projections show that there will be an increase in the number of dry days each year with no precipitation. If the higher emissions projections are correct, then there will be 184 days with no precipitation and if the lower emission projections are correct then there will be roughly 181 days with no precipitation. The projections also show that there will be an increase in the minimum consecutive number of dry days. If the lower emission projections are correct there will be almost 16-day consecutive dry days and 15 days if the higher emission projections are correct. These are demonstrated in the figure below.

Figure 3.21 Drought-related projections for Dawson County under various emissions scenarios (source: Ckimate Mapping for Resilience and Adaptation)



[1] Modeled History (1976 to 2005; Early Century (2015 to 2044); Mid Century (2035 to 2064); Late Century (2070 to 2099)
[2] Lower Emissions Scenario (RCP 4.5); Higher Emissions Scenario (RCP 8.5)
Data Sources: Climate Mapping for Resilience and Adaptation, First Street Foundation

3.2.5.4. Impacts

No damage to structures or critical facilities is expected as a direct result of drought conditions. However, crop damage and subsequent losses can be expected to occur as a result of drought conditions. The degree of losses would depend on the duration of the drought, severity of the drought, temperatures during the drought, season in which the drought occurs, and the specific needs of the involved crops.

According to the 2017 Agriculture Census data, Dawson County's market value of products sold was $46,825,000. $939,000 of that total represented crop sales, accounting for 2% of the total. Livestock, poultry and their product sales accounted for 98%, or $45,886,000, of the total value.

Water system shortages and need for supply assistance for those systems could also lead to economic losses associated with the drought. Water resources could also become scarce during a drought, a condition that would potentially affect all Dawson County residences and critical facilities.

While drought conditions do not typically pose a direct threat to structures, secondary hazards from drought such as increased wildfire threat, does pose a significant threat to all public and private property in Dawson County, including all critical facilities.

3.2.5.5. Impacts from Future Conditions

Combined effects from climate change and population growth can heighten the impacts of drought on Dawson County. Climate change can increase the severity, duration, and frequency of drought events, while population growth can lead to increased reliance on water infrastructure and wells countywide. This increased pull on these resources in Dawson County could quicken or deepen the impacts of a drought for residential, commercial, and industrial areas.

3.2.5.6. Multi-Jurisdictional Considerations

All portions of Dawson County could potentially be impacted by a drought, but agricultural areas of the county are potentially more at risk. Crop damage from drought events would likely have the greatest impact in the rural areas of Dawson County. However, the greater population density of the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor could indicate a greater population impact of a significant drought event that threatens water supply needs. Therefore, all mitigation actions identified regarding drought should be pursued on a countywide basis and include the City of Dawsonville.

3.2.5.7. Hazard Summary

Drought conditions can cause significant economic stress on the agriculture and forestry interests of Dawson County. The potential negative secondary impacts of drought are numerous. They include increased wildfire threat, decreased water supplies for residential and industrial needs, stream-water quality, and water recreation facilities. The Dawson County HMPC recognizes the potential threats drought conditions could have on the community and have identified specific mitigation actions as a result.

3.2.6. Natural Hazard: Wildfire

3.2.6.1. Hazard Description

A wildfire is an uncontained fire that spreads through the environment. Wildfires can consume large areas, including infrastructure, property, and resources. When massive fires, or conflagrations, develop near populated areas, evacuations could possibly ensue. Not only do the flames impact the environment, but the massive volumes of smoke spread by certain atmospheric conditions also impact the health of nearby populations.

Wildfires result from the interaction of three crucial elements: fuel, ignition (heat), and oxygen. Natural and manmade forces cause the three crucial elements to coincide in a manner that produces wildfire events. Typically, fuel consists of natural vegetation. However, as the urban and suburban footprint expands, wildfires may utilize other means of fuel, such as buildings. In terms of ignition or source of heat, the primary source is lightning. However, humans are more responsible for wildfires than lightning. Manmade sources vary from the unintentional, such as fireworks, campfires, or machinery, to intentional arson. With these two elements provided, the wildfires may spread if oxygen is present.

Weather is the most variable factor affecting wildfire behavior. Strong winds propel wildfires quickly across most landscapes unless firebreaks are present. Shifting winds create erratic wildfires, which can

complicate fire management efforts. Dry conditions provide faster-burning fuels, either making the area more vulnerable to wildfire or increasing the mobility of preexisting wildfires.

Wildfires are notorious for spawning secondary hazards, such as flash flooding and landslides, long after the original fire is extinguished. Both flash flooding and landslides result from fire consuming the natural vegetation that provides precipitation interception and infiltration as well as slope stability.

All of Georgia is prone to wildfire due to the presence of wildland fuels associated with wildfires. Land cover associated with wildland fuels includes coniferous, deciduous, and mixed forest; shrubland; grassland and herbaceous; transitional; and woody and emergency herbaceous wetlands. The spatial extent of wildfire events greatly depends on both the factors driving the fire as well as the efforts of fire management and containment operations.

In terms of seasonality, wildfires can occur during any season of the year. However, drier seasons, which vary within the State of Georgia, are more vulnerable to severe wildfires because of weather patterns and the abundant quick-burning fuels. In terms of rate of onset and duration, wildfires vary depending on the available fuels and weather patterns. Some wildfires can engulf an area in a matter of minutes from the first signs whereas others may be slower burning and moving. The frequency of wildfires are not typically measured because of the high probability of human ignition being statistically unpredictable. Magnitude and intensity are typically only measured by size of the wildfire and locations of burning.

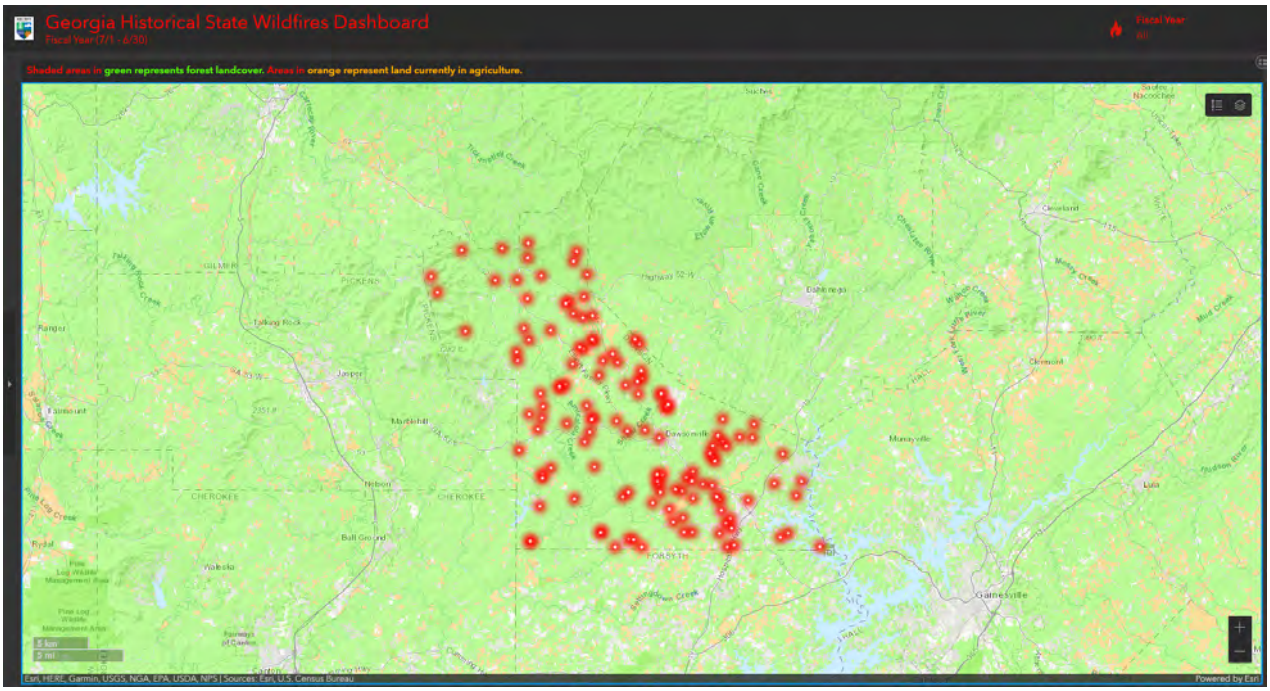
Three classes of fires include understory, crown, and ground fires. Naturally induced wildfires burn at relatively low intensities, consuming grasses, woody shrubs, and dead trees. These understory fires often play an important role in plant reproduction and wildlife habitat renewal and self-extinguish due to low fuel loads or precipitation. Crown fires, which consist of fires consuming entire living trees, are low probability but high consequence events due to the creation of embers that can be spread by the wind. Crown fires typically match perceptions of wildfires. In areas with high concentrations of organic materials in the soil, ground fires may burn, sometimes persisting undetected for long periods until the surface is ignited.

3.2.6.2. Hazard Profile (Location, Extent, Previous Occurrences)

Wildfires pose a serious threat to Dawson County. This is a result of the high amount of forestland and vegetation available to fuel potential wildfires. Also, there is an increasing amount of wildland-urban interface (WUI) in Dawson County, which is defined as areas where structures and other human development meets undeveloped wildland properties. 98% of Dawson County's population lives within the WUI.

The Georgia Forestry Commissions has an online wildfire database for the State with data from 2012. From 2012 through June 2023, there were 125 wildfires in Dawson County.

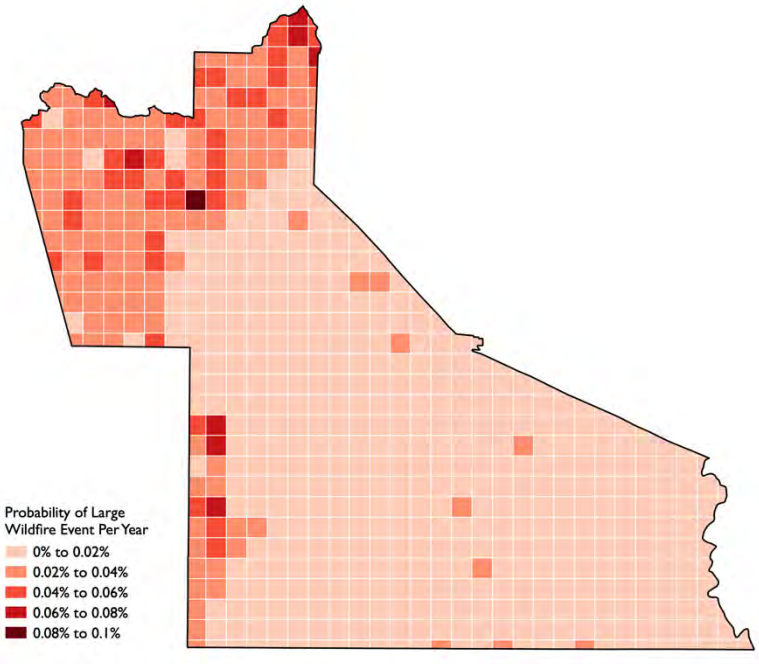
Figure 3.22 Locations of wildfires in Dawson County (2012 through June 2023) (source: Georgia Forestry Commissions)



3.2.6.3. Probability

The USFS generated a series of spatial datasets representing burn probability through its geospatial Fire Simulation (FSim) system. FSim is designed to simulate the occurrence and growth of wildfires under tens of thousands of hypothetical contemporary fire seasons in order to estimate the probability of a given area burning under current (circa 2014) landscape conditions and fire management practices. Based on the burn probability dataset, the probability of a large wildfire event in Dawson County is unlikely (occurring every 50 years or less).

Figure 3.23 Burn probability in Dawson County (source: United States Forest Service)



The probability of wildfire events in Dawson County may increase though due to climate change. The potential change is attributed to the same reasons described for increase drought probability: the data projections show that there will be an increase in the number of dry days each year with no precipitation and in the minimum consecutive number of dry days.

3.2.6.4. Impacts

All public and private property located within the wildland-urban interface (WUI), including critical infrastructures, are susceptible to impacts from wildfires. Due to the large area of wildland area in Dawson County and the large amount of WIU, all public and private property, including critical infrastructures, could be directly or indirectly impacted by the threat of wildfire.

Little information is available regarding damages, in terms of dollars, for wildfire losses in Dawson County. According to the 2017 Agriculture Census by the USDA, Dawson County has $939,000 in annual crop sales. These areas would potentially be impacted by a wildfire event.

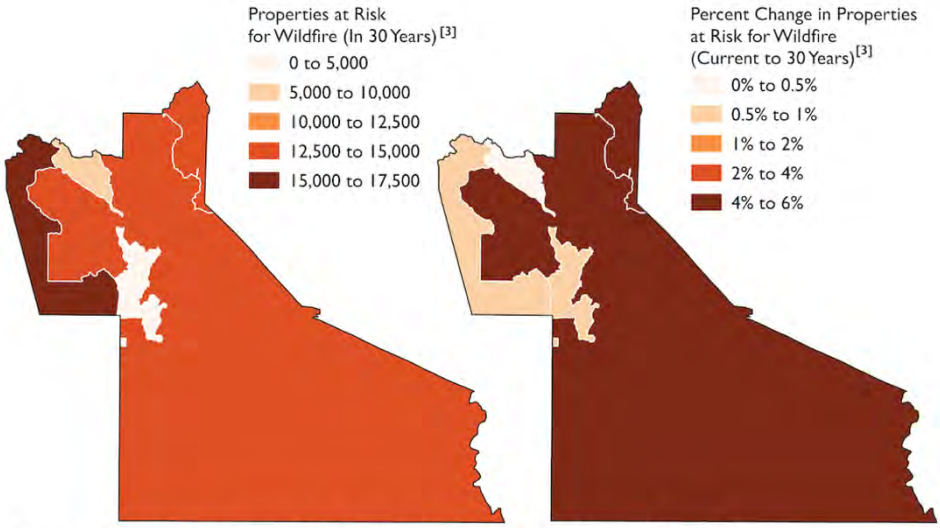
3.2.6.5. Impacts from Future Conditions

With the continued increase in population, WUI is increasing in Dawson County. The WUI creates areas where fire can easily move from wildland areas into developed areas and threaten structures and human life. The expansion of the WUI in Dawson County complicated wildland fire management operations and planning initiatives. This development trend is expected to continue in the future.

Climate change is also expected to impact wildfire risk in Dawson County. There is an expected increase in properties that are at risk for wildfire in 30 years especially in the northwestern part of the

county. Over the next 30 years there will be potential for up to a 6% increase in the number of properties at risk of wildfires in the County.

Figure 3.24 Projected impacts to properties from wildfire (source: Climate Mapping for Resilience and Adaptation)



[3] Calculated on the zip code-level; values for zip codes that span multiple counties represent the entire zip code (not restricted to the portion within Dawson County)
Data Sources: Climate Mapping for Resilience and Adaptation, First Street Foundation

3.2.6.6. Multi-Jurisdictional Considerations

All portions of Dawson County, including the City of Dawsonville, could potentially be impacted by a wildfire due to the large amount of WUI, but the less developed areas of the county are more vulnerable. The 2017 Dawson County CWPP performed a risk assessment of Dawson County as five separate geographic zones. Four of these zones were shown to have moderate wildfire risk and one – Big Canoe – was identified as having a high wildfire risk. Unincorporated areas of the county that have a tourism focus, such as Amicalola Falls State Park, could be particularly impacted by a wildfire event. Therefore, all mitigation actions identified regarding wildfires should be pursued on a countywide basis and include the City of Dawsonville.

3.2.6.7. Hazard Summary

Wildfire is a significant threat to Dawson County due to the increased amount of WUI. The increasing amount of area where structures and other human development meets undeveloped, wildland property is where 98% of Dawson County's population lives. The mitigation measures identified in this plan should be aggressively pursued based on the high frequency of this hazard and the ability for wildfires to inflict devastation anywhere in Dawson County.

3.2.7. Natural Hazard: Earthquakes

3.2.7.1. Hazard Description

Earthquakes are generally defined as the sudden motion or trembling of the Earth's surface caused by an abrupt release of slowly accumulated strain. This release typically manifests on the surface as ground shaking, surface faulting, tectonic uplifting and subsidence, or ground failures, and tsunamis. In the United States, earthquake activity east of the Rocky Mountains is relatively low compared to the Western states because it is away from active plate boundaries and the plate interior strain rates are known to be very low.

The physical property of earthquakes that causes most damage within the United States is ground shaking. The vibrations from the seismic waves that propagate outward from the epicenter may cause failure in structures not adequately designed to withstand earthquakes. Because the seismic waves have different frequencies of vibration, the waves disseminate differently through sub-surface materials. For example, high frequency compression and shear waves arrive first, whereas lower frequency Rayleigh and love waves arrive later. Not only are the speeds varied between seismic waves, but also the types of movement. The surface vibration may be horizontal, vertical, or a combination of the two, which causes a wider array or structures to collapse.

Another manifestation of earthquakes is surface faulting. This phenomenon is defined as the offset or tearing of the earth's surface by a differential movement across a fault. Structures built across active faults tend to sustain damage regularly. There are no active faults within or near Georgia. Distinct inactive faults are known within the state north or the Columbus to Macon to Augusta fall line and running generally northeast- southwest.

The third earthquake phenomenon that causes damage is tectonic uplift and subsidence. Tectonic uplift can cause shallowing of the harbors and waterways while tectonic subsidence can cause permanent or intermittent inundation. Due to the association of tectonic uplift and subsidence with active faults, Georgia is not at risk to these phenomena.

The fourth earthquake damage-causing phenomena are earthquake-induced ground failures, including liquefaction and landslides. During an earthquake, the areas that are rich in sand and silt have groundwater within 30 feet of the surface temporarily behave as viscous fluids during strong ground shaking. Structures built on these materials can settle, topple, or collapse as the ground "liquefies" beneath it. Landslides can also form when earthquake shaking or seismic activity dislodges rock and debris on steep slopes, triggering rock falls, avalanches, and slides.

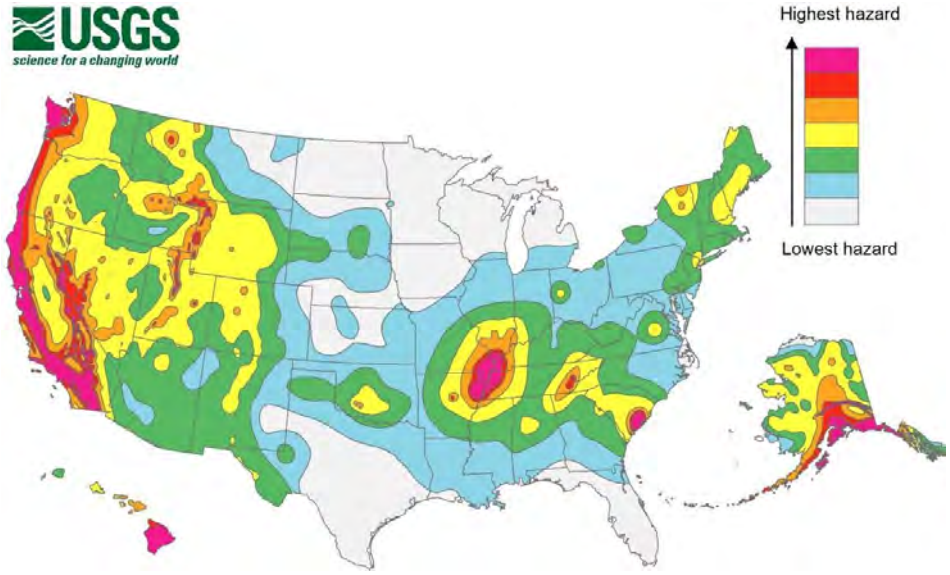
Also, unstable, or nearly unstable slopes consisting of clay soils may lose shear strength when disturbed by ground shaking and fail, resulting in a landslide. Georgia is at very low risk of seismic induced liquefaction or landslides.

The last of the earthquake-induced phenomena are tsunamis, which are large, gravity- driven waves triggered by the sudden displacement of a large volume of water. The waves produced travel in all

directions from the origin at speeds of up to 600 miles per hour. In deep water, tsunamis normally have small wave heights. However, as the waves reach shallower water near land, the wave speed diminishes, and the amplitude drastically increases. Upon impact with a shoreline, the waves can inundate land rapidly, engulfing everything in its path. Successive wave crests follow, typically arriving minutes to hours later, frequently with later arrivals being more dominant. Frequently, the first tsunami waves are downward, causing dramatic exposure of the beach. Because of this, people are often killed trying to collect newly exposed seashells when the positive waves then arrive.

Although large tsunamis are rare in the eastern coast of the US, the possibility of such events occurring anywhere along the Atlantic and Gulf coast exists.

Figure 3.25 2018 long-term national seismic hazard map (source: United States Geologic Survey)



3.2.7.2. Hazard Profile (Location, Extent, Previous Occurrences)

Dawson County is not one of the 37 Georgia counties with the highest earthquake risk, according to the Georgia Emergency Management Agency and Georgia Institute of Technology School of Earth and Atmospheric Sciences. The entire county is at risk of earthquakes.

In reviewing data of the last 50 years, no earthquakes have originated from within Dawson County. However, earthquakes with a magnitude of 2.0 or greater have occurred as close as Cumming, Georgia. The strongest earthquake to occur within this radius was a 3.2M that occurred in North Carolina, just north of McCaysville, Georgia. Historically, the 1886 Charleston, SC earthquake, estimated to be between 6.6M and 7.3M on the modern Richter Scale, likely caused impacts to Dawson County. Although no historical records exist exhibiting any damages, Dawson County was estimated to be in a level VI area of the Modified Mercalli Intensity scale for this event. This would indicate strong shaking felt by everyone inside and outside at the time of the event and characterized by broken windows, movement of heavy furniture, and slight to moderate damage for poorly built buildings. Even

with this low number of occurrences, it was determined that if earthquakes occur within or close to the jurisdiction of Dawson County, significant damage could occur. Therefore, the Dawson County HMPC has determined the threat of earthquakes to be higher than the statistics would indicate.

Figure 3.26 Modified Mercalli scale values

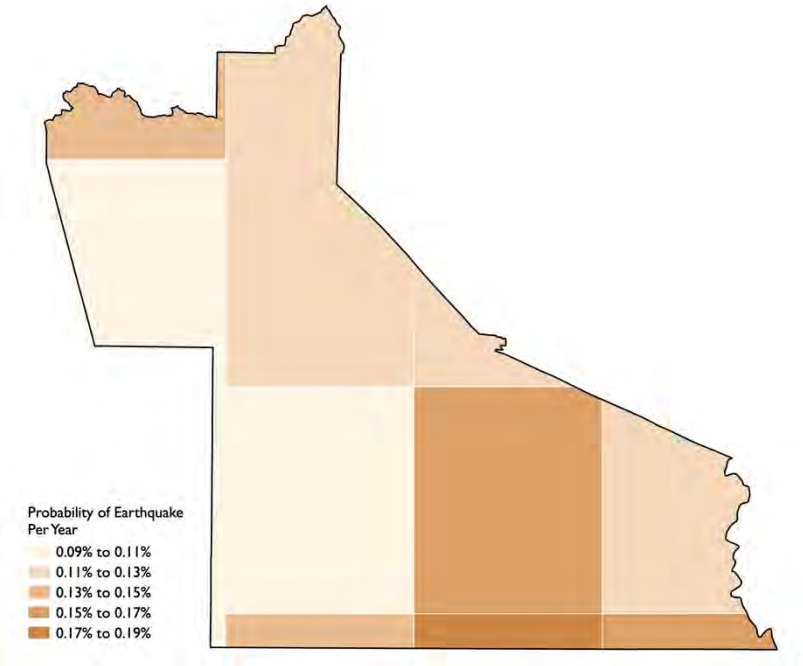
Instrumental Intensity	Acceleration (%g)	Velocity (cm/s)	Perceived Shaking	Potential Damage
I	< 0.17	< 0.1	Not Felt	None
II-III	0.17 - 1.4	0.1 - 1.1	Weak	None
IV	1.4 - 3.9	1.1 - 3.4	Light	None
V	3.9 - 9.2	3.4 - 8.1	Moderate	Very light
VI	9.2 - 18	8.1 - 16	Strong	Light
VII	18 - 34	16 - 31	Very Strong	Moderate
VIII	34 - 65	31 - 60	Severe	Moderate to Heavy
IX	65 - 124	60 - 116	Violent	Heavy
X+	> 124	> 116	Extreme	Very Heavy

3.2.7.3. Probability

The USGS produces National Seismic Hazard Maps to quantify the frequency and severity of earthquakes. The maps compile all known earthquake sources (and proxies for unknown sources), their distance from the site in question, and other seismological and geological information to project potential maximum expected ground motions at a site over a particular period of time. Based on the National Seismic Hazard Maps, Dawson County has a 0.09% to 0.19% probability of experiencing an earthquake of minor-damage shaking each year depending on the location within the County, resulting in an unlikely probability (occurring every 50 years or less).

The probability of an earthquake in Dawson County is unlikely to change with climate change.

Figure 3.27 Probability of experiencing an earthquake with minor-damage shaking per year (source: United States Geologic Survey)



3.2.7.4. Impacts

The Dawson County HMPC determined that all critical facilities and all public and private property within Dawson County are susceptible to the impacts of an earthquake due to the lower building codes with regards to earthquakes when compared to other parts of the country. This includes the City of Dawsonville

3.2.7.5. Impacts from Future Changes

Impacts from future conditions for earthquakes mirrors the impacts from future conditions for other hazards where the effects from climate change are not well known or expected. Even if the frequency and severity of earthquakes remain constant, damage to life and property will likely increase due to land use and population changes.

3.2.7.6. Multi-Jurisdictional Considerations

All of Dawson County, including the City of Dawsonville, potentially could be threatened by earthquakes. However, the greater population density of the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor could see more significant impacts of an earthquake events. These areas also have the greatest density of commercial areas that could be particularly impacted by this type of event. As such, all earthquake mitigation actions should be pursued on a countywide basis and include the City of Dawsonville.

3.2.7.7. Hazard Summary

Even with the infrequency of earthquake impacts in Dawson County, the potential losses and impacts associated with the event would severely damage the infrastructure and economic viability of the County and the City of Dawsonville. The mitigation measures identified in this plan should be pursued based on the high impact potential of this hazard and the ability for earthquakes to inflict widespread devastation anywhere in Dawson County.

3.2.8. Natural Hazard: Tropical Cyclone

3.2.8.1. Hazard Description

The National Weather Service describes tropical cyclones systems in the Atlantic Basin, including the Gulf of Mexico and Caribbean Sea, into four types based on strength.

Tropical Disturbance: A discrete tropical weather system of apparently organized thunderstorms – generally 100 to 300 nautical miles in diameter – originating in the tropics or subtropics, and maintaining its identity for 24 hours or more.

Tropical Depression: An organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph (33 knots) or less.

Tropical Storm: An organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 mph to 73 mph (34-63 knots).

Hurricane: An intense tropical weather system with a well-defined circulation, producing maximum sustained winds of 74 mph (64 knots) or greater. Hurricane intensity is classified into five categories using the Saffir-Simpson Hurricane scale. Winds in a hurricane range from 74-95 mph for a Category 1 hurricane to greater than 156 mph for a Category 5 hurricane.

Figure 3.28 Saffir-Sampson scale for hurricane classification and wind speed intervals for other tropical cyclone classifications

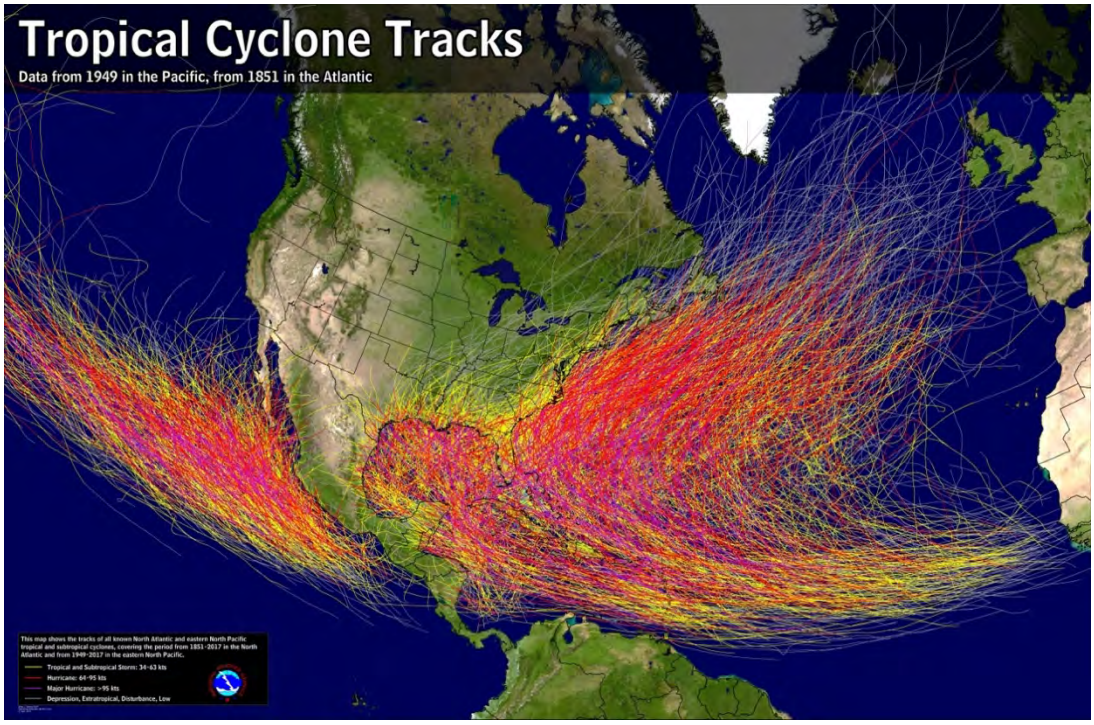
Saffir-Simpson Scale for Hurricane Classification				
Strength	Wind Speed (Kts)	Wind Speed (MPH)	Pressure (Millibars)	Pressure
Category 1	64- 82 kts	74- 95 mph	>980 mb	28.94 "Hg
Category 2	83- 95 kts	96-110 mph	965-979 mb	28.50-28.91 "Hg
Category 3	96-113 kts	111-130 mph	945-964 mb	27.91-28.47 "Hg
Category 4	114-135 kts	131-155 mph	920-944 mb	27.17-27.88 "Hg
Category 5	>135 kts	>155 mph	919 mb	27.16 "Hg
Tropical Cyclone Classification				
Tropical Depression	20-34kts			
Tropical Storm	35-63kts			
Hurricane	64+kts or 74+mph			

Tropical cyclones can cause catastrophic damage to coastlines and areas several hundred miles inland. Tropical cyclones can produce sustained high winds and spawn tornadoes and microbursts. Additionally, tropical cyclones can create storm surges along the coast and cause extensive damage from heavy rainfall. Floods and flying debris from the excessive winds are often the deadly and destructive results of these weather events.

Slow moving tropical cyclones traveling into mountainous regions tend to produce especially heavy rain. Excessive rain can trigger landslides or mudslides. Flash flooding can also occur due to intense rainfall.

Each of these hazards present unique characteristics and challenges; therefore, the following have been separated and analyzed as individual hazards: Tropical cyclones, Thunderstorms, Tornadoes, and Flooding. This section will focus on the direct effects of tropical cyclones.

Figure 3.29 Historical tropical cyclone tracks (source: National Hurricane Center)

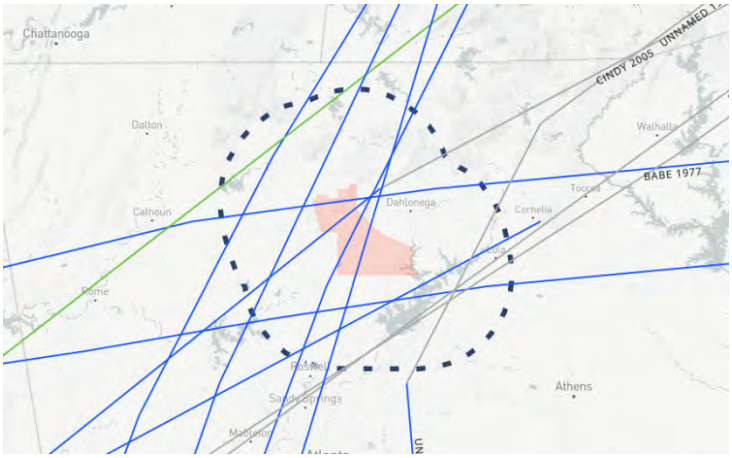


3.2.8.2. Hazard Profile (Location, Extent, Previous Occurrences)

Tropical cyclones have directly impacted Dawson County on an infrequent basis over the last 50 years. However, the possibility of a hurricane or tropical storm retaining their wind strength as far inland as Dawson County is possible. There have been fifteen documented impacts from tropical cyclones in Dawson County.

Three tropical cyclones – Hurricane Babe in 1977, Hurricane Cindy in 2005, and Hurricane Frances in 2004 – had a track that directly dissected Dawson County in the last 50 years. All 3 storms were below tropical storm strength at the time they entered Dawson County. Hurricane Frances brought strong winds across north Georgia with sustained speeds of 25 mph in the Dawson County area. In 2020, Hurricane Zeta was a tropical storm when it made its way through Georgia and brought impacts to Dawson County. Dawson County had downed trees and power outages due to the storm. The County received a federal disaster declaration because of the storm.

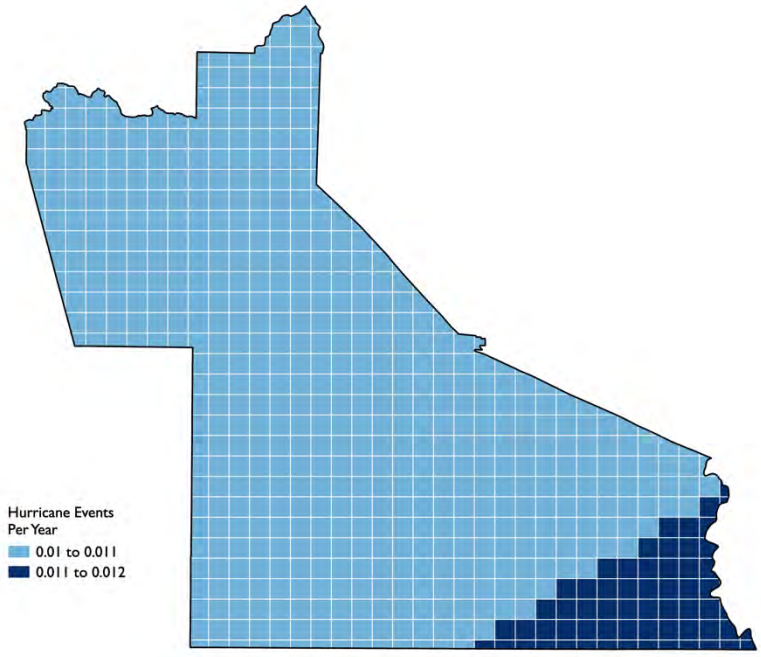
Figure 3.30 Tropical cyclone tracks in and near Dawson County (source: Office of Coastal Management)



3.2.8.3. Probability

The annualized frequency within Dawson County was determined using historical hurricane track data from NOAA's HURDAT2. The probability of a hurricane in Dawson County is unlikely (occurring every 50 years or less), but based on previous occurrence data from NOAA, there is a greater probability of tropical cyclone with lower wind speeds – the probability of a tropical cyclone is likely (occurring every 5 to 20 years).

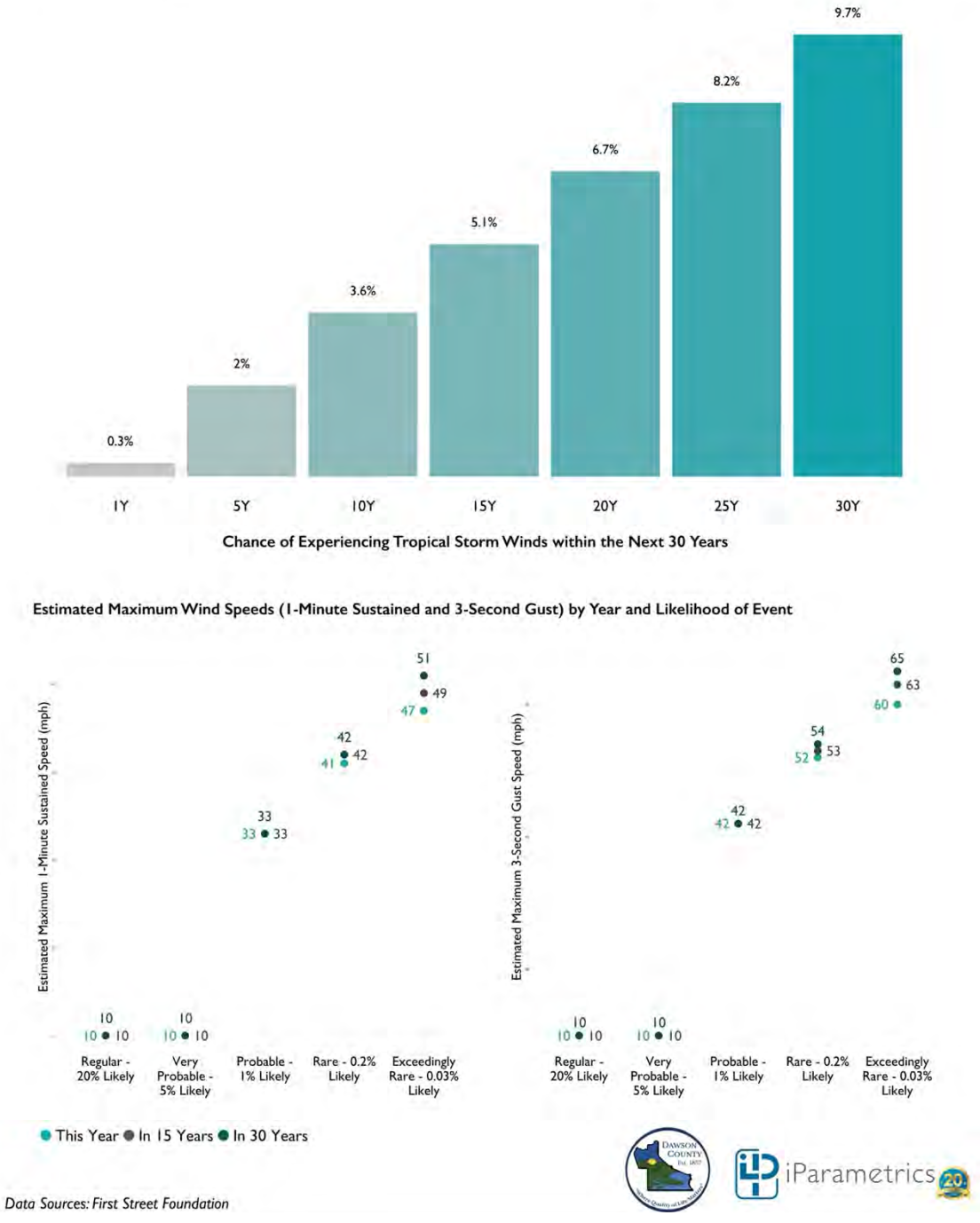
Figure 3.31 Annualized frequency analysis of hurricane events in Dawson County (source: National Oceanic and Atmospheric Administration)



The chance of experiencing higher wind speeds is projected to increase over the next 30 years with the chance of experiencing tropical storm winds increasing by almost 10%. For wind climate change

projections, the data shows that in 30 years, there will be higher gust wind speeds. There will also be higher maximum sustained wind speeds as well. These are demonstrated in the figure below.

Figure 3.32 Wind speed and tropical storm probability projections for Dawson County (source: First Street Foundation)

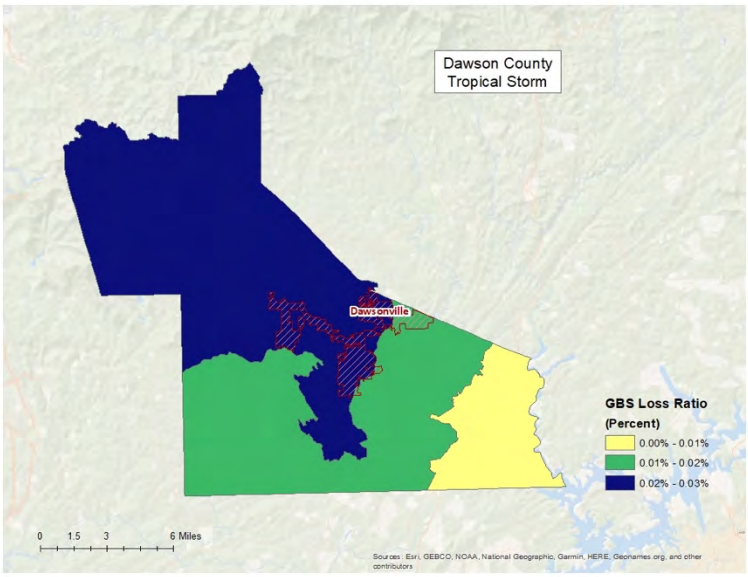


3.2.8.4. Impacts

The HMPC determined that all critical facilities and all public and private property within Dawson County are susceptible to direct and indirect impacts of a tropical cyclone.

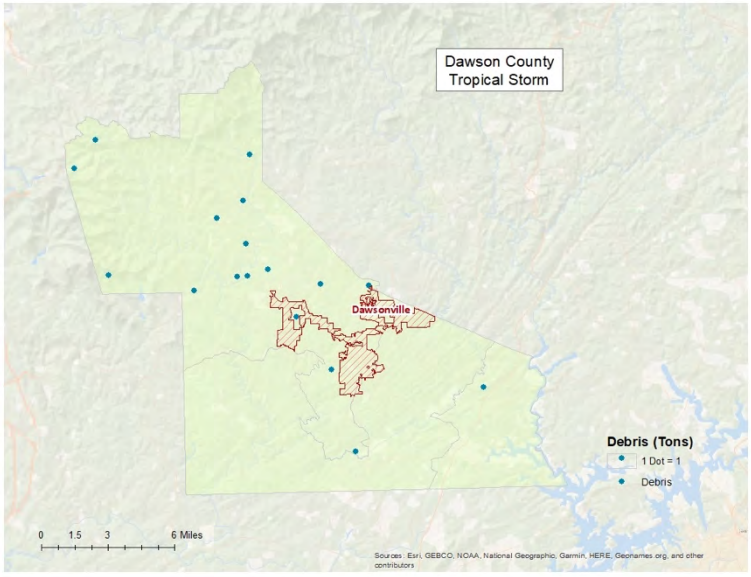
Based upon the 2024 Dawson County HAZUS report, a wind damage assessment modeling a tropical storm with maximum winds of 64 mph (1% chance storm event) could result in almost $380,000 of economic loss with the highest loss ratio occurring in the north.

Figure 3.33 Hurricane wind building loss ratios (source: 2024 Dawson County HAZUS Report)



No essential facilities were damaged in the model, but 22 facilities resulted in expected loss of use. Further, the model resulted in 17 tons of expected debris generated from hurricane wind (classification of brick, wood, and other).

Figure 3.34 Wind-related debris weight (tons) (source: 2024 Dawson County HAZUS report)



3.2.8.5. Impacts from Future Conditions

Impacts in the future will likely be heightened due to climate change and population change. Climate change is expected to cause higher and more probable wind speeds, resulting in greater damage to infrastructure and loss of life. Increased population will also result in more development and population density, resulting in increased damage to property and life regardless of increases in wind speeds.

3.2.8.6. Multi-Jurisdictional Considerations

Tropical Cyclone events have impacted all areas of Dawson County. Crop damage from tropical cyclone events would likely have the greatest impact in the rural areas of Dawson County. However, property damage numbers would be highest in more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, due to greater population density. Additionally, any riverine flooding as a result of a tropical cyclone would have the greatest impact on areas along the Etowah River and its tributaries and distributaries. This would most likely impact areas in unincorporated areas of Dawson County. Tropical Cyclones have the potential to impact all areas of Dawson County.

3.2.8.7. Hazard Summary

Even with the relative infrequency of tropical cyclone impacts in Dawson County in the recent past, the potential losses and impacts associated with the event would severely damage the infrastructure and economic viability of the County and the City of Dawsonville. Dawson County's proximity to the Atlantic coast increases the likelihood of a tropical cyclone impacting the area. The mitigation measures identified in this plan for tropical cyclones should be pursued based on the high impact potential of this hazard and the ability for tropical cyclones to inflict widespread devastation anywhere in Dawson County. Dawson County has had five Federally Declared Disaster related to Tropical Cyclones, most recently in 2020 (Hurricane Zeta).

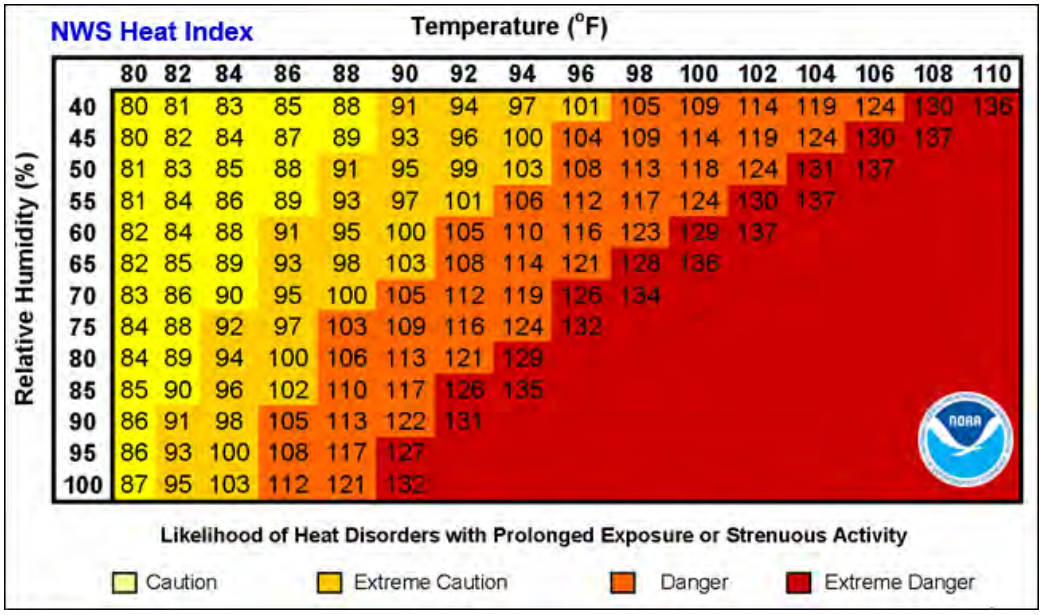
3.2.9. Natural Hazard: Extreme Temperatures

3.2.9.1. Hazard Description

Extreme temperatures occur on both ends of the spectrum with excessive heat and excessive cold being a concern in the area. Excessive temperatures can impact every person throughout the community. It is important to ensure that people are prepared for the extreme heat and extreme cold scenarios as both can have impacts.

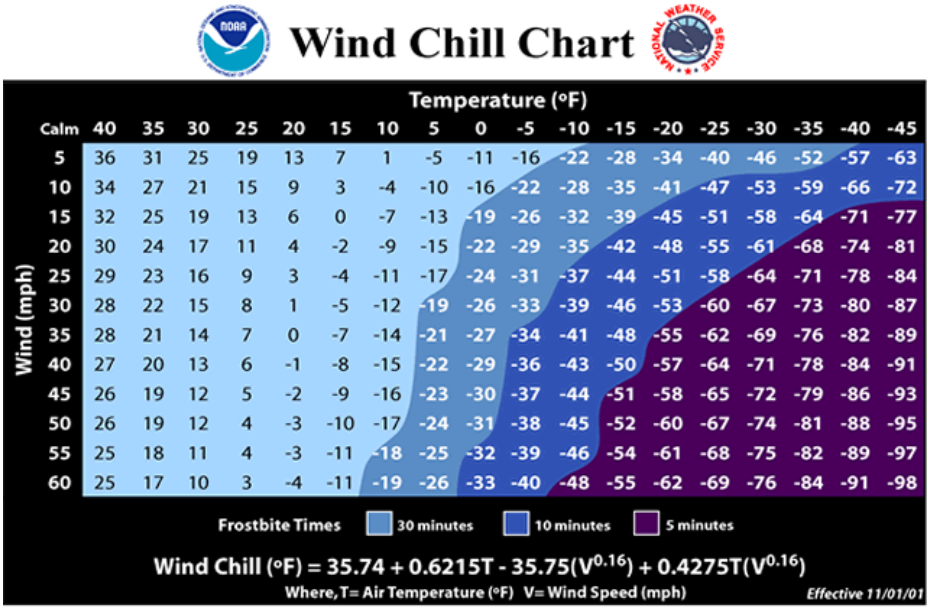
The National Weather services has a heat index that is used to determine if the heat is dangerous. The heat index is pictured below. The NWS will issue an alert when the heat index is expected to exceed 105 – 110 degrees Fahrenheit for at least 2 days in a row.

Figure 3.35 Likelihood of heat disorders with varying temperatures and relative humidity values (source: National Oceanic and Atmospheric Administration)



The National Weather Service will issue a Wind Chill warning if dangerous cold wind chill values are expected or are happening currently. The below Wind Chill Chart shows the temperatures and wind speeds where frostbite can happen. The higher the wind speed and the colder the temperature the quicker frostbite will set in.

Figure 3.36 Frostbite times with varying temperature and wind values (source: National Oceanic and Atmospheric Administration)



3.2.9.2. Hazard Profile (Location, Extent, Previous Occurrences)

The entire county is at risk of extreme temperatures. Further, in the case of an extreme temperature event, the event will likely affect the entire county as the hazard is typically a regional event as opposed to a localized event.

The National Weather Service weather forecast offices issue weather warnings when an office has at least an 80% confidence level of an event occurrence (generally within 24 to 36 hours). Days are considered extreme cold days the forecast office issues a warning for extreme cold or wind chill. From 2005 to 2022, no extreme cold warnings were issued, but wind chill warnings were issued when the wind chill index was less than or equal to 25°F for at least 3 hours using only sustained wind. The forecast office issued warnings on 115 days during this time period.

Extreme heat events are periods in which an absolute or relative threshold is surpassed for a duration of at least 2 or 3 consecutive days. For this analysis, an extreme heat day is based on the 90th percentile relative value – for each calendar day, the daily high was determined for the period between 1979 and 2019 (May through September only) and any day above the 90th percentile temperature is considered an extreme heat day. There were 658 extreme heat days recorded during this time period.

3.2.9.3. Probability

Using the data described above, the annualized frequencies of extreme cold and extreme heat events were determined.

Figure 3.37 Annualized frequency analysis of extreme cold events in Dawson County (source: Iowa State University)

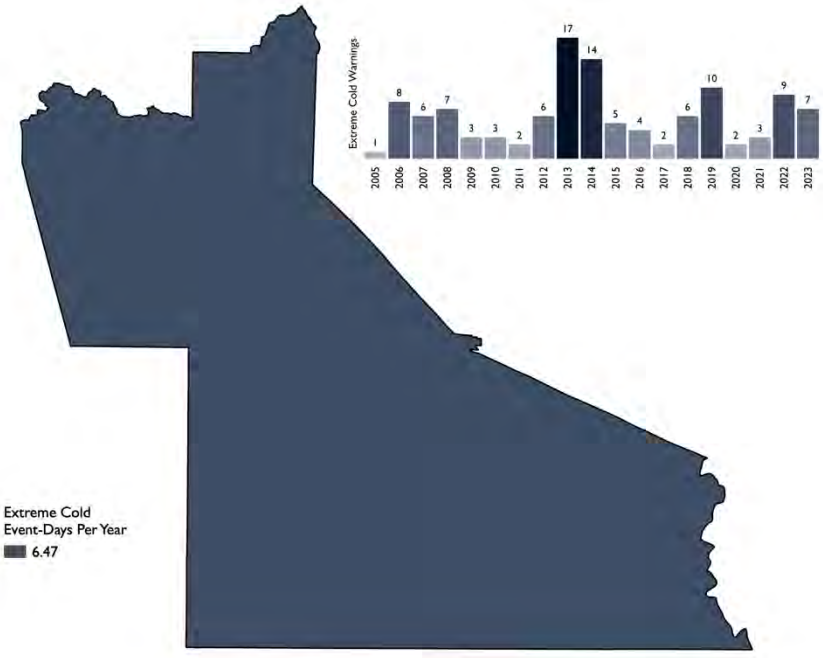
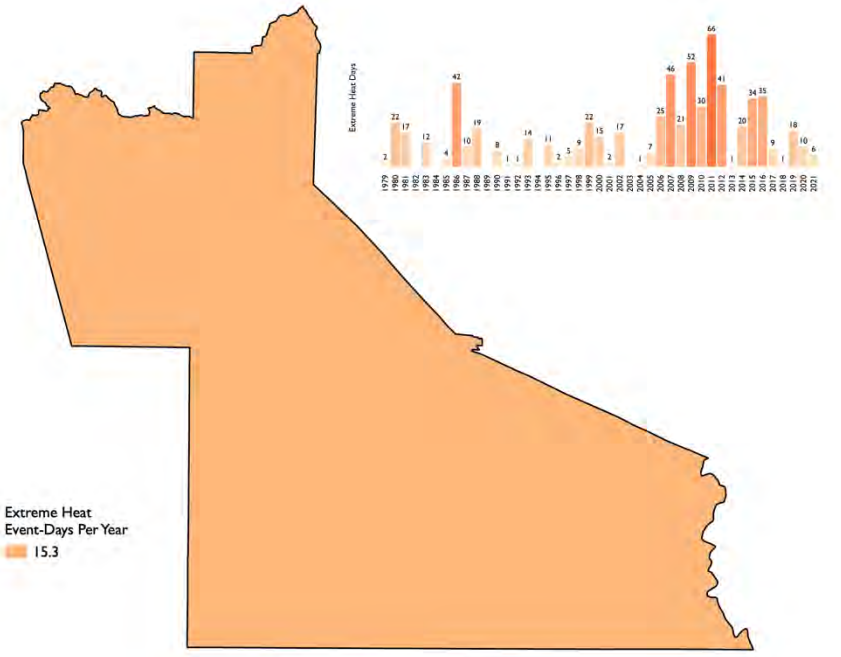


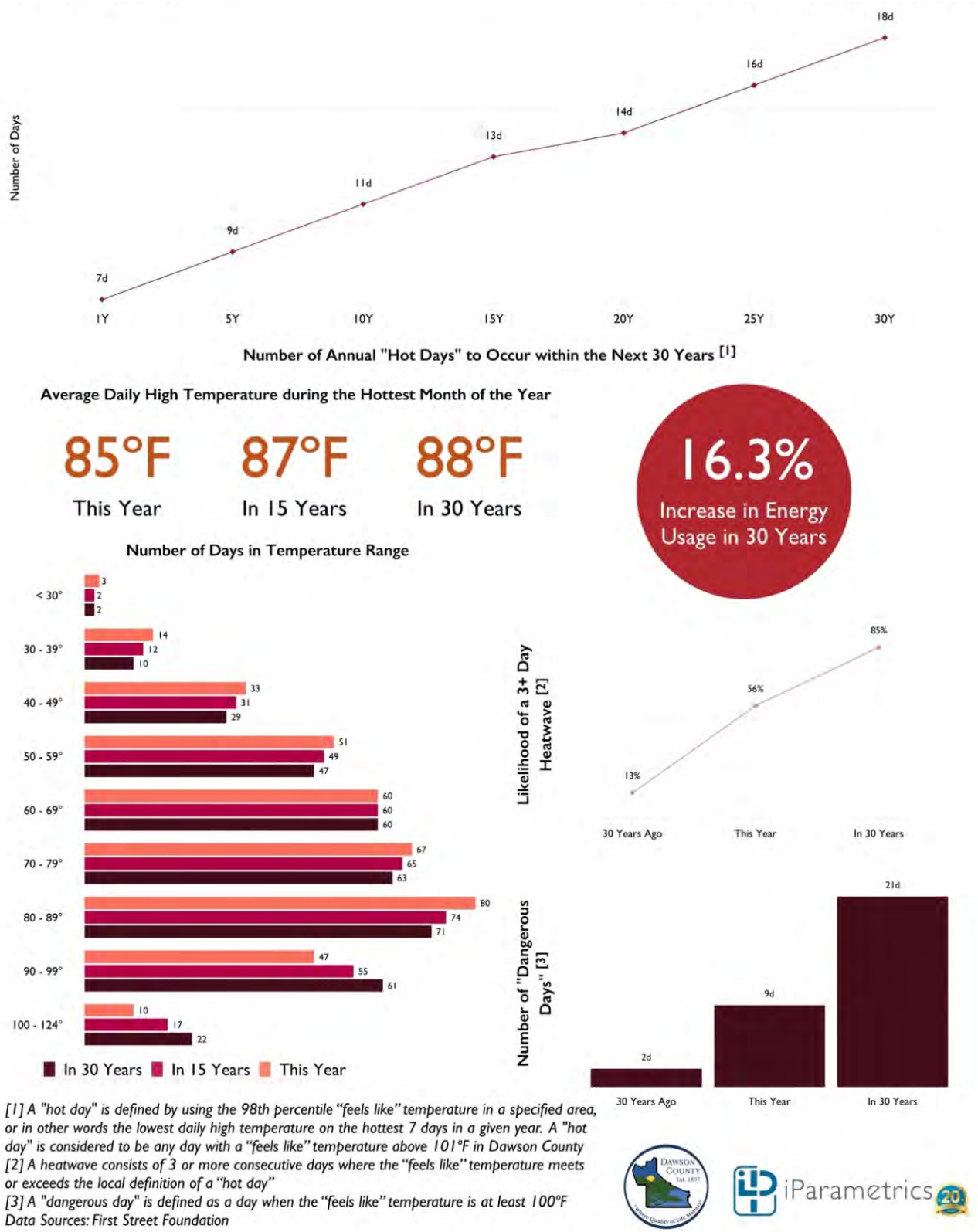
Figure 3.38 Annualized frequency analysis of extreme heat events in Dawson County (source: Centers for Disease Control and Prevention)



The probabilities of extreme cold and extreme heat days in Dawson County are extremely likely (occurring every 1 year or more).

For extreme heat the number of annual “Hot Days” is predicted to increase over the next 30 years. In the next year, it is expected that the County will see roughly 7 “Hot Days” but in 30 years the County will see roughly 18 “Hot Days” each year. The average daily high temperature is expected to increase as well. This year, the average daily high temperature during the hottest month of the year is expected to be 85 degrees while in 30 years that number is expected to be 88 degrees. The likelihood of a 3-day heat wave in on the County is expected to rise by almost 30% over the next 30 years. With the increase in temperatures, there is an expected 16.3% increase in energy usage in 30 years.

Figure 3.39 Extreme heat-related projections for Dawson County (source: First Street Foundation)



[1] A "hot day" is defined by using the 98th percentile "feels like" temperature in a specified area, or in other words the lowest daily high temperature on the hottest 7 days in a given year. A "hot day" is considered to be any day with a "feels like" temperature above 101°F in Dawson County
[2] A heatwave consists of 3 or more consecutive days where the "feels like" temperature meets or exceeds the local definition of a "hot day"
[3] A "dangerous day" is defined as a day when the "feels like" temperature is at least 100°F
Data Sources: First Street Foundation

3.2.9.4. Impacts

Extreme temperatures can impact all areas of the County. With regards to direct impacts, extreme temperature events can cause crop damages as well as damages to the temperature regulation systems of physical assets (e.g. HVAC and heating) that may be pushed to capacity. Extreme temperatures also impact people and it is important to be aware of vulnerable populations. For extreme heat, the elderly, infants, and children are at risk for health problems if exposed for too long. Extreme heat can cause heat stroke, cramps, and exhaustion. If left untreated these issues can be fatal. The impacts of extreme cold can be felt by people of any age. If left exposed to colder temperatures for too long, people can become hypothermic and get frost bite.

Further, extreme temperatures can lead to other hazard-related impacts when coupled with complementary hazards (e.g. extreme cold coupled with precipitation can lead to winter weather and its impacts, extreme heat and drought can lead to exasperated drought impacts, etc.).

3.2.9.5. Impacts from Future Conditions

Extreme heat should of be special concern regarding impacts from future conditions due to the effects of climate change. As described above, extreme heat days are expected to be more frequent and more severe, heightening all impacts from extreme heat listed above.

Further, population growth will increase vulnerable populations, requiring additional resources to combat the impacts from extreme temperature events.

3.2.9.6. Multi-Jurisdictional Considerations

All portions of Dawson County could potentially be impacted by extreme temperatures. The impacts will be higher in the areas with higher population densities such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor because of the larger population density in those areas.

3.2.9.7. Hazard Summary

Extreme temperatures can be both extreme heat and extreme cold. If a certain threshold is reached, then extreme temperature warnings can be put in place. If people are exposed to either extreme heat or extreme cold for too long, then it could potentially be fatal. It is important to put protocols in place to be prepared for people to be exposed to this hazard.

3.2.10. Technological Hazard: Hazardous Materials

3.2.10.1. Hazard Description

Hazardous materials, or hazmat, refers to any materials that may pose a real hazard to human health and/or the environment because of its quantity, concentration, and/or physical or chemical characteristics. Hazardous materials include explosives, flammables, combustibles, oxidizers, toxic materials, radioactive substances, and corrosives. Specific federal and state regulations exist regarding the transport and storage of hazardous materials.

A hazardous materials spill or release occurs when a hazardous material gets into the environment in an uncontrolled fashion. Response to a hazmat spill or release depends greatly on the type of material involved and the subsequent physical and chemical characteristics. Major sources of hazardous materials spills include transportation accidents on roadways and railways, pipeline breaches, and spills into rivers and creeks. Jurisdictions with facilities that produce, process, or store hazardous materials are at risk, as are facilities that treat or dispose of hazardous materials.

3.2.10.2. Hazard Profile (Location, Extent, Previous Occurrences)

Incidents involving hazardous materials may arise at various stages, including production, transportation, usage, and storage, anywhere within Dawson County. Individuals in close proximity to the processing and storage of such materials face potential risks of exposure to toxic fumes, soil contamination, and water contamination. Additionally, communities located at a distance from production or storage facilities are not exempt from risks, as hazardous materials are regularly transported through roadways, railways, pipelines, and waterways. This underscores the fact that all areas within the County are susceptible to potential hazards.

Data from the United States Coast Guard National Response Center (NRC) was reviewed regarding hazardous materials spill history in Dawson County. Data is available from 1982 to 2022 and all available data was reviewed. There were 6 NRC reported hazardous materials spills or releases in Dawson County over a 40-year period. It is anticipated that many more hazardous materials incidents have occurred over the last 40 years but have not been reported.

3.2.10.3. Probability

Major hazardous materials incidents resulting in mass-casualties are rare and have not occurred historically in Dawson County. Reports of hazardous material spills and releases, however, are increasingly commonplace. Chemical spills of significant magnitude have the potential to happen in facilities engaged in the production, usage, or storage of chemicals. These facilities encompass chemical manifesting plants, laboratories, shipyards, railroad yards, warehouses, and areas designated for chemical disposal. Furthermore, unauthorized dumpsites may emerge in various locations. Accidents related to the transportation of hazardous materials can transpire at any given moment, causing substantial repercussions for the nearby community with one of the greatest areas of concern for the County being along the US Highway 19 corridor that runs through the center of Dawson County. Apart from the risks to human health, such incidents can have far-reaching effects on the environment and the economic sectors linked to aquaculture and agriculture.

The probability of this hazard in Dawson County is very likely (occurring every 1 to 5 years). The probability will likely increase in the future though for fixed facilities incidents as Dawson County continues to grow its industrial footprint.

3.2.10.4. Impacts

The environment is particularly vulnerable to the threat posed by hazardous materials. Waterways are at a high risk for contamination from hazardous materials. Water contamination is of concern to the Dawson County HMPC. Public and private property located near fixed hazardous materials facilities are also a greater risk than the general population of Dawson County.

Estimation of potential losses is difficult regarding hazardous materials due to the vast array of potential types of hazardous materials that could be involved in the incident and unknown costs regarding environmental damages. No recorded information was found regarding the losses associated with hazardous materials incidents in Dawson County. However, a hazardous materials release, whether in transport or at a fixed facility, would incur significant costs regarding emergency response, potential road closures, evacuations, watershed protection measures, expended man-hours, and cleanup materials, equipment, and personnel.

3.2.10.5. Impacts from Future Conditions

As hazardous material incidents are man-made incidents, climate change is not expected to directly play a role in impact changes. Indirectly though, hazardous material facilities may be affected by changes in flooding and wildfires leading to accidental releases. For example, increased flooding could inundate tanks and pipelines, leading to damaged pipelines and subsequent releases. Further, wildfires can lead to power outages which may affect the safe operations of hazardous material facilities.

The increase in Dawson County's population and industrial sector may also result in impact changes. The growth of the industrial sector heightens the risk of hazardous material incidents due to increased production and usage, greater transportation volumes, and the potential for human errors and infrastructure limitations. This expansion necessitates a proactive approach to safety measures, training, and emergency response protocols to mitigate the elevated risks associated with hazardous materials in industrial settings.

3.2.10.6. Multi-Jurisdictional Considerations

All of Dawson County, including the City of Dawsonville, are vulnerable to both fixed facility and transportation-related hazardous materials releases. However, areas of higher commercial density, such as the City of Dawsonville, and areas of greatest of highest traffic, such as the Georgia Highway 400 corridor, are at the greatest risk.

3.2.10.7. Hazard Summary

Hazardous materials incidents pose a significant threat to the citizens, infrastructure, and critical facilities of Dawson County. Unknown quantities of hazardous materials are transported daily through Dawson County and the City of Dawsonville. These materials are transported via highways, with US Highway 19 being of greatest concern. Water contamination as a result of a hazardous materials spill is of significant concern to the Dawson County HMPC. As a result of the threat posed by hazardous materials, the Dawson County HMPC has identified mitigation actions directly related to this threat.

3.2.11. Technological Hazard: Dam Failure

3.2.11.1. Hazard Description

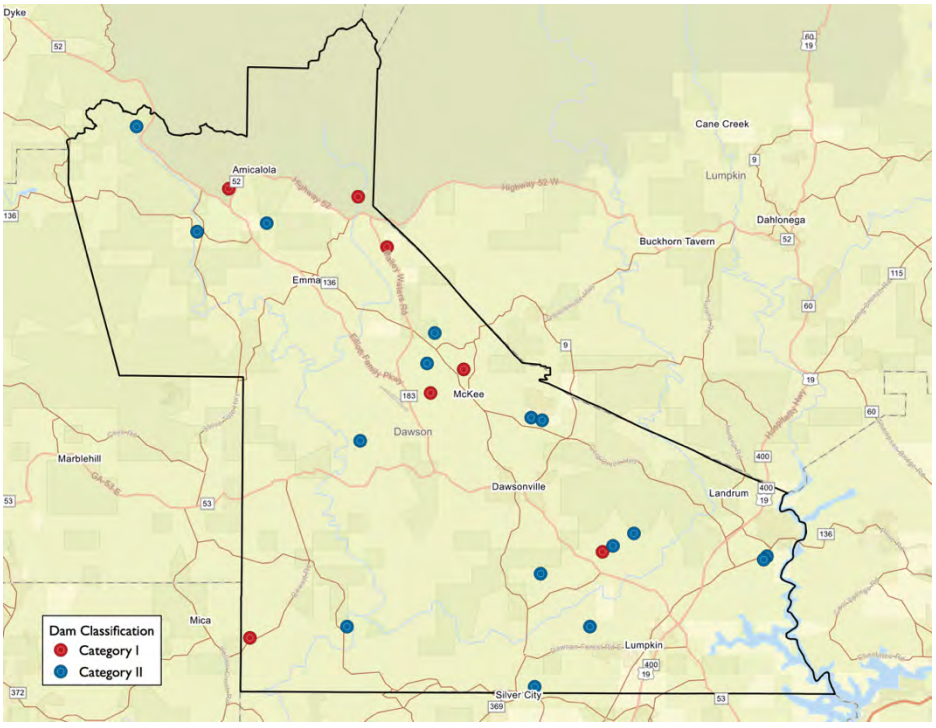
Georgia law defines a dam as any artificial barrier, which impounds or diverts water, is 25 feet or more in height from the natural bed of a stream or has an impounding capacity at maximum water storage evaluation of 100 acre-feet or more. Dams are generally constructed to provide a ready supply of water for drinking, irrigation, recreation, and other purposes. Dams can be constructed from earth, rock, masonry, concrete or any combination of these materials.

Dam failure is a term used to describe a significant breach of a dam and the subsequent loss of contained water. Dam failure can cause significant damages downstream to structures, roads, utilities, and crops. Dam failure can also put human and animal lives at risk. National statistics indicate that one-third of all dam failures in the United States are caused by overtopping due to inadequate spillway design, debris blocking spillways, or settlement of the dam crest. Another third of all US dam failures are the result of foundation defects, including settlement and slope instability.

3.2.11.2. Hazard Profile (Location, Extent, Previous Occurrences)

There are seven Category I and 18 Category II dams located within Dawson County. Category I dams are those that would pose a possible threat to human life if a failure were to occur. All Category I dams must be inspected annually according to Georgia's Safe Dams Act.

Figure 3.40 Locations of category I and II dams in Dawson County (source: Georgia's Safe Dams Act)



There are no reported incidents of previous dam failures in Dawson County.

3.2.11.3. Probability

Significant dam failures are low probability but high consequence events. Given that no previous occurrences have happened in the County, the probability of dam failure is unlikely (occurring every 50 years or less). The probability is likely to be affected though by climate change coupled with the aging status of dams.

3.2.11.4. Impacts

The failure of dams in Dawson County could have severe consequences, leading to widespread flooding and property damage downstream. Such incidents pose a significant threat to public safety, potentially resulting in the displacement of communities, loss of lives, and disruption of essential infrastructure. Moreover, the environmental impact may include soil erosion, water contamination, and the alteration of ecosystems, necessitating comprehensive strategies for dam maintenance and emergency preparedness in the region.

3.2.11.5. Impacts from Future Conditions

Dawson County participates in the National Flood Insurance Program (NFIP) and follows the program's guidelines to ensure future development is carried out in the best interests of the public. The County (CID No. 130304) first entered the NFIP on December 15, 1990. According to the NFIP guidelines, the County has executed a Flood Damage Prevention Ordinance. This ordinance attempts to minimize the loss of human life and health as well as minimize public and private property losses due to flooding. The ordinance requires any potential flood damage be evaluated at the time of initial construction and that certain uses be restricted or prohibited based on this evaluation. The ordinance also requires that potential homebuyers be notified that a property is located in a flood area. In addition, all construction must adhere to the Georgia State Minimum Standard Codes and the International Building Codes. Currently, the Dawson County municipality of Dawsonville also participate in NFIP.

Climate change and population growth collectively amplify the potential impacts of dam failures, creating a scenario of heightened vulnerability. As climate change induces more extreme weather events, including intense storms and prolonged periods of rainfall, the strain on dam structures increases, elevating the risk of failure. Simultaneously, population growth often leads to urbanization and expanded settlements in areas downstream of dams, intensifying the human and economic consequences of a failure. The combination of changing climate patterns and burgeoning populations not only raises the likelihood of dam failure but also exacerbates the scale of devastation.

3.2.11.6. Multi-Jurisdictional Considerations

During a dam failure event, many portions of Dawson County would potentially be impacted by flooding. However, the areas most prone to flooding have historically been those areas located within the 100-year floodplain and downstream from dams.

3.2.11.7. Hazard Summary

Dam failure poses a threat to Dawson County and its citizens, infrastructure, and critical facilities. A dam failure could prove catastrophic for areas downstream of the dam, particularly if the failure were to occur at any of the seven Category I dams located in Dawson County. As a result, mitigation efforts for dam failure should be focused in this potentially affected area.

3.2.12. Technological Hazard: Transportation Incident

3.2.12.1. Hazard Description

There are many secondary hazards that could be associated with transportation incidents. Injuries or deaths can occur as a result of the impact of a transportation accident, by a hazardous materials release as a result of a transportation incident, or by other related transportations hazards. Transportation can occur via roadways, highways, interstates, railways, air or navigable waterways. Each transportation type poses their own unique hazard issues and consequences.

Roadway hazards are most likely to be caused by a motor vehicle accident involving one or more cars, trucks, vans, or transport vehicles. These incidents can have injuries as a result of the impact of the MVA or a hazardous materials release into the local environment, including waterways. Railway incidents pose many of the same dangers as motor vehicle accidents. However, the threat of a hazardous materials release is greatly increased when railway transportation incidents are considered.

Air accidents can include commercial airplanes, private airplanes, hot air balloons, helicopters, or other forms of air travel. Each of these incidents can cause a significant threat to human life as well as posing a hazardous material threat due to the cargo being transported or the fuel being used. Navigable waterway incidents can create formidable incidents for response organizations. Because of the waterway, technical expertise is needed to carry out rescue operations, especially in swift-moving waterways. Also, any incident in a waterway is likely to have environmental impacts.

3.2.12.2. Hazard Profile (Location, Extent, Previous Occurrences)

Transportation incidents are of a significant concern in Dawson County and can happen anywhere in the County. The most heavily traveled roads and pass-through routes include US Highway 19, and Georgia Highways 9, 52, 53, 136, 183, and 400.

Transportation incidents can range significantly in severity from minor fender-benders to fatal crashes. Due to the high frequency of transportation incidents, all previous occurrences are not listed, but Figure 3.42 on the next page shows annual summaries from 2017 to 2021.

Figure 3.41 Transportation map for Dawson County

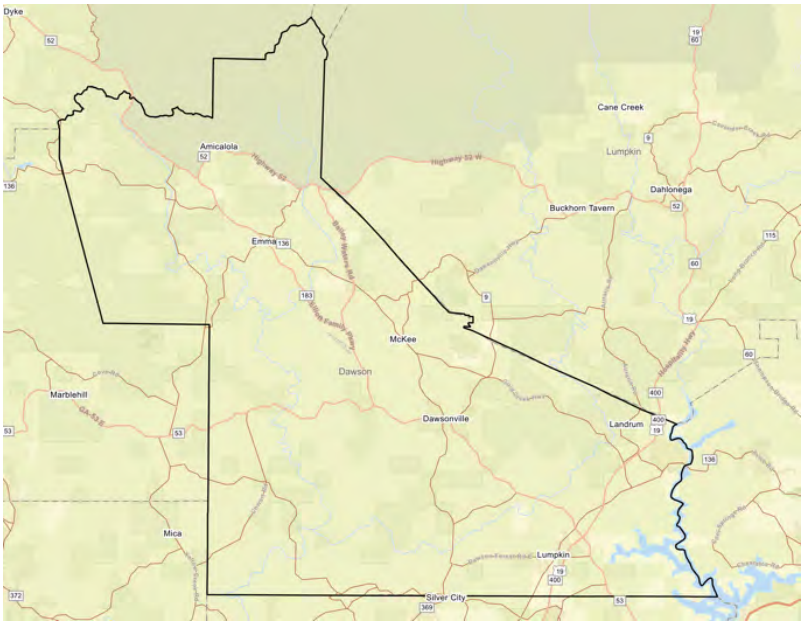
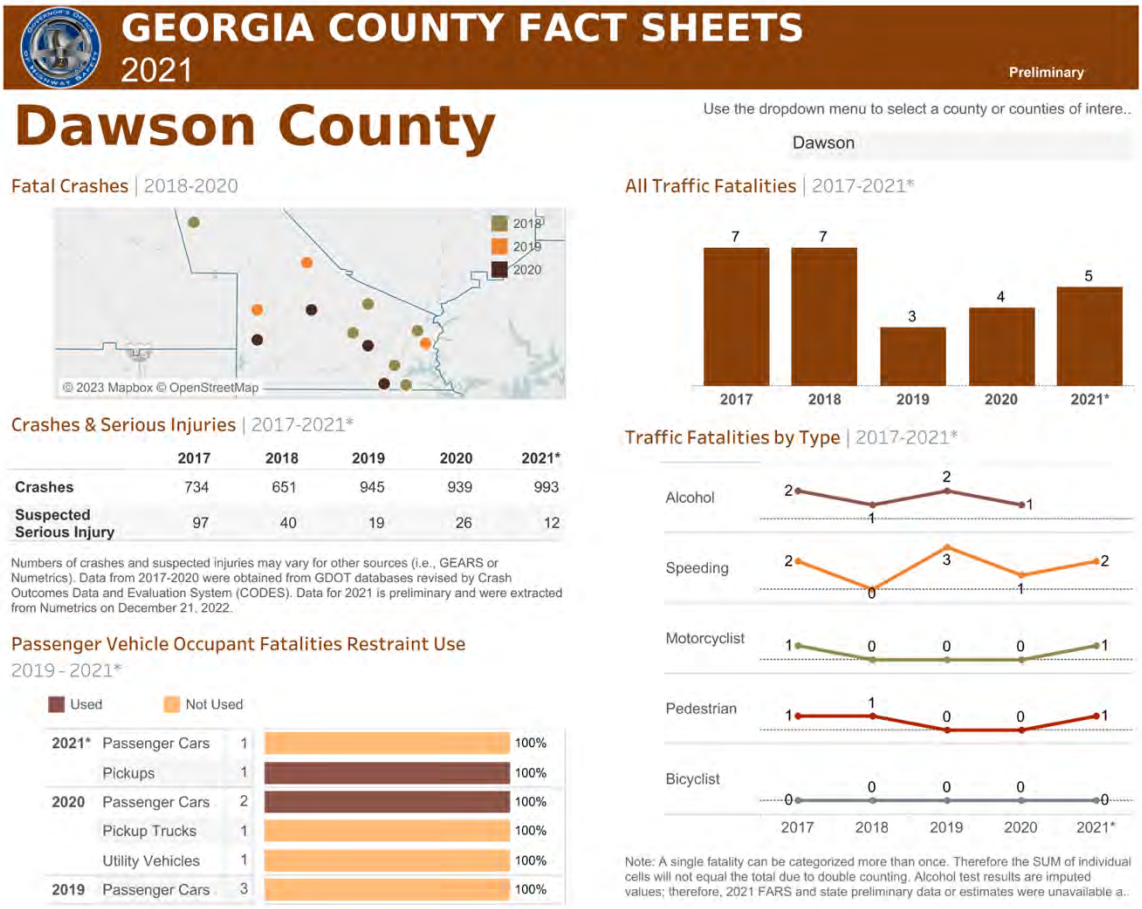


Figure 3.42 Dawson County traffic crash report (source: Georgia Governor's Office of Highway Safety)



3.2.12.3. Probability

Transportation incidents are one of the most commonly occurring hazards in Dawson County and nationwide. There is no sure way to predict future transportation incidents as most typically occur without warning. The probability of transportation incidents in Dawson County is extremely high (occurring every 1 year or more).

3.2.12.4. Impacts

Transportation incidents, ranging from vehicular accidents to hazardous material spills, can have profound impacts on both property and people. Collisions involving automobiles can result in property damage, vehicle destruction, road closures, and, most critically, injuries or loss of life for those involved. Loss of life from transportation incidents is common – 3 to 7 fatalities occurred annually in Dawson County between 2017 and 2021. Moreover, accidents involving the transportation of hazardous materials pose an additional layer of risk, potentially leading to environmental contamination, property destruction, and long-term health effects for nearby communities.

3.2.12.5. Impacts from Future Conditions

The greatest contributor to impacts from future changes is population change as an increase in overall population increases the likelihood and potential impact of a transportation incident.

3.2.12.6. Multi-Jurisdictional Considerations

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a transportation incident. However, areas along the Georgia Highway 400 corridor are at the greatest risk for this type of incident.

3.2.12.7. Hazard Summary

The Dawson County HMPC has determined that transportation incidents pose a high risk to their jurisdictions due to the unpredictable nature and likelihood of the incident. As a result, the Dawson County HMPC has developed mitigation strategies and actions with transportation incidents in mind.

3.2.13. Technological Hazard: Terrorism

3.2.13.1. Hazard Description

The Federal Bureau of Investigation (FBI) defines terrorism as violent acts or acts dangerous to human life that violate federal or state law, appear to be intended to intimidate or coerce a civilian population, affect the conduct of a government by mass destruction, assassination, or kidnapping, and is calculated to influence or affect the conduct of a government by intimidation or retaliate against government conduct. Terrorism is usually referenced as being premeditated and politically motivated.

Terrorist acts are, by their very nature, designed and carried out with the intention of inflicting mass casualties and extensive property damage. When an act of terrorism is carried out in a jurisdiction, it will likely be necessary to implement multiple aspects of the emergency management system and summon additional resources from local, state, and federal partners.
Terrorism is generally divided into two types: domestic terrorism and international terrorism. Domestic terrorism is defined as terroristic acts focused on facilities and populations without foreign direction. International terrorism involves activities that are foreign-based and/or sponsored by organizations outside of the United States.

Terrorists often use threats to create fear among the public, to convince citizens that government is powerless to prevent terrorism and to get immediate publicity for their causes. Weapons of Mass Destruction (WMDs), including incendiary, explosive, chemical, biological, radiological and nuclear agents, have the capability to cause death or serious bodily injury to a significant number of people, thus posing the threat of a catastrophic incident. Terrorism can also include arson, agro-terrorism, armed attack, intentional hazardous materials release, water or food contamination, and attacks on infrastructure and electronic information systems.

3.2.13.2. Hazard Profile (Location, Extent, Previous Occurrences)

It is almost impossible to predict where and when a terrorist attack could occur. The specific motivations of terrorists dictate target selection; therefore, any location within the County has the

potential to become a target of terrorism. Terrorism targets have historically been facilities that make a large economic or social impact on the targeted government or jurisdiction. In Dawson County, all critical facilities could be seen as potential targets. It is important to note that terrorism includes a multitude of potential approaches, including agro-terrorism, which is terrorism targeted toward agriculture, so due to the high economic impact of agriculture in Dawson County, agro-terrorism should also be of concern. Additionally, a terrorist contamination of Dawson County's water supply is of particular concern.

No previous occurrences of terrorism in Dawson County were noted.

3.2.13.3. Probability

It is almost impossible to predict where and when a terrorist attack could occur. The probability of a terrorist attack in Dawson County is unlikely (occurring every 50 years or less).

3.2.13.4. Impacts

The impacts of terrorism on Dawson County would be profound and multifaceted, extending beyond immediate physical harm to affect the fabric of the community. Acts of terrorism can instill fear, anxiety, and a pervasive sense of insecurity among residents, eroding the social cohesion that defines a community. Beyond the human toll, there would likely be significant economic repercussions, with disruptions to local businesses, tourism, and overall economic stability. Infrastructure may be compromised, emergency response systems strained, and the long-term psychological effects on individuals and the collective community psyche could endure.

3.2.13.5. Impacts from Future Conditions

Population change can significantly affect the impacts of terrorism, with the scale of potential harm often tied to the density and composition of the population. In areas experiencing population growth, the potential consequences of terrorism may be more severe due to increased vulnerability and the higher concentration of people and infrastructure. Larger populations can result in more significant economic losses, disruptions to essential services, and a greater challenge in managing the aftermath of an attack. Additionally, diverse and growing populations may introduce complexities in communication, emergency response, and community resilience.

3.2.13.6. Multi-Jurisdictional Considerations

All of Dawson County, including the City of Dawsonville, are vulnerable to potential acts of terrorism. However, critical facilities and their surrounding areas are at the greatest risk. Additionally, areas of tourism, such as Amicalola Falls State Park, are also at greater risk due to these areas being high visibility targets.

3.2.13.7. Hazard Summary

Terrorism, while a low-probability hazard, would have devastating effects on Dawson County and the City of Dawsonville. These impacts would be immediate and long- lasting and could be potentially

economically crippling. Because of these considerations, the Dawson County HMPC has developed mitigation actions with terrorism in mind.

3.2.14. Technological Hazard: Communications Failure

3.2.14.1. Hazard Description

A communications failure refers to the breakdown or disruption in the transmission of information through various channels, including but not limited to, telecommunications networks, radio frequencies, internet services, and other means of conveying messages. This breakdown can occur due to technical issues, equipment malfunctions, natural disasters, cyberattacks, or other factors that impede the smooth flow of data and information. While a communications failure would most likely be a secondary hazard of one of the other hazards identified in this plan, a communications failure could be also be an independent incident. Communication failures can have significant consequences, particularly in emergency situations where timely and accurate information is crucial. It can affect public safety, disrupt essential services, and hinder coordination efforts among individuals, organizations, or governmental entities relying on effective communication channels.

A lack of communication with outside sources could lead to public panic, poor emergency response capabilities, and other cascading hazards. These events pose a significant threat to many jurisdictions.

3.2.14.2. Hazard Profile (Location, Extent, Previous Occurrences)

A communications failure can occur anywhere in Dawson County and would likely affect a significant portion of the County as opposed to a narrow, localized area. The severity of a communications failure can range from a minor outage on the magnitude of minutes or seconds to a county-wide outage ongoing for days to weeks.

3.2.14.3. Probability

Robust data is unavailable for Dawson County *to* analyze historical data of communications failure, but using subject matter expertise, the HMPC has evaluated the probability of a major communications failure incident as unlikely (occurring every 50 years or less).

Climate change may elevate the probability of communications failures through intensified and more frequent extreme weather events such as hurricanes, storms, and wildfires. These events can damage or disrupt critical communication infrastructure, including cell towers, power lines, and data centers, leading to widespread outages. Additionally increased flooding, attributed to climate change, can compromise the functionality of underground cables and other communication networks, further amplifying the vulnerability of communication systems to the impacts of a changing climate.

Further, population change can heighten the probability of communications failures as urbanization and increased population density place greater demand on existing communication infrastructure, leading to congestion and potential service disruptions. The expansion of communities and infrastructure can also make it more challenging to maintain and upgrade communication networks efficiently, increasing the risk of failures due to aging or inadequate systems.

3.2.14.4. Impacts

In case of any failure of a communications infrastructure, general communication difficulties would be exacerbated for both emergency responders and for the public. The reliance on wireless communications, particularly for the public safety sector, increases the impacts felt by Dawson County's emergency response agencies to a communications failure.

A communications failure in Dawson County could result in critical delays in emergency response efforts, hindering the coordination of first responders and increasing the risk of harm during disasters. Essential services, including public safety announcements, healthcare communication, and utilities coordination, may be severely compromised, impacting the well-being of the community. Additionally, disruptions in communication could impede the dissemination of vital information during extreme weather events, leaving residents uninformed and vulnerable to potential risks.

3.2.14.5. Impacts from Future Conditions

In the context of climate change, a communications failure in Dawson County may become more frequent and severe due to the increased frequency and intensity of extreme weather events. Rising temperatures, more intense storms, and other climate-related factors could lead to a higher likelihood of damage to communication infrastructure, exacerbating the challenges in emergency response coordination and public communication during crises. Population growth further compounds these challenges as expanding communities place additional stress on communication networks, potentially leading to increased congestion, slower response times, and difficulties in maintaining and upgrading infrastructure to keep pace with the growing demand. The combination of climate change and population growth heightens the vulnerability of Dawson County to the impacts of communications failures, emphasizing the need for adaptive strategies and resilient infrastructure planning.

3.2.14.6. Multi-Jurisdictional Considerations

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a communications failure. However, areas of greatest population density, such as the City of Dawsonville and areas along the Georgia Highway 400 corridor, are at greatest risk.

3.2.14.7. Hazard Summary

The Dawson County HMPC has determined that communications failures pose a high risk to their jurisdictions due to the unpredictable nature of the incident. As a result, the Dawson County HMPC has developed mitigation strategies and actions with communications failures in mind.

3.2.15. Technological Hazard: Emergent Infectious Diseases

3.2.15.1. Hazard Description

Microorganisms, such as bacteria, viruses, parasites, fungi, or prions, surround us within the environment. They can even be found within our own bodies. Most microorganisms are completely harmless, and many are beneficial. However, some of these organisms are pathogenic, meaning they cause or can cause disease. Infectious diseases are caused by these pathogenic organisms and are

communicable – meaning they can be spread from person to person either directly or indirectly. Direct transmission of the disease occurs through actual physical contact with an infected person or their bodily fluids. Indirect transmission of a disease occurs when an infected person contaminates a surface by sneezing, coughing, etc., and a non- infected person encounters that infected surface. Another means of indirect transmission includes vectors, such as mosquitos, flies, mites, ticks, fleas, rodents, or dogs, which may carry the pathogenic microorganism and transmit it to people via a bite. Infectious diseases can also impact animal populations, particularly livestock and other farm animals. Even though these diseases may not directly affect humans, the economic impact of these diseases can be just as harmful, if not more so, to the community.

Infectious diseases can occur as primary events or they may occur as a cascading result of another disaster, such as a tornado, flood, or winter weather. Infectious diseases can vary greatly in severity and magnitude. According to the World Health Organization, infectious diseases account for three of the ten leading causes of death worldwide – HIV/AIDS, lower respiratory infections, and diarrheal disease. These three events, combined with tuberculosis and malaria, account for 20% of deaths globally.

In Western countries, the impact of infectious diseases has diminished greatly over the last 75 years due to improved sanitation, personal hygiene, vaccinations, and the use of antibiotics. In the United States, only two infectious diseases – seasonal influenza and pneumonia – rank in the top ten leading causes of death. Annually, there are 1,500 deaths in the United States from seasonal influenza and another 52,000 from pneumonia. Children and older adults are the greatest at risk for both.

Emergent infectious diseases are those that are appearing in a population for the first time. Re-emergent infectious diseases are those that may have previously existed in a population, but levels had dropped to the point where it was no longer considered a public health problem until levels once again began increasing.

During the last 25 years, emergent and re-emergent infectious diseases have been on the rise.

Table 3.1 Select contributing factors to the rise of emergent and re-emergent diseases

Contributing Factors to Increasing Occurrence of Emergent Diseases
Agent-Related Factors
Evolution of pathogenic infectious agents Development of resistance to drugs Resistance of disease carriers to pesticides
Host-Related Factors
Human demographic changes (humans inhabiting new areas) Human behavior (sexual practices and drug use) Human susceptibility to infection
Environment-Related Factors

Economic development and land use patterns
International travel and commerce
Deterioration of surveillance systems

Due to a lack of ready-made vaccines for these diseases and a lack of immunity in the population, emergent and re-emergent infectious diseases are much more likely to escalate to pandemic levels rapidly.

3.2.15.2. Hazard Profile (Location, Extent, Previous Occurrences)

The entire county could be affected by emergent infectious diseases, which is exemplified through previous occurrences.

Looking at occurrences with cases local to Dawson County, in 2009, the Central Georgia area was impacted by the 2009-2010 H1N1 Swine Flu. There were 1286 cases of H1N1 in Georgia in 2009-2010 and 33 deaths. The majority of registered cases occurred with people between the ages of 5 and 29. This equates to a mortality rate of just over 2.5% - which is slightly lower than the 3% rate of the 1918-1919 Spanish Flu Pandemic.

In 2020, the COVID-19 Pandemic impacted the entire world and caused a variety of public health protocols to be implements state-wide. In 2020, Dawson County had over 1,700 cases and there were over 575,000 cases statewide. By the end of 2021, there were over 1.4 million cases statewide and over 4,500 cases in Dawson County since the beginning of the pandemic. Vaccines were made available at the end of 2020. On May 11, 2023, the Public Health Emergency declaration for COVID-19 expired, but there are still COVID-19 cases.

In 2022, an Mpox outbreak occurred in the United States. There were over 30,000 cases nationwide with 2,000 cases and 54 deaths in Georgia as of October 2023. Mpox vaccines are available to prevent infection.

Over the last 25 years, emergent infectious disease outbreaks have occurred in other parts of the country. These include:

- 1993 Cryptosporidium Outbreak (Milwaukee, Wisconsin – 403,000 people ill and 100 deaths)
- 2010 Whooping Cough Outbreak (California – 9,500 people ill and 10 infant deaths)
- 2014 Measles (Nationwide – 334 cases from January to May 2014 – most in 20 years)
- 2015 H5N2 Avian Flu Outbreak (Midwest – over 25 million chickens and turkeys destroyed as a precautionary measure at 83 locations)
- 2016 Zika Virus Disease (224 Cases Florida and Texas of patients that acquired the disease locally)

3.2.15.3. Probability

It is probable that a human health incident will occur in Dawson County in the future. Common human health incidents, like the flu, occur annually and may be perceived as a lower risk by the general population. Outbreaks, like COVID-19, are less frequent, but can have greater impacts to the County.

The probability of this hazard was determined to be likely (occurring every 5 to 20 years). The probability of emergent infectious diseases would increase with continued population growth, especially in densely populated areas.

3.2.15.4. Impacts

The impacts of emergent infectious diseases on Dawson County can be far-reaching and multifaceted. The community's health infrastructure may face substantial challenges in terms of disease surveillance, testing, and healthcare delivery during outbreaks. The potential for increased strain on local healthcare facilities, disruptions to essential services, and economic repercussions due to containment measures and reduced productivity may be significant. Furthermore, emergent infectious diseases can impact social dynamics, affecting community interactions, education, and overall well-being.

Dawson County would also likely see significant economic impacts from an outbreak involving animal populations, such as an Avian Flu, due to the large economic base agriculture provides (over $50 million in annual sales). The lack of current vaccines and preparatory activities for these diseases has created a situation where the potential impact to Dawson County of a pandemic or epidemic could be catastrophic.

3.2.15.5. Impacts from Future Conditions

With the influence of climate change, the impacts of emergent infectious diseases on Dawson County may intensify. Altered climate patterns can affect the distribution of disease vectors, expand the geographic range of certain illnesses, and contribute to the emergence of new infectious agents. Climate-related factors such as extreme weather events and changing ecological conditions may also disrupt local health systems, making communities more vulnerable to the spread of diseases. Additionally, population growth can exacerbate these impacts, placing greater pressure on healthcare infrastructure, public services, and community resilience. The increased density of populations may facilitate the rapid transmission of infectious diseases, while urbanization and demographic changes may influence the effectiveness of public health interventions. In the context of climate change and population growth, adaptive strategies, robust healthcare systems, and community engagement become even more crucial to mitigate the evolving challenges posed by emergent infectious diseases in Dawson County.

3.2.15.6. Multi-Jurisdictional Considerations

Dawson County, as well as the City of Dawsonville, are vulnerable to emergent infectious diseases. However, places of greater population density, such as the City of Dawsonville and areas along the Georgia Highway 400 corridor, are at greatest risk to this hazard. Additionally, livestock and other farm animals are at greater risk, along with areas with large, concentrated populations, such as schools.

3.2.15.7. Hazard Summary

An emergent infectious disease would have devastating effects on Dawson County and the City of Dawsonville. These impacts would be immediate and long-lasting and could be potentially economically crippling. Of particular concern to the Dawson County HMPC is impacts to Dawson County's large agricultural business population (over $50 million in annual sales). Because of these considerations, the Dawson County HMPC has developed mitigation actions with emergent infectious diseases in mind.

3.2.16. Technological Hazard: Cyberattack

3.2.16.1. Hazard Description

According to the National Institute of Standards and Technology, a cyberattack is an online attack that is meant to disrupt, disable, destroy, or maliciously control an organization's computing environment/infrastructure or destroying the integrity of the data or stealing controlled information. These attacks can hold organizations hostage for hours or sometimes days or months. The people who are behind these attacks often want financial compensation to release the organization's online infrastructure. These attacks can cost organizations both public and private millions of dollars to recover if targeted.

There are a variety of different types of attacks. Organizations should be aware of malware, phishing, and ransomware. Malware is when software is used to get access to an organizations IT system to steal information, disrupt services, or damage the IT networks. Ransomware is a kind of malware that allows the attacker to hold specific information hostage until a form of payment or ransom is provided. Phishing happens when a user is encouraged to share private information online using misleading tactics. It is important for organizations to put in protocols to prevent being victims of a cyberattack.

3.2.16.2. Hazard Profile (Location, Extent, Previous Occurrences)

All systems that are online could be a victim of a cyberattack. If a government organization relies on online systems, then they are at risk for a cyberattack. All online document management or transactions are at risk. The severity of cyberattacks can vary widely, ranging from minor incidents like phishing or malware infections to highly sophisticated and destructive campaigns such as nation-state-sponsored attacks targeting critical infrastructure. Factors influencing severity include the attacker's capabilities, the vulnerabilities of the targeted systems, and the potential impact on financial, operational, or national security aspects.

In April 2018, the Dawson County Government was the victim of a cyberattack. The Dawson County Government was the victim of a ransomware attack and government employees were unable to conduct key duties of their jobs. The attack was first noticed when certain employees were unable to save changes to their working files on their computers. As soon as other government offices noticed issues, the IT department began to shut down servers to avoid the issue from spreading. Several components of the County's IT systems were impacted including the exchange server, and phone and internet services were taken offline. A cybersecurity company was called in to assist the County with

the issues and services were eventually restored. Up until this point, the County had cyberattack insurance but did not have an emergency plan in place for ransomware.

Just one month prior, the City of Atlanta was the victim of a cyberattack. The City of Atlanta was the victim of a ransomware attack and several of the City's government departments were unable to conduct work on computers. Everything from paying traffic tickets to water bills online and even the free Wi-Fi at the airport were shut down. The attackers wanted $50,000 in cryptocurrency to release the City's data. The two men who were behind the attack were prosecuted, but the City ultimately paid millions of dollars to get the city back to normal.

3.2.16.3. Probability

As technology advances and industries become more reliant on technology-based infrastructure, the probability of cyber incidents occurring increases every day. It is estimated that every 11 seconds, a business falls victim to a ransomware attack and it is predicted that attacks will cost up to $20 billion annually. This statistic has changed dramatically since 2016, which estimated a ransomware attack occurred every 40 seconds. In 2020, government was among the top three most cyber attacked industries, increasing from the top five in 2015. The probability of a cyberattack in Dawson County is highly likely (occurring every 1 to 5 years).

3.2.16.4. Impacts

A cyberattack on Dawson County could have significant and multifaceted impacts. At a basic level, it might result in disruptions to local government services, including communication systems and administrative functions. More severe consequences could involve the compromise of sensitive data, potentially exposing residents' personal information, leading to identity theft or financial fraud. In the worst-case scenario, a sophisticated cyberattack could cripple critical infrastructure, disrupt emergency services, and have cascading effects on public safety, economic stability, and the overall well-being of the community.

3.2.16.5. Impacts from Future Conditions

There are no impacts from future conditions that are specific to a cyberattack.

3.2.16.6. Multi-Jurisdictional Considerations

The City of Dawsonville also conducts many processes online. It is important that both the County and the City have protocols in place to be ready for a Cyberattack.

3.2.16.7. Hazard Summary

Cyberattacks are a hazard that can shut down online functions of an organization. They can cause organizations to be shut down for days and sometimes longer. These attacks can cost millions of dollars to fix. It is important for protocols to be in place to prevent these attacks from happening.

3.2.17. Human Caused Hazard: Active Threat/Shooter

3.2.17.1. Hazard Description

The FBI defines an active shooter as one or more individuals actively engaged in killing or attempting to kill people in a populated area. Implicit in this definition is the shooter's use of a firearm. The "active" aspect of the definition inherently implies the ongoing nature of an incident, and thus the potential for the response to affect the outcome.

Two types of shootings include school shootings and mass shootings.

School shootings are incidents in which a student at an educational institution shoots and injures or kills at least one other student or faculty member on the grounds of the institution. There have been accounts of rampage school shootings when no single or specific individual is targeted by the shooter. Rampage school shootings involve students who attend (or formerly attended) the school where the attack takes place; occurring on a school-related "public stage"; and involving multiple victims, at least some shot at random or as a symbol.

Mass shootings are defined when the incident occurs in relatively public places, that involve four or more deaths, not including the shooter, and gunmen who select victims somewhat indiscriminately. The violence in these cases is not a means to an end. This means the gunmen does not pursue criminal profit or kill in the name of terrorist ideologies.

The Georgia Emergency Management and Homeland Security Agency says that because these situations are usually over before law enforcement arrive, it is important for individuals to prepare for these events. They recommend that individuals should sign up for active shooter training and if they see something they should report it to the appropriate authorities. They should also plan with their families for these situations. They also say if individuals find themselves in this situation they should run and escapes if they can, hide if they can't escape, or fight as an absolute last resort.

3.2.17.2. Hazard Profile (Location, Extent, Previous Occurrences)

Active shooter incidents are possible anywhere in the County, but densely populated or high-profile areas, like government buildings, schools, and public spaces, are typically targeted. The severity of active threats can vary widely, ranging from relatively contained incidents with limited impact to highly dangerous situations involving multiple assailants and high-powered weapons, resulting in significant harm and casualties. Factors such as the assailant's intent, weaponry, tactics, and the effectiveness of law enforcement responses play crucial roles in determining the severity of an active threat. There are no records of active threat/shooter situations in Dawson County.

3.2.17.3. Probability

There is no sure way to predict future active threats, as most typically occur without warning. The probability of an active shooter/threat incident in Dawson County is somewhat likely (occurring every 20 to 50 years).

3.2.17.4. Impacts

The impacts of active shooter incidents are profound and far-reaching, extending beyond the immediate physical harm to individuals and encompassing broader consequences for communities. The emotional and psychological toll on survivors, witnesses, and the affected community can be long-lasting, leading to post-traumatic stress, anxiety, and a sense of insecurity. Beyond the human cost, these incidents can result in economic repercussions, with businesses and local economies suffering due to temporary closures, decreased consumer confidence, and potential long-term effects on the local workforce. Furthermore, active shooter incidents prompt a reevaluation of security measures, both in public and private spaces, necessitating investments in enhanced safety protocols, emergency response training, and community support systems.

3.2.17.5. Impacts from Future Conditions

Population growth can potentially impact the probability of active shooter incidents in various ways. As populations expand, the density of people in public spaces increases, potentially providing more targets for individuals with malicious intent. Larger populations may also lead to higher levels of stress, competition, or societal challenges, which can contribute to the factors influencing violent behavior. Additionally, in densely populated areas, there may be increased anonymity, making it easier for potential perpetrators to plan and execute such incidents without immediate detection. However, it's important to note that the relationship between population growth and the probability of active shooter incidents is complex, and multiple factors, including societal, economic, and mental health considerations, contribute to the overall risk.

3.2.17.6. Multi-Jurisdictional Considerations

Heavily populated areas are more likely to see an active threat/shooter situation to unfold. It is important that this is considered in the City of Dawsonville as it is the most populated area of the County.

3.2.17.7. Hazard Summary

Active threats/shooters are dangerous situations that can escalate quickly. They involve one or more people with a firearm who are killing to attempting to kill people in an area. These situations are often over before law enforcement can arrive. It is important for communities to be prepared to respond to these situations and to prepare community members if they find themselves in these situations.

3.3. Vulnerability Assessment

The goal of profiling the location, extent, previous occurrences, probability, and impacts of each of the above hazards is to be able to summarize the vulnerabilities of Dawson County, so the planning team can develop a strategy to increase the County's resiliency. The below tables rank the natural hazards relevant to Dawson County with higher ranks denoting higher vulnerability. The summary tables are broken into two categories: threats to buildings and threats to people. The County's vulnerability to each hazard is determined by the annual expected loss ratio, which is the product of the annualized frequency and the historic loss ratio. The annualized frequency component gauges the recurrence rate of each hazard, providing insights into its likelihood of occurrence per year – these values are determined based on the "Probability" sections for each hazard included above. Concurrently, the historic loss ratio quantifies the magnitude of past damages inflicted by each hazard (on people and buildings), serving as a metric of severity, these values are provided by FEMA through its National Risk Index database. After ranking the vulnerabilities by annual expected loss ratio, each hazard was also marked to indicate whether the vulnerability is expected to increase based on climate change (based on the "Impacts from Future Conditions" sections above).

Table 3.2 Vulnerability assessment (to buildings) for natural hazards for Dawson County

Threat to Buildings					
Annualized Frequency		Historic Loss Ratio		Annual Expected Loss Ratio	
Hazard	Rank	Hazard	Rank	Hazard	Rank
Thunderstorm	1	Wildfire	1	Tornado	1
Drought	2	Earthquake	2	Flooding	2
Extreme Heat	3	Tornado	3	Thunderstorm	3
Extreme Cold	4	Flooding	4	Wildfire	4
Tornado	5	Hurricane	5	Earthquake	5
Winter Weather	6	Ice Storm	6	Ice Storm	6
Ice Storm	7	Thunderstorm	7	Extreme Heat	7
Flooding	8	Extreme Cold	8	Hurricane	8
Hurricane	9	Extreme Heat	9	Extreme Cold	9
Earthquake	10	Winter Weather	10	Winter Weather	10
Wildfire	11	Drought	11	Drought	11

Table 3.3 Vulnerability assessment (to people) for natural hazards for Dawson County

Threat to People					
Annualized Frequency		Historic Loss Ratio		Annual Expected Loss Ratio	
Hazard	Rank	Hazard	Rank	Hazard	Rank
Thunderstorm	1	Tornado	1	Tornado	1
Drought	2	Earthquake	2	Extreme Heat	2
Extreme Heat	3	Wildfire	3	Extreme Cold	3
Extreme Cold	4	Flooding	4	Flooding	4
Tornado	5	Extreme Heat	5	Thunderstorm	5
Winter Weather	6	Extreme Cold	6	Winter Weather	6
Ice Storm	7	Thunderstorm	7	Earthquake	7
Flooding	8	Winter Weather	8	Ice Storm	8
Hurricane	9	Hurricane	9	Wildfire	9
Earthquake	10	Ice Storm	10	Hurricane	10
Wildfire	11	Drought	11	Drought	11

Table 3.4 Certainty of future increased risk (against buildings) from climate change for natural hazards

Threat to Buildings		
Annual Expected Loss Ratio		Future Increased Risk?
Hazard	Rank	Certainty
Tornado	1	Unknown
Flooding	2	Likely
Thunderstorm	3	Unknown
Wildfire	4	Likely
Earthquake	5	Unlikely
Ice Storm	6	Unknown
Extreme Heat	7	Likely, Severe
Hurricane	8	Likely
Extreme Cold	9	Unlikely
Winter Weather	10	Unknown

Drought	11	Likely

Table 3.5 Certainty of future increased risk (against people) from climate change for natural hazards

Threat to People		
Annual Expected Loss Ratio		Future Increased Risk?
Hazard	Rank	Certainty
Tornado	1	Unknown
Extreme Heat	2	Likely, Severe
Extreme Cold	3	Unlikely
Flooding	4	Likely
Thunderstorm	5	Unknown
Winter Weather	6	Unknown
Earthquake	7	Unlikely
Ice Storm	8	Unknown
Wildfire	9	Likely
Hurricane	10	Likely
Drought	11	Likely

Chapter 4. Hazard Mitigation Strategies

4.1. Summary of Updates to Chapter Four

The following table provides a description of each section of this chapter and a summary of the changes made to the Dawson County Hazard Mitigation Plan 2018.

Chapter 4 Section	Updates
Goals and Objectives	• Updated goals to match the needs of • Dawson County and the City of Dawsonville
Identification and Analysis of Mitigation Techniques	• Mitigation Actions have been updated. • Chart of complete and deleted mitigation actions has been updated.
Multi-Jurisdictional Considerations	• Addition of hurricanes, winter storms, and cybersecurity concerns. Not included in 2018 Plan.

4.2. Goals and Objectives *(Requirement §201.6(c)(3), Requirement §201.6(c)(3)(i))*

It is essential that State and local government, public-private partnerships, and the average citizen can see the results of these mitigation efforts. Therefore, the goals and strategies need to be achievable. The mitigation goals and objectives form the basis for developing specific mitigation actions. County and municipal officials should consider the listed goals before making community policies, public investment programs, economic development programs, or community development decisions for their communities. The goals of Dawson County have changed slightly in the last five years (since 2012) due to specific threat events, such as the snow and ice storms of 2014 and Hurricane Irma in 2017. The 2014 Ice Storms, in particular, led to changes at the State and local levels regarding the importance of winter weather preparedness for the general public and the response-ability of local jurisdictions, including Dawson County. Due to the recent occurrence of natural hazards and the significant damage they have caused, mitigation strategies have become a top priority. There is now more focus on developing new strategies to prevent these events from happening and to minimize their impact when they do occur.

The Dawson County Hazard Mitigation Plan update covers two jurisdictions: Dawson County and the City of Dawsonville. However, these jurisdictions have limited capacity to implement all the mitigation actions described in the plan. This is because these jurisdictions are small in population and tax base, making raising sufficient revenue to pursue many actions difficult. Also, there is a lack of financial strength and staffing to implement all the actions described in the plan. To achieve the goals outlined in the plan, many actions will be pursued through grant programs and by collaborating with public and private organizations that can provide additional resources. For actions where grant funding or

partnerships are unavailable, Dawson County or municipality revenue streams may be supplemented through Special Purpose Local Option Sales Tax (SPLOST) funds, voted on by the electorate.

GOAL 1: Maximize the use of all resources by promoting intergovernmental coordination and partnerships in the public and private sectors.

GOAL 2: Harden community assets against the impacts of disasters by developing new mitigation strategies and enforcing current regulations.

GOAL 3: Minimize loss of life and property damage from disasters, especially for repetitive damaged properties.

GOAL 4: Increase community awareness about potential hazards and the need for preparedness.

These objectives outline specific outcomes that Dawson County aims to achieve over the next five years. Action steps are the necessary steps to reach these objectives. The objectives are not listed in order of importance.

OBJECTIVE 1: Our first objective is to reduce loss of life, damage to property, and minimize impacts on local citizens, industry, and infrastructure from identified hazards.

OBJECTIVE 2: We aim to provide advanced severe weather warnings to help citizens take precautionary measures and stay safe.

OBJECTIVE 3: Our third objective is to provide educational awareness to citizens about the dangers and impacts of the identified hazards.

OBJECTIVE 4: We will implement initiatives to protect our water resources and provide wildfire protection.

OBJECTIVE 5: We aim to increase the capacity of Dawson County, the City of Dawsonville, Etowah Water and Sewer, Dawson County Schools, and its citizens to respond to identified hazards.

OBJECTIVE 6: We will ensure continuity of critical operations before, during, and after hazard events.

OBJECTIVE 7: We will evaluate and implement additional protective measures and capabilities in response to identified hazards, wherever possible.

4.3. Identification and Analysis of Mitigation Techniques *(Requirement §201.6(c)(3)(iv), Requirement §201.6(c)(3)(iii))*

In updating Dawson County's mitigation strategy, various activities were considered to help achieve the mitigation goals and objectives. This includes the following activities as defined by the Emergency Management Accreditation Program (EMAP):

1. The use of applicable building construction standards;
2. Hazard avoidance through appropriate land-use practices;
3. Relocation, retrofitting, or removal of structures at risk;
4. Removal or elimination of the hazard;
5. Reduction or limitation of the amount or size of the hazard;
6. Segregation of the hazard from that which is to be protected;
7. Modification of the basic characteristics of the hazard;
8. Control of the rate of release of the hazard;
9. Provision of protective systems or equipment for both cyber or physical risks;
10. Establishment of hazard warning and communication procedures; and
11. Redundancy or duplication of essential personnel, critical systems, equipment, and information materials.

As part of our prioritization process, we assess each item according to the STAPLEE criteria, which stands for Social, Technical, Administrative, Political, Legal, Economic, and Environmental factors. Based on this assessment, we designate each item as High, Medium, or Low priority. For items that require grant funding, we conduct a thorough Cost-Benefit Analysis to determine their actual cost-effectiveness. This analysis informs the grant research and application process.

Strategic Priority	Priority Description	Strategies within this priority
LOW	Low-priority strategies are those strategies that will have less direct impact on mitigating Dawson County's hazards, are in the early stages of strategy development, or score poorly on a preliminary cost-benefit analysis	1.c; 1.d; 2.f; 5.i;
MEDIUM	Medium-priority strategies directly mitigate Dawson County's hazards but have less impact than high-priority strategies. They may be in the early stages of development or score lower on a cost-benefit analysis.	1h; 1.i; 1.j; 1.k; 1.l; 1.m; 1.n; 1.o; 1.q; 1.t; 2.b; 2.e; 2.g; 3.a; 3.b; 3.c; 3.d; 3.g; 3.h; 3.k; 4.a; 4.b; 4.d; 4.f; 4.g; 4.h; 4.i; 5.b; 5.c; 5.d; 5.e; 5.f; 5.g; 5.h; 5.j; 5.k; 5.l; 5.o; 7.a;

HIGH	High-priority strategies refer to those strategies that can significantly mitigate the hazards faced by Dawson County. These strategies are usually the most crucial needs of the county and/or the City of Dawsonville. Moreover, they have scored high on a preliminary cost-benefit analysis, making them an essential part of the mitigation plan.	1.a; 1.b; 1.e; 1.f; 1.g; 1.p; 1.r; 1.s; 2.a; 2.c; 2.d; 2.h; 3.e; 3.f; 3.i; 3.j; 4.c; 4.e; 4.j; 5.a; 5.m; 5.n; 6.a; 6.b; 6.c; 6.d; 7.b;

The lead agency listed in the Mitigation Strategy charts will be responsible for the jurisdictional administration and prioritization of the mitigation strategy. Prioritization was determined based on many factors. These include the likelihood of the event, the potential impact of the event, the current readiness posture of Dawson County for the event, the all-hazard impact of the mitigation strategy, and a cost-benefit analysis for the mitigation action. For example, mitigation actions that address high-likelihood, high-impact events with a low cost would rate higher than low- low-likelihood, high-impact events with a high cost.

All mitigation strategies considered by the Dawson County Hazard Mitigation Plan Update Committee can be classified under one of the following six (6) broad categories of mitigation techniques:

4.3.1. Prevention *(Requirement §201.6(c)(3)(ii))*

Preventative activities are aimed at preventing hazardous issues from exacerbating and are generally implemented through government-run programs or regulatory measures that impact the way land is utilized and buildings are constructed. They are particularly effective in decreasing a community's future vulnerability, especially in areas where development hasn't taken place or capital investments haven't been significant. The updated plan outlines various examples of preventative activities, which are listed in the table below:

Natural Hazards	Mitigation Strategies
Drought	4.c; 4.d
Earthquake	6.a
Extreme Temperatures	
Flood	1.a; 1.b; 1.c; 1.d; 1.e; 1.f; 1.g; 1.h; 1.i; 6.a
Thunderstorms	1.a; 1.i; 6.a
Tornadoes	1.o; 6.a
Tropical Cyclone	1.a; 1.i; 1.o; 6.a
Wildfire	4.c; 6.a
Winter Storms	6.a

Technological Hazards	Mitigation Strategies
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	1.s; 1.t
Emergent Inf. Disease	7.a
Hazardous Materials	7.a
Terrorism	1.s; 1.t; 7.a
Transportation	7.a

4.3.2. Property Protection

The process of safeguarding properties involves making changes to existing buildings and structures to make them more resilient against various hazards. This may also involve relocating the structures from hazardous areas altogether. The updated plan includes a list of examples of property protection measures, which are listed in the table below:

Natural Hazards	Mitigation Strategies
Drought	
Earthquake	
Extreme Temperatures	
Flood	
Thunderstorms	1.m; 1.p; 1.q;
Tornadoes	1.m; 1.p; 1.q;
Tropical Cyclone	1.p; 1.q;
Wildfire	
Winter Storms	
Technological Hazards	**Mitigation Strategies**
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	

4.3.3. Natural Resource Protection

Natural resource protection activities aim to mitigate the impact of natural hazards by preserving or restoring natural areas such as floodplains, wetlands, steep slopes, and sand dunes, along with their protective functions. These protective measures are often implemented by parks, recreation, or conservation agencies and organizations. The updated plan includes several examples of natural resource protection, which are listed in the following table:

Natural Hazards	Mitigation Strategies
Drought	
Earthquake	4.b
Extreme Temperatures	
Flood	
Thunderstorms	4.b
Tornadoes	4.b
Tropical Cyclone	4.b
Wildfire	4.b
Winter Storms	4.b
Technological Hazards	**Mitigation Strategies**
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	

4.3.4. Structural Projects

Structural mitigation projects aim to reduce the impact of a hazard by altering the natural progression of the environmental hazard event through construction. These projects are typically designed by engineers and managed or maintained by public works staff. The following table contains examples of structural projects included in the updated plan:

Natural Hazards	Mitigation Strategies
Drought	4.j; 5.l; 6.c; 6.d
Earthquake	5.j; 5.k; 5.l; 6.c; 6.d
Extreme Temperatures	
Flood	1.j; 1.k; 1.l; 4.j
Thunderstorms	1.j; 1.k; 1.l; 1.n; 5.j; 5.k; 5.j; 6.d
Tornadoes	1.n; 5.j; 5.k; 5.l; 6.c; 6.d
Tropical Cyclone	1.j; 1.k; 1.l; 1.n; 5.j; 5.k; 5.l
Wildfire	4.j; 5.j;5.k; 5.l; 6.c; 6.d
Winter Storms	5.k; 5.k; 5.l
Technological Hazards	**Mitigation Strategies**
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	

4.3.5. Emergency Services

While emergency services are not usually regarded as a mitigation technique, they can still reduce the impact of a hazardous event on individuals and property. These services are usually implemented just before, during, or after the occurrence of a hazardous event. The updated plan includes a list of emergency services, which are mentioned in the table below:

Natural Hazards	Mitigation Strategies
Drought	4.e; 4.f; 5.b; 5.m;
Earthquake	5.a; 5.b; 5.d; 5.e; 5.f; 5.g; 5.h; 5.m; 5.n; 5.o;
Extreme Temperatures	
Flood	5.b; 5.c; 5.d; 5.e; 5.i; 5.m; 5.n; 5.o;
Thunderstorms	2.a; 2.b; 2.c; 2.d; 2.e; 2.f; 2.g; 2.h; 5.a; 5.b; 5.c; 5.d; 5.e; 5.f; 5.g; 5.h; 5.i; 5.m; 5.n; 5.o; 6.b;

Tornadoes	2.a; 2.b; 2.e; 2.g; 2.h; 5.a; 5.b; 5.c; 5.d; 5.e; 5.f; 5.g; 5.h; 5.i; 5.m; 5.n; 5.o; 6.b;
Tropical Cyclone	2.c; 2.d; 2.f; 2.g; 2.h; 5.a; 5.b; 5.c; 5.e; 5.i; 5.m; 5.n; 5.o;
Wildfire	2.h; 4.g; 4.h; 4.i; 5.a; 5.b; 5.d; 5.i; 5.m; 5.n; 5.o;
Winter Storms	1.r; 2.a; 2.e; 2.f; 2.g; 2.h; 5.a; 5.b; 5.d; 5.e; 5.f; 5.g; 5.h; 5.i; 5.m; 5.n; 5.o;
Technological Hazards	**Mitigation Strategies**
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	
Emergent Inf. Disease	3.j; 7.b
Hazardous Materials	3.j; 7.b
Terrorism	3.j; 7.b
Transportation	7.b

4.3.6. Public Education and Awareness

The updated plan utilizes public education and awareness activities to inform various groups of people, including residents, elected officials, business owners, potential property buyers, and visitors, about potential hazards, hazardous areas, and techniques they can use to mitigate the risks and protect themselves and their property. The plan includes a list of examples of public education and awareness strategies in the following table:

Natural Hazards	Mitigation Strategies
Drought	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h; 4.a
Earthquake	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h
Extreme Temperatures	
Flood	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h;
Thunderstorms	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h;
Tornadoes	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.g; 3.h
Tropical Cyclone	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h;
Wildfire	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h; 4.a
Winter Storms	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h;

Technological Hazards	Mitigation Strategies
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	3.k
Emergent Inf. Disease	3.k
Hazardous Materials	3.i; 3.k
Terrorism	3.i; 3.k
Transportation	3.i; 3.k

4.3.7. Overall

Mitigation Technique	Percentage
Prevention	23.9%
Property Protection	4.2%
Natural Resource Protection	1.4%
Structural Projects	15.5%
Emergency Services	33.8%
Public Education and Awareness	15.5%

The following Mitigation Charts meet:
Requirement §201.6(c)(3)(ii)
Requirement §201.6(d)(3)

Completed Strategies

Previous Strategy #	Strategy Description	Status
5.g	Purchase barricades for points of distribution traffic flow, evacuations, and other activation	COMPLETE
5.i	Purchase ATV for wildland firefighting and search and rescue operations	COMPLETE
6.l	Purchase two electronic signs	COMPLETE
6.r	Purchase a wheeled loader to move tree debris	COMPLETE
7.e	Provide additional interconnection points between the Forsyth County and Etowah Water and Sewer Authority water systems	COMPLETE
8.c	Purchase a snowplow for the front of trucks	The City of Dawsonville - COMPLETE
8.d	Purchase 4- wheel drive for staff vehicles during winter weather hazardous weather response	COMPLETE
10.e	Develop a plan for a short-term contamination of the raw water supply	COMPLETE

Deleted Strategies

Previous Strategy #	Strategy Description	Reason
2.e	Build a safe room in new EOC building that is available to the public	Strategy is no longer a priority
2.g	Consider an ordinance that requires all new construction to include a safe room	Strategy is no longer a priority
2.h	Build a storm shelter as part of any large (50+ residences) residential communities, particularly if locations include slab homes	Strategy is no longer a priority
2.i	Build safe rooms at local fire stations and police stations	Strategy is no longer a priority
3.c	Install outdoor warning siren at Paradise Valley Resort	Strategy removed due to being duplicated in 3.a
3.e	Install lighting detection systems in other areas where large crowds gather for outdoor events	Combined with 3.d
4.g	Promote severe weather awareness to clients of North Georgia Assisted Living Facility	Strategy removed due to rephrasing of other strategies
4.h	Promote severe weather awareness to client of Senior Center	Strategy removed due to rephrasing of other strategies
4.i	Promote severe weather awareness to clients of DFCS	Strategy removed due to rephrasing of other strategies
5.g	Purchase barricades for points of dispensing traffic flow, evacuations, and other activation	Strategy is no longer a priority
6.b	Equip chainsaw strike team with chainsaws necessary for debris removal assistance	Strategy is a duplicate
6.e	Purchase the most updated landline phone list from Windstream every 2-3 years	Strategy is no longer a priority or relevant
6.j	Purchase portable cooking shelters and portable shower	Strategy is no longer a priority
6.t	Purchase a Mobile Command Vehicle	Strategy is no longer a priority
6.u	Equip Mobile Command Vehicle	Strategy is no longer a priority

Previous Strategy #	Strategy Description	Reason
7.c	Cross train staff across multiple departments to serve in emergency related positions that would be outside their normal job functions	Strategy is no longer a priority
8.a	Purchase a brine truck	Strategy is no longer a priority
8.b	Purchase spreaders for salt/brine	Strategy is no longer a priority
10.b	Train a Hazmat Response Tam to Technician Level	Strategy is no longer a priority
10.c	Equip a HazMat Response Team	Strategy is no longer a priority

4.4. Multi-Jurisdictional Considerations

It is difficult to separate the impacts of each hazard by jurisdiction in Dawson County for several reasons. This is because any hazard that affects the City of Dawsonville would also have an impact on Dawson County as a whole and vice versa. This is because the two jurisdictions are strongly interdependent. Dawson County provides all public safety services, including fire protection, police services, and emergency medical response, for the City of Dawsonville. Any hazard incident that requires any public safety response would immediately affect the ability of those public safety agencies to provide adequate protective services to the City of Dawsonville and vice versa.

Dawsonville is the major commercial center for all of Dawson County. Moreover, the City of Dawsonville has incorporated many areas that had previously been part of unincorporated Dawson County for the last 20 years. This has created greater interdependency between the two jurisdictions and greater homogeneity of population characteristics and types of vulnerable populations.

Thunderstorms

Thunderstorms have occurred in all areas of Dawson County. While rural areas are likely to face crop damage, the more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, are at a greater risk of property damage due to higher population density. Thunderstorms have the potential to impact all areas of Dawson County.

Winter Storms

It is possible that a winter storm, which may include freezing rain, sleet, and snow, could impact all areas of Dawson County. However, the areas with higher population density, such as the City of Dawsonville and areas along Georgia Highway 400, are likely to experience a higher amount of property damage. Therefore, all measures to prepare for and mitigate the effects of winter storms should be taken on a countywide basis, with a focus on protecting the City of Dawsonville.

Flooding

During a major flood event, several parts of Dawson County can be affected by flooding. However, the areas that are highly susceptible to flooding are those located within the 100-year floodplain, especially areas along the Etowah River situated in unincorporated regions in Southern Dawson County. The City of Dawsonville is less likely to be directly impacted by flooding, but a flood affecting the unincorporated areas of the county can still have significant consequences on the city. It is possible for both Dawson County and the City of Dawsonville to be affected by flooding.

Tornado

It is important to understand that tornadoes can occur in any part of Dawson County, regardless of the area's population density. However, in areas with high population density, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, the damage caused by a tornado would likely be more significant. Additionally, areas with a focus on tourism, like Amicalola Falls State Park, could be particularly vulnerable to the impact of a tornado. Therefore, it is crucial to take measures to mitigate the risks of tornadoes throughout the county, including the City of Dawsonville.

Drought

All areas of Dawson County are at risk of being impacted by drought, but the agricultural regions are particularly vulnerable. Thunderstorm events are likely to cause crop damage in the rural areas of Dawson County. However, the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor have a higher population density, indicating that a significant drought event could have a greater impact on the population's water supply needs. Therefore, all drought mitigation actions should be implemented countywide, including the City of Dawsonville.

Wildfire

It's important to note that all areas of Dawson County, including the City of Dawsonville, are at risk of wildfire due to the large amount of Wildland-Urban Interface. However, the less developed areas of the county are more vulnerable to the threat. A risk assessment was performed in 2017 and Dawson County was divided into five separate geographic zones. Four of these zones were found to have moderate wildfire risk, while one - Big Canoe - was identified as having a high wildfire risk. It's worth noting that unincorporated areas of the county that have a tourism focus, such as Amicalola Falls State Park, could be particularly impacted by a wildfire event. Therefore, all mitigation actions identified regarding wildfires should be pursued on a countywide basis and should include the City of Dawsonville.

Earthquakes

It is possible that earthquakes could pose a threat to the entire Dawson County, including the City of Dawsonville. However, the areas with higher population density along the Georgia Highway 400 corridor, including the City of Dawsonville, may experience more severe impacts from an earthquake event. These areas also have a higher concentration of commercial establishments, which could be severely affected by such an event. Therefore, it is recommended to undertake all earthquake mitigation measures on a countywide basis, including the City of Dawsonville.

Tropical Cyclone

Tropical cyclones can have a significant impact on all areas of Dawson County. The crop damage caused by these events would be most felt in the rural areas of the county. On the other hand, property damage is expected to be higher in more densely populated areas like the City of Dawsonville and along the Georgia Highway 400 corridor. Flooding as a result of tropical cyclones would have the greatest impact on areas along the Etowah River and its tributaries and distributaries, particularly in the unincorporated areas of Dawson County. It's important to note that tropical cyclones have the potential to affect all parts of Dawson County.

Hurricane

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

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

Table 1: Saffir-Simpson Hurricane Wind Scale

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

The National Oceanic and Atmospheric Administration's National Hurricane Center created the HURDAT database, which contains all of the tracks of tropical systems since the mid-1800s. This database was used to document the number of tropical systems that have affected Dawson County by creating a 20-mile buffer around the county to include storms that didn't make direct landfall in Dawson County but impacted the county. Note that the storms listed

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

contain the peak sustained winds, maximum pressure and maximum attained storm strength for the entire storm duration. Since 1902, Dawson County has had 12 tropical systems within 20 miles of its county borders.

Table 2: Tropical Systems Affecting Dawson County[2]

YEAR	DATE RANGE	NAME	MAX WIND (Knots)	MAX PRESSURE	MAX CAT
1902	October 03 - 13	UNNAMED	104	970	H2
YEAR	**DATE RANGE**	**NAME**	**MAX WIND (Knots)**	**MAX PRESSURE**	**MAX CAT**
1907	September 18 - 23	UNNAMED	46	0	TS
1911	August 23 - 31	UNNAMED	98	972	H2
1928	August 07 - 17	UNNAMED	92	0	H1
1959	October 06 - 09	IRENE	46	1003	TS
1977	September 03 - 09	BABE	75	1012	H1
1997	July 16 - 27	DANNY	81	1013	H1
2004	August 25 - September 10	FRANCES	144	1009	H4
2005	July 03 - 11	CINDY	75	1011	H1
2020	October 24 - 30	ZETA	115	1007	H3
2021	August 09 - 20	FRED	63	1013	TS
2022	November 06 - 11	NICOLE	75	1005	H1

Extreme Temperatures

Extreme temperatures may affect all areas of Dawson County. However, areas with higher population densities, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, are expected to experience greater impacts.

Hazardous Materials Incidents

The entire Dawson County, comprising of the City of Dawsonville, is susceptible to both hazardous materials releases from fixed facilities and transportation-related incidents. However, regions with higher commercial density, such as the City of Dawsonville, and areas with the greatest traffic, such as the Georgia Highway 400 corridor, may be the most at risk.

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

Dam Failure

During a dam failure event, many portions of Dawson County would potentially be impacted by flooding. However, the areas most prone to flooding have historically been those areas located within the 100-year floodplain and downstream from dams.

Transportation Incidents

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a transportation incident. However, areas along the Georgia Highway 400 corridor are at the greatest risk for this type of incident.

Terrorism

All of Dawson County, including the City of Dawsonville, are vulnerable to potential acts of terrorism. However, critical facilities and their surrounding areas are considered at the greatest risk. Additionally, areas of tourism, such as Amicalola Falls State Park, are also at greater risk as they are highly visible targets.

Communications Failure

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a communications failure. Dawson County and the City of Dawsonville have adopted the mitigation action item of installing back-up generators at all critical facilities.

Emergent Infectious Diseases

Dawson County, as well as the City of Dawsonville, are vulnerable to emergent infectious diseases. However, places of greater population density, such as the City of Dawsonville and areas along the Georgia Highway 400 corridor, are at the greatest risk of this hazard. As of July 2023, Dawson County had officially reported 7,438 confirmed cases of COVID-19. Of those, 108 cases resulted in the patient's death[3].

Cyberattack

The City of Dawsonville conducts many processes online. It is important for the County and City to have protocols in place to be prepared for a cyberattack.

Active Threat/Shooter

Populated areas have a higher risk for active shooter situations. Consider this in Dawsonville, the county's most populous area.

[3] Centers for Disease Control. (2021, September).HealthData.gov. https://healthdata.gov/dataset/COVID-19-Diagnostic-Laboratory-Testing-PCR-Testing/j8mb-icvb/data_preview

Chapter 5. Plan Implementation and Maintenance

5.1. Summary of Updates for Chapter Five

The following table provides a description of each section of this chapter, and a summary of the changes that have been made to the Dawson County Hazard Mitigation Plan 2018.

Chapter 5 Section	Updates
Maintenance	• Content revised as needed
Plan Distribution	• Content revised as needed
Implementation	• Content revised as needed
Evaluation	• Content revised as needed
Peer Review	• Content revised as needed
Plan Update	• Content revised as needed
Conclusion	• Content revised as needed

5.2. Maintenance *(Requirement §201.6(c)(4)(iii))*

To adhere to best practices, state and federal guidelines, and lessons learned, the Dawson County Hazard Mitigation Plan Update Committee has developed a method to ensure the regular review and update of the Plan occurs. Plan maintenance protocols identified during the 2012 Dawson County Hazard Mitigation Plan and 2017 Plan Update were followed to the best of Dawson County's abilities. The Dawson County Hazard Mitigation Plan Update Committee will reconvene annually to monitor and evaluate the progress of the mitigation strategies in the Plan. Dawson County's Emergency Management Director, Troy Leist, will be responsible for implementing this meeting. The Committee will discuss the following questions annually:

- Do the goals address current and expected hazards and conditions?
- Are the goals and objectives still relevant to the County?
- Has the nature or magnitude of risks changed?
- Does the risk assessment portion of the Plan need to be updated or modified?
- Are the goals and objectives meeting changes in state and federal policy?
- Are the current resources appropriate for implementing the Plan?
- Are there local implementation problems, such as technical, political, legal, or coordination issues with other agencies?
- Did the jurisdictions, agencies, and other partners participate in the plan implementation process as proposed?

The responsible parties will provide a report at the annual meeting on their mitigation strategies. The report will address the following topics:

- During the implementation, were there any difficulties encountered?
- How successful was the coordination of efforts?
- Are there any suggestions for revising any mitigation strategies?

Dawson County's Emergency Management Director will send the minutes from this annual meeting to Dawson County Commissioners and City and Town Councils for review. If there are any updates or modifications to the Dawson County Hazard Mitigation Plan, the Emergency Management Director will forward the changes to the Georgia Emergency Management Agency's Hazard Mitigation Officer. The Dawson County Hazard Mitigation Plan's annual reviews will be open to the public. These meetings will be advertised in local newspapers, as well as on signage in the publicly used facility where the meeting is hosted. Additionally, an online platform will be provided for members of the public to join the meeting.

Maintenance Log

Revision Date	Revised Section	Reason for Revision	Revised By

5.3. Plan Distribution

This plan will be distributed to various departments and organizations within Dawson County, including but not limited to:

- Dawson County Board of Commissioners
- Dawson County Fire Department
- Dawson County Emergency Management Agency
- Dawson County Sheriff's Office
- Dawson County Public Works
- Dawson County Planning and Development
- Dawson County Board of Education
- City of Dawsonville

A printed copy of the approved Plan will be available for viewing at the Dawson County Emergency Management Agency located at 393 Memory Lane, Dawsonville, GA 30534. A printed copy of the approved Plan will also be available for viewing at the Chestatee Regional Public Library located at 342 Allen Street in Dawsonville. The existence and location of these copies will be publicized in the County's local newspaper, the Dawson County News.

All comments, questions, concerns, and opinions about the Plan will be directed to Director Troy Leist of the Dawson County Emergency Management Agency for follow-up.

5.4. Implementation *(Requirement §201.6(c)(4)(ii))*

The Dawson County Hazard Mitigation Plan requires each jurisdiction to carry out certain mitigation actions as laid out in the plan. To ensure the proposed strategies are implemented successfully, every department or agency responsible for a strategy is identified in the Mitigation Strategies section. This allocation of responsibility increases accountability and the likelihood of successful implementation.

It is common to have a local lead department or agency assigned for a particular strategy. Additionally, there may be secondary or assisting departments or agencies listed to share responsibility and coordinate efforts for some strategies that cross departmental lines. A completion date is assigned to monitor whether the identified mitigation strategies are being implemented in a timely manner.

Dawson County and the City of Dawsonville will look for external sources of funding to carry out prevention projects both before and after a disaster. Potential funding sources have been identified for the actions listed in the mitigation strategies. Each participating jurisdiction will be responsible for deciding on additional implementation procedures beyond those outlined in the Dawson County Hazard Mitigation Plan.

This plan, as a joint effort between Dawson County and the City of Dawsonville, will serve as a comprehensive mitigation plan. The mitigation strategies, hazard identification, and other information

identified in this plan will be integrated into all comprehensive Dawson County plans, as well as all municipality plans in the future. Incorporation of these strategies will occur, as necessary, throughout this planning cycle covered by this Hazard Mitigation Plan Update. Aspects of this plan will be integrated into the Dawson County Comprehensive Plan during the next planning cycle. This comprehensive plan is a joint, multi-jurisdictional plan that covers both unincorporated Dawson County and the City of Dawsonville. The City of Dawsonville will additionally incorporate mitigation strategies into their future land use zoning and planning ordinances, development regulations, and the Dawsonville Downtown Master Plan.

Identified hazards and mitigation strategies of the 2012 Dawson County Hazard Mitigation plan were integrated into the Local Emergency Operations Plan, multiple County and City SOPs and SOGs, and future planning and zoning plans. Dawson County will integrate mitigation strategies identified in this plan into the Dawson County Comprehensive Plan, Community Wildfire Protection Plan, Continuity of Operations Plan, and other future plans. Strategies identified in the previous plan were applied to grant applications, building and zoning requirements, and development planning considerations for Dawson County and the City of Dawsonville. Many of these strategies will be applied using previously identified policies and ordinances, including the NFIP compliance ordinances and water-use ordinances, which have now been applied countywide. All jurisdictions have the authority to adopt locally-binding ordinances and policies to enhance the mitigation strategies in their jurisdiction.

The Legal and Regulatory Capability survey lists the authorities and enabling legislation that are available at the state level to support local hazard mitigation planning efforts. This survey also identifies the planning and land management tools that are typically used by states and local jurisdictions to implement hazard mitigation activities.

Regulatory Tools/Plans	Regulatory Type: Ordinance, Resolution, Codes, Plans, Etc.	Local Authority	State Prohibited	Higher Authority
Building Codes	County/Municipal Code	Yes	No	No
Capital Improvements Plan	2008-2028 Dawson County Comprehensive Plan	Yes	No	No
Comprehensive Plan	2008-2028 Dawson County Comprehensive Plan	Yes	No	No
Economic Development Plan	2008-2028 Dawson County Comprehensive Plan	Yes	No	Yes
Emergency Management Accreditation Program		No	No	Yes
Emergency Response Plan	Dawson County Local Emergency Operations Plan (LEOP)	Yes	No	Yes

Regulatory Tools/Plans	Regulatory Type: Ordinance, Resolution, Codes, Plans, Etc.	Local Authority	State Prohibited	Higher Authority
Flood Management Plan	Dawson County Code Chapter 38, Article V (Flood Damage Prevention)	Yes	No	No
Historic Preservation		Yes	No	No
National Flood Insurance Program Participation	Dawson County Code Chapter 38, Article V, Division 2, Section 38-506	Yes	No	Yes
Continuity of Government/ Operations Plan		No	No	No
Post-Disaster Ordinance	Dawson County Code Chapter 22, Article III	Yes	No	No
Zoning Ordinances	County and Municipal Codes	Yes	No	No

The City of Dawsonville provides a range of administrative and technical services to its community. Its departments include Administrative, Public Works, Utilities, and Planning and Zoning. For public safety services, such as police, fire suppression, and emergency medical response, the City of Dawsonville relies on Dawson County. Over the past two decades, the City of Dawsonville has annexed portions of Dawson County, particularly areas to the north of the core commercial area of Dawsonville. These annexations have expanded the City of Dawsonville's jurisdiction and created greater homogeneity of population between the City of Dawsonville and Dawson County.

The Dawson County Hazard Mitigation Planning Committee aims to identify more opportunities to integrate the requirements of this plan into other local planning mechanisms. While there are many potential benefits to integrating components of this plan into other local planning mechanisms, the committee believes that the development and maintenance of this stand-alone Hazard Mitigation Plan is currently the most effective and appropriate way to implement local hazard mitigation actions.

5.5. Evaluation *(Requirement §201.6(c)(4)(i))*

Periodic revisions and updates of the Dawson County Hazard Mitigation Plan may be required to ensure that the goals of this plan are kept current with federal, state, and local regulations. These revisions should also consider any potential changes in the hazard vulnerability and mitigation priorities of Dawson County.

The Dawson County Hazard Mitigation Plan Update Committee will meet annually to review the Dawson County Hazard Mitigation Plan. During this annual review, mitigation strategies will be reviewed to evaluate the progress that has occurred for each identified mitigation strategy. The Dawson County Hazard Mitigation Plan Update Committee will also meet following any disaster event to review the

identified mitigation strategies for that hazard event and determine if timelines should be adjusted or additional mitigation strategies should be identified and added to the plan. These steps will ensure that the Dawson County Hazard Mitigation Plan is continuously updated to allow for changes in hazard vulnerabilities and identified mitigation strategies.

The Dawson County Hazard Mitigation Plan Update Committee will complete all evaluations of the Dawson County Hazard Mitigation Plan.

5.6. Peer Review *(State Requirement Element F1)*

Representatives from neighboring emergency management agencies conducted a peer review of the Dawson County Hazard Mitigation Plan Update. The purpose of the review was to maintain quality standards, improve performance, and provide credibility to the plan. This peer review process is a form of self-regulation and accountability, and it provides new insights from qualified professionals who face similar natural and man-made hazards in their own communities.

Dawson County Hazard Mitigation Plan Update was peer-reviewed by:

Renee Cornelison Date
Director
Cherokee County Emergency Management Agency

John Nicholson Date
Director
Pickens County Emergency Management Agency

Chris Grimes Date
Deputy Director
Forsyth County Emergency Management Agency

David Wimpy Date
Director
Lumpkin County Emergency Management Agency

5.7. Plan Update *(Requirement §201.6(c)(4)(i))*

The Hazard Mitigation Plan needs to be updated at least once every five years as required by the Federal Disaster Mitigation Act of 2000. It is the responsibility of the Dawson County Emergency Management Agency to ensure that this requirement is met. The Dawson County Hazard Mitigation Plan Update Committee will assist the department in the process and ensure that all jurisdictions contribute to the planning. The public will be invited to participate in the planning process through public hearings held during major updates and annual review meetings. The current plan will expire in the first quarter of 2029, so the next plan update must be approved and adopted before that time.

In the second quarter of 2028, Dawson County will initiate the fifth Hazard Mitigation Plan Update process. This update will involve meetings to achieve the objectives of the Dawson County Hazard Mitigation Plan. The Dawson County Emergency Management Agency will lead this planning process, while the Dawson County Hazard Mitigation Planning Committee will follow a similar approach as the previous cycle to fulfill all FEMA and GEMA requirements for the Hazard Mitigation Plan Update. The committee aims to complete this process by the fourth quarter of 2028 to meet all identified planning deadlines.

5.8. Conclusion

Through the hazard mitigation planning process, Dawson County, the City of Dawsonville, and other participating organizations have gained a wealth of information and knowledge about the county's history of disasters, natural and technological hazards, vulnerabilities, and potential strategies to reduce the effects of these hazards.

During the Hazard Mitigation Planning Committee meeting, it was identified that it is difficult to pinpoint the vulnerable geographic locations for most hazards due to their widespread potential effects and random impact areas. This is especially true for natural hazards. To tackle this issue, the Dawson County Hazard Mitigation Plan Update Committee decided to create mitigation goals, objectives, and strategies that are both general and specific in nature. These strategies will help the committee to adopt the most effective measures that will benefit the maximum number of people in the area. The Dawson County Hazard Mitigation Planning Committee adopted strategies in all six of the major mitigation categories: Prevention, Property Protection, Natural Resource Protection, Structural Projects, Emergency Services, and Public Education and Awareness.

Appendix A – Dawson County Inventory of Dams

Dawson County Category I Dams

Name	Latitude	Longitude	Height (feet)	Storage (acres)
Amicalola Creek Watershed Structure # 1	34.546389	-84.264280	44.00	349.00
Amicalola Creek Watershed Structure # 3	34.543056	-84.198611	56.00	1294.00
Etowah River Reach Sub Watershed Structure # 12	34.393980	-84.074620	63.00	1047.00
Etowah River Reach Watershed Structure # 22	34.460650	-84.161840	43.00	307.00
Etowah River Reach Watershed Structure # 23	34.470570	-84.145030	29.00	225.00
Yellow Creek Reservoir Dam	34.357778	-84.253333	114.00	13587.00

Dawson County Category II Dams

Name	Latitude	Longitude	Height (feet)	Storage (acres)
Amicalola Creek Watershed Structure # 2	34.531944	-84.245000	65.00	941.00
Amicalola Creek Watershed Structure # 4	34.521944	-84.183889	48.00	592.00
Etowah River Watershed Structure # 10	34.384722	-84.106111	54.00	521.00
Etowah River Watershed Structure # 13	34.401620	-84.058800	51.00	654.00
Etowah River Watershed Structure # 24	34.485833	-84.159722	32.00	167.00
Etowah River Watershed Structure # 9	34.362500	-84.081111	31.00	427.00
Fausett Lake Dam	34.528333	-84.280278	31.00	576.00
Gilleland Lake Dam	34.473056	-84.163611	24.00	124.00
Gold Creek Golf Club Lake Dam # 2	34.450278	-84.110833	43.00	350.00
Gold Creek Golf Club Lake Dam #1	34.449167	-84.105278	38.00	464.00
Howington Lake Dam	34.396389	-84.069444	32.00	64.00
Rainbow Lake Dam	34.440556	-84.197500	32.00	250.00
Running Pine Lake Dam	34.362500	-84.204167	29.00	33.00

Name	Latitude	Longitude	Height (feet)	Storage (acres)
Strickland Lake Dam	34.396111	-84.219722	26.00	6.00
Thomas Lake Dam	34.337222	-84.109167	30.00	66.00
Toto Estates Lake Dam (Lower)	34.391944	-83.991389	31.00	36.00
Toto Estates Lake Dam (Upper)	34.390556	-83.993056	29.40	36.00
Wood Lake Dam (East)	34.572500	-84.311111	33.00	

Appendix B – Dawson County Hazard Mitigation Plan Update Committee Sign-In Sheets and Committee List

2024 Committee Meeting Attendance List

Name	4/4/23	5/2/23	6/8/23	7/11/23	8/8/23	9/19/23
Chief Troy Leist		X	X	X		X
Brooke Anderson, PE	X	X	X	X		X
Wesley Sisk						
Greg Rowan						
Tony Wooten	X		X	X	X	
Emory Dooley						X
Ricky Jordan					X	
Matt Payne						
Lydell Mack						
Kevin Herrit						
Mandy Power						
Johnny Irvin						
Bob Bolz		X	X	X		X
Trampas Hansard		X		X		X
Robert Drewry	X					

2018 Committee List

Brooke Anderson
General Manager
Etowah Water and Sewer Authority

Kristan Bean
911 Assistant Director
Dawson County Sheriff's Office

Bob Bolz
City Manager
City of Dawsonville

Kenneth W. Brooks
Ranger II
Georgia Forestry Commission

Rickey Dean Brown
Chief Operations Officer
Dawson County School System

Jason Brownell
Director of Operations
Big Canoe Property Owners Association
Jason Dooley
Battalion Chief
Dawson County Emergency Services

Sharon R. Fausett
County Commissioner – District One
Dawson County Board of Commissioners

Kevin Gibbs
Park Manager
Amicalola Falls State Park

Trampas Hansard

Operations Manager
City of Dawsonville Public Works

David Headley
County Manager
Dawson County Public Administration

Lisa Hensa
Director
Dawson County Parks and Recreation

Richard Jordan
Public Safety Director
Big Canoe Property Owners Association

Tim Joy
Chief Ranger
Georgia Forestry Commission

Dorothy Jubon
Lead – External Affairs
American Red Cross – Northeast Georgia Chapter

Clark MacAllister
Extension Coordinator
University of Georgia Extension
Stephen Maddox
Lieutenant/Assistant Patrol Commander
Dawson County Sheriff's Office

Casey Majewski
Planning Director
City of Dawsonville Planning and Zoning

David McKee
Director
Dawson County Public Works

Dick McNeill
Business Consultant
Citizen Representative

Julie Hughes Nix
Commissioner, District 4
Dawson County Board of Commissioners

Dave Palmer
Public Information Officer
Georgia Department of Public Health, District 2

Dawn Pruett
Director
Dawson County Senior Services

Ricky Rexroat
Deputy Chief/Deputy EMA Director (Former - Retired)
Dawson County Emergency Services

Jim Rich
Director of Transportation
Dawson County Board of Education

Robin Roland
IT Coordinator
Dawson County Information Technology Department

Greg Rowan
Chief Deputy
Dawson County Sheriff's Office

Aleisha Rucker-Wright
Director
Dawson County E-911

Tim Satterfield
Deputy Chief (Former - Retired)
Dawson County Emergency Services

Danny Speaks
Division Chief of Operations and Training
Dawson County Emergency Services

Jason Streetman
Planning Director
Dawson County Planning and Development

Lanier Swafford
Fire Chief; Director (Former - Retired)
Dawson County Emergency Services;
Dawson County Emergency Management

Kurt Tangel
Chief Appraiser (Former)
Dawson County Tax Assessors Office

Billy Thurmond
Chairman
Dawson County Board of Com

Appendix C – Dawson County Critical Facilities

Facility	Jurisdiction	Facility Type
ACCG Fire Dept Headquarters	Dawson County	Emergency Services, Fire
ACCG Rock Creek Park	Dawson County	Government
Ettowah Water and Sewer Authority Administration Building	Dawson County	Government, Water/Sewer
Amicalola Creek W/S Str #1	Dawson County	Government, Water/Sewer
Amicalola Creek W/S Str #2	Dawson County	Government, Water/Sewer
Amicalola Creek W/S Str #3	Dawson County	Government, Water/Sewer
Amicalola Creek W/S Str #4	Dawson County	Government, Water/Sewer
Amicalola Regional Farmers Market	Dawsonville	NGO
Amicalola Water Storage Tank	Dawson County	Government, Water/Sewer
Annex & Public Works	Dawson County	Government, Water/Sewer
Auraria Water Storage Tank	Dawson County	Government, Water/Sewer
Big Canoe Fire Dept 2	Dawson County	Emergency Services, Fire
Black's Mill Elementary School	Dawson County	Education, K-12
Black's Mill Lift Station	Dawson County	Government, Water/Sewer
Black's Mill School Lift Station	Dawson County	Government, Water/Sewer
Blueridge Overlook Water Storage Tank & Pump Station	Dawson County	Government, Water/Sewer
Bottom Treatment Pond/Treatment Pond 1	Dawsonville	Government, Water/Sewer
Burt Creek Lift Station	Dawsonville	Government, Water/Sewer
Burt Creek Pump Staton	Dawson County	Government, Water/Sewer
Burt Creek Water Storage Tank	Dawson County	Government, Water/Sewer
Burts Crossing Lift Station	Dawsonville	Government, Water/Sewer
Chamber Lift Station	Dawson County	Government, Water/Sewer
Chestatee Emergency Center	Dawson County	Medical
City of Dawsonville Public Works/ Utilities office	Dawsonville	Government
Creekstone Lift Station	Dawsonville	Government, Water/Sewer
Crown Point Lift Station	Dawsonville	Government, Water/Sewer
Crystal Falls Water Reclamation Facility	Dawson County	Government, Water/Sewer
DAWSON CO-SHOAL HOLE RD (SL)	Dawson County	Government

Facility	Jurisdiction	Facility Type
Dawson County Courthouse	Dawson County	Government
Dawson County Fire Department Station 02	Dawson County	Emergency Services, Fire
Dawson County Fire Department Station 03	Dawson County	Emergency Services, Fire
Dawson County Fire Department Station 04	Dawson County	Emergency Services, Fire
Dawson County Fire Department Station 05	Dawson County	Emergency Services, Fire
Dawson County Fire Department Station 8	Dawson County	Emergency Services, Fire
Dawson County Fleet Maintence	Dawson County	Government, Transportation
Dawson County Headquarters Fire/Rescue Department Station 01	Dawson County	Emergency Services, Fire
Dawson County High School & Agriculture Building	Dawson County	Education, K-12
Dawson County Historic Courthouse	Dawson County	Government
Dawson County Jail	Dawson County	Law Enforcement, Jail Services
Dawson County Junior High School	Dawson County	Education, K-12
Dawson County Magistrate	Dawson County	Government
Dawson County Middle School	Dawson County	Education, K-12
Dawson County Public Library	Dawson County	Government
Dawson County Public Works Bldg.	Dawson County	Government
Dawson County Sheriff's Office	Dawson County	Law Enforcement
Dawson Forest Road Lift Station	Dawson County	Government, Water/Sewer
Dawson Forest Water Reclamation Facility	Dawson County	Government, Water/Sewer
Dawson Pointe Lift Station	Dawson County	Government, Water/Sewer
Dawsonville City Hall	Dawsonville	Government
Dawsonville Pond	Dawson County	Government, Water/Sewer
Downtown Lift Station	Dawsonville	Government, Water/Sewer
Etowah River Reach Sub W/S Str #12	Dawson County	Government, Water/Sewer
Etowah River Reach W/S Str #22	Dawson County	Government, Water/Sewer
Etowah River Reach W/S Str #23	Dawson County	Government, Water/Sewer
Etowah River W/S Str #13	Dawson County	Government, Water/Sewer
Etowah River W/S Str #24	Dawson County	Government, Water/Sewer

Facility	Jurisdiction	Facility Type
Etowah River W/S Str #9	Dawson County	Government, Water/Sewer
Etowah W/S Str #10	Dawson County	Government, Water/Sewer
Farmington Woods Lift Station	Dawsonville	Government, Water/Sewer
Fausett Lake Dam	Dawson County	Government, Water/Sewer
Flat Creek Lift Station	Dawsonville	Government, Water/Sewer
Gilleland Lake Dam	Dawson County	Government, Water/Sewer
Gold Creek Golf Club Lake Dam # 2	Dawson County	Government, Water/Sewer
Gold Creek Golf Club Lake Dam #1	Dawson County	Government, Water/Sewer
Gold Creek Lift Station	Dawsonville	Government, Water/Sewer
Goshen Family Medicine	Dawson County	Medical
Hightower Water Treatment Facility	Dawson County	Government, Water/Sewer
Hightower WTF Water Storage Tank	Dawson County	Government, Water/Sewer
Hightower WTFWater Storage Tank	Dawson County	Government, Water/Sewer
Holding Pond	Dawsonville	Government, Water/Sewer
Howington Lake Dam	Dawson County	Government, Water/Sewer
Hwy 53 Water Storage Tank & Pump Station	Dawson County	Government, Water/Sewer
Hwy 9 North/Townley Water Storage Tank & Pump Station	Dawson County	Government, Water/Sewer
Kilough Elementary School	Dawson County	Education, K-12
Maintenance Shop/sprayfields	Dawsonville	Government
Northeast Georgia Urgent Care	Dawson County	Medical
Northside Urgent Care	Dawson County	Medical
Oakmont Lift Station	Dawson County	Government, Water/Sewer
Rainbow Lake Dam	Dawson County	Government, Water/Sewer
Rental Residence	Dawsonville	Government
Riverview Elementary School	Dawson County	Education, K-12
Riverview Lift Station	Dawson County	Government, Water/Sewer
Robinson Elementary School	Dawson County	Education, K-12
Running Pine Lake Dam	Dawson County	Government, Water/Sewer
Scott Lake Dam	Dawson County	Government, Water/Sewer
Shoal Creek Lift Station	Dawsonville	Government, Water/Sewer
Southmark Dam	Dawson County	Government, Water/Sewer
Spring 105	Dawsonville	Government, Water/Sewer

Facility	Jurisdiction	Facility Type
Tank 1	Dawsonville	Government, Water/Sewer
Tank 2	Dawsonville	Government, Water/Sewer
Technology Building	Dawson County	Education
Tel Tek Lift Station	Dawson County	Government, Water/Sewer
Thomas Lake Dam	Dawson County	Government, Water/Sewer
Thompson Creek Lift Station	Dawson County	Government, Water/Sewer
Thunder Ridge Lift Station	Dawson County	Government, Water/Sewer
Toto Estates (lower)	Dawson County	Government, Water/Sewer
Toto Estates (upper)	Dawson County	Government, Water/Sewer
Transportation Building	Dawson County	Government, Transportation
Treatment Pond 2	Dawsonville	Government, Water/Sewer
Well 106	Dawsonville	Government, Water/Sewer
Well 108	Dawsonville	Government, Water/Sewer
Well 109	Dawsonville	Government, Water/Sewer
Well 110	Dawsonville	Government, Water/Sewer
Well 111	Dawsonville	Government, Water/Sewer
Wood Lake Dam (East)	Dawson County	Government, Water/Sewer
Yellow Creek Reservoir Dam	Dawson County	Government, Water/Sewer

Appendix D – Hazard Data Tables

Thunderstorms

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
9993534	DAWSON CO.		04/01/1974	2350	Thunderstorm Wind	0	0	0	0
9993556	DAWSON CO.		04/08/1974	1330	Thunderstorm Wind	0	0	0	0
9994470	DAWSON CO.		09/13/1979	1630	Thunderstorm Wind	0	0	0	0
9993740	DAWSON CO.		07/01/1983	1325	Thunderstorm Wind	0	0	0	0
9996021	DAWSON CO.		03/28/1984	1240	Thunderstorm Wind	0	0	0	0
9996062	DAWSON CO.		05/07/1984	2045	Thunderstorm Wind	0	0	0	0
9997820	DAWSON CO.		04/05/1985	1920	Thunderstorm Wind	0	0	0	0
9994735	DAWSON CO.		06/06/1985	1644	Thunderstorm Wind	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
9997027	DAWSON CO.		05/26/1986	2300	Thunderstorm Wind	0	0	0	0
9997028	DAWSON CO.		05/26/1986	2330	Thunderstorm Wind	0	0	0	0
9996221	DAWSON CO.		04/15/1987	145	Thunderstorm Wind	0	0	0	0
9994111	DAWSON CO.		04/04/1989	1410	Thunderstorm Wind	0	0	0	0
9997703	DAWSON CO.		04/28/1990	1250	Thunderstorm Wind	0	0	0	0
10010237	DAWSON CO.		04/29/1991	1130	Thunderstorm Wind	0	0	0	0
10007223	DAWSON CO.		07/02/1992	700	Thunderstorm Wind	0	0	0	0
10319208	DAWSON CO.	Dawsonville	04/15/1993	1955	Thunderstorm Wind	0	0	500	0
10319209	DAWSON CO.	Dawsonville	05/21/1994	1500	Thunderstorm Wind	0	0	5000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
10319210	DAWSON CO.	Dawsonville	06/27/1994	100	Thunderstorm Wind	0	0	5000	0
10319211	DAWSON CO.	Dawsonville	01/19/1995	1555	Thunderstorm Wind	0	0	500000	0
5553904	DAWSON CO.	DAWSONVILLE	05/27/1996	2100	Thunderstorm Wind	0	0	2500	0
5605191	DAWSON CO.	DAWSONVILLE	03/05/1997	1836	Thunderstorm Wind	0	0	2000	0
5608771	DAWSON CO.	DAWSONVILLE	07/04/1997	1845	Thunderstorm Wind	0	0	2000	0
5609253	DAWSON CO.	JUNO	07/28/1997	2230	Thunderstorm Wind	0	0	125000	15000
5639871	DAWSON CO.	JUNO	04/17/1998	50	Thunderstorm Wind	0	0	2000	0
5656792	DAWSON CO.	DAWSONVILLE	07/20/1998	1344	Thunderstorm Wind	0	0	2000	0
5694267	DAWSON CO.	DAWSONVILLE	05/07/1999	1800	Thunderstorm Wind	0	0	500	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5694650	DAWSON CO.	DAWSONVILLE	05/23/1999	1830	Thunderstorm Wind	0	0	500	0
5707842	DAWSON CO.	DAWSONVILLE	07/21/1999	1530	Thunderstorm Wind	0	0	200	0
5707854	DAWSON CO.	JUNO	07/22/1999	1635	Thunderstorm Wind	0	0	1000	0
5148436	DAWSON CO.	DAWSONVILLE	05/25/2000	1623	Thunderstorm Wind	0	0	500	0
5155322	DAWSON CO.	DAWSONVILLE	07/23/2000	1226	Thunderstorm Wind	0	0	70000	0
5232312	DAWSON CO.	DAWSONVILLE	02/16/2001	1900	Thunderstorm Wind	0	0	5000	0
5255358	DAWSON CO.	DAWSONVILLE	06/04/2001	2030	Thunderstorm Wind	0	0	5000	0
5290912	DAWSON CO.	DAWSONVILLE	05/13/2002	1449	Thunderstorm Wind	0	0	2000	0
5308943	DAWSON CO.	DAWSONVILLE	07/01/2002	1750	Thunderstorm Wind	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5362028	DAWSON CO.	DAWSONVILLE	05/07/2003	217	Thunderstorm Wind	0	0	3000	0
5334889	DAWSON CO.	DAWSONVILLE	07/22/2003	1300	Thunderstorm Wind	0	0	3000	0
5415008	DAWSON CO.	DAWSONVILLE	07/14/2004	41	Thunderstorm Wind	0	0	2000	0
5415180	DAWSON CO.	LANDRUM	07/14/2004	1645	Thunderstorm Wind	0	0	1000	0
5428980	DAWSON CO.	COUNTYWIDE	11/24/2004	1027	Thunderstorm Wind	0	0	15000	0
5432565	DAWSON CO.	DAWSONVILLE	12/09/2004	630	Thunderstorm Wind	0	0	250	0
5435353	DAWSON CO.	AMICALOLA	01/13/2005	1650	Thunderstorm Wind	0	0	20000	0
5447960	DAWSON CO.	AMICALOLA	04/22/2005	1210	Thunderstorm Wind	0	0	3000	0
5468171	DAWSON CO.	DAWSONVILLE	07/02/2005	1421	Thunderstorm Wind	0	0	60000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5514744	DAWSON CO.	JUNO	06/25/2006	1001	Thunderstorm Wind	0	0	1000	0
5531257	DAWSON CO.	DAWSONVILLE	08/04/2006	1820	Thunderstorm Wind	0	0	750	0
27010	DAWSON CO.	AMICALOLA	04/04/2007	45	Thunderstorm Wind	0	0	0	0
31247	DAWSON CO.	JUNO	05/12/2007	1358	Thunderstorm Wind	0	0	6000	0
39487	DAWSON CO.	DAWSONVILLE	06/11/2007	1530	Thunderstorm Wind	0	0	1000	0
47720	DAWSON CO.	DAWSONVILLE	07/01/2007	1220	Thunderstorm Wind	0	0	50000	0
94742	DAWSON CO.	DAWSONVILLE	04/11/2008	1839	Thunderstorm Wind	0	0	100000	0
131361	DAWSON CO.	LUMPKIN	08/07/2008	1429	Thunderstorm Wind	0	0	5000	0
151305	DAWSON CO.	DAWSONVILLE	02/11/2009	1730	Thunderstorm Wind	0	0	1000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
195888	DAWSON CO.	MC KEE	09/09/2009	1650	Thunderstorm Wind	0	0	2000	0
246284	DAWSON CO.	DAWSONVILLE	06/28/2010	1951	Thunderstorm Wind	0	0	3000	0
251113	DAWSON CO.	BRIGHT	07/26/2010	1359	Thunderstorm Wind	0	1	25000	0
285023	DAWSON CO.	JUNO	02/28/2011	1644	Thunderstorm Wind	0	0	0	0
293132	DAWSON CO.	JUNO	03/26/2011	2235	Thunderstorm Wind	0	0	25000	0
306605	DAWSON CO.	DAWSONVILLE	04/27/2011	2249	Thunderstorm Wind	0	0	10000	0
314566	DAWSON CO.	LUMPKIN	05/26/2011	1650	Thunderstorm Wind	0	0	2000	0
326142	DAWSON CO.	JOHNTOWN	06/18/2011	1631	Thunderstorm Wind	0	0	15000	0
340910	DAWSON CO.	AMICALOLA	08/07/2011	1705	Thunderstorm Wind	0	0	25000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
404733	DAWSON CO.	LUMPKIN	08/10/2012	2100	Thunderstorm Wind	0	0	500	0
404735	DAWSON CO.	HUBBARDSVILLE	08/10/2012	2105	Thunderstorm Wind	0	0	1000	0
496345	DAWSON CO.	DAWSONVILLE	01/11/2014	755	Thunderstorm Wind	0	0	500	0
518607	DAWSON CO.	DAWSONVILLE	05/14/2014	1920	Thunderstorm Wind	0	0	750	0
538038	DAWSON CO.	LUMPKIN	08/20/2014	1254	Thunderstorm Wind	0	0	1500	0
547156	DAWSON CO.	MC KEE	10/14/2014	540	Thunderstorm Wind	0	0	5000	0
591086	DAWSON CO.	AMICALOLA	06/24/2015	1745	Thunderstorm Wind	0	0	1000	0
591242	DAWSON CO.	AFTON	06/26/2015	1615	Thunderstorm Wind	0	0	6000	0
594561	DAWSON CO.	DAWSONVILLE	07/13/2015	1430	Thunderstorm Wind	0	0	3000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
598808	DAWSON CO.	JUNO	08/10/2015	1536	Thunderstorm Wind	0	0	10000	0
690060	DAWSON CO.	JUNO	03/21/2017	1914	Thunderstorm Wind	0	0	40000	0
704775	DAWSON CO.	JOHNTOWN	06/23/2017	1806	Thunderstorm Wind	0	0	1000	0
721064	DAWSON CO.	DAWSONVILLE	09/05/2017	1740	Thunderstorm Wind	0	0	20000	0
750474	DAWSON CO.	BARRETTSVILLE	05/31/2018	1657	Thunderstorm Wind	0	0	1000	0
764207	DAWSON CO.	SILVER CITY	06/22/2018	1650	Thunderstorm Wind	0	0	7000	0
769582	DAWSON CO.	JOHNTOWN	07/06/2018	1320	Thunderstorm Wind	0	0	20000	0
776790	DAWSON CO.	AMICALOLA	07/21/2018	230	Thunderstorm Wind	0	0	25000	0
777568	DAWSON CO.	EMMA	07/21/2018	405	Thunderstorm Wind	0	0	200000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
837752	DAWSON CO.	HUBBARDSVILLE	05/04/2019	1220	Thunderstorm Wind	0	0	5000	0
837764	DAWSON CO.	AFTON	05/11/2019	515	Thunderstorm Wind	0	0	8000	0
841958	DAWSON CO.	HUBBARDSVILLE	06/22/2019	20	Thunderstorm Wind	0	0	8000	0
842016	DAWSON CO.	JOHNTOWN	06/22/2019	2030	Thunderstorm Wind	0	0	20000	0
875839	DAWSON CO.	HUBBARDSVILLE	01/11/2020	1752	Thunderstorm Wind	0	0	2000	0
893340	DAWSON CO.	LUMPKIN	04/13/2020	118	Thunderstorm Wind	0	0	25000	0
898746	DAWSON CO.	JOHNTOWN	05/04/2020	2355	Thunderstorm Wind	0	0	7000	0
898758	DAWSON CO.	AFTON	05/05/2020	1741	Thunderstorm Wind	0	0	5000	0
899560	DAWSON CO.	AFTON	06/09/2020	1555	Thunderstorm Wind	0	0	50000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
910984	DAWSON CO.	LUMPKIN	08/03/2020	1405	Thunderstorm Wind	0	0	30000	0
929267	DAWSON CO.	DAWSONVILLE	11/11/2020	2236	Thunderstorm Wind	0	0	10000	0
963380	DAWSON CO.	AFTON	05/04/2021	1200	Thunderstorm Wind	0	0	8000	0
963727	DAWSON CO.	LUMPKIN	06/14/2021	1346	Thunderstorm Wind	0	0	15000	0
1042884	DAWSON CO.	JOHNTOWN	06/14/2022	1228	Thunderstorm Wind	0	0	1000	0
1051303	DAWSON CO.	MC KEE	07/13/2022	1320	Thunderstorm Wind	0	0	4000	0
1051304	DAWSON CO.	DAWSONVILLE	07/13/2022	1324	Thunderstorm Wind	0	0	0	0
1091621	DAWSON CO.	EMMA	03/03/2023	1629	Thunderstorm Wind	0	0	1000	0
1095608	DAWSON CO.	LUMPKIN	04/01/2023	645	Thunderstorm Wind	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
1118749	DAWSON CO.	BARRETTSVILLE	07/20/2023	1543	Thunderstorm Wind	0	0	2000	0
1118762	DAWSON CO.	AFTON	07/20/2023	1632	Thunderstorm Wind	0	0	5000	0
1118804	DAWSON CO.	HUBBARDSVILLE	07/20/2023	1640	Thunderstorm Wind	0	0	1000	0
1118803	DAWSON CO.	MC KEE	07/20/2023	1650	Thunderstorm Wind	0	0	50000	0
1122386	DAWSON CO.	LUMPKIN	07/28/2023	1630	Thunderstorm Wind	0	0	2000	0

Winter Storms

EVENT_ID	CZ_NAME_STR	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5536301	DAWSON (ZONE)	01/06/1996	1500	Winter Storm	0	0	0	0
5536317	DAWSON (ZONE)	02/02/1996	1000	Winter Storm	0	0	5000	0
5167342	DAWSON (ZONE)	12/17/2000	730	Winter Storm	0	0	0	0
5167930	DAWSON (ZONE)	12/19/2000	0	Winter Storm	0	0	0	0
5386123	DAWSON (ZONE)	02/26/2004	0	Winter Storm	0	0	0	0
5435644	DAWSON (ZONE)	01/28/2005	2000	Winter Storm	0	0	250000	0
496486	DAWSON (ZONE)	01/28/2014	1200	Winter Storm	0	0	0	0
565848	DAWSON (ZONE)	02/25/2015	1400	Winter Storm	0	0	0	0
612058	DAWSON (ZONE)	01/22/2016	0	Winter Storm	0	0	0	0
617710	DAWSON (ZONE)	03/03/2016	1330	Winter Storm	0	0	0	0
728158	DAWSON (ZONE)	12/08/2017	1000	Winter Storm	0	0	0	0

799869	DAWSON (ZONE)	12/08/2018	2300	Winter Storm	0	0	0	0
876317	DAWSON (ZONE)	02/08/2020	800	Winter Storm	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5679396	DAWSON (ZONE)		01/31/1999	1500	Winter Weather	0	0	0	0
5680347	DAWSON (ZONE)		02/23/1999	1100	Winter Weather	0	0	0	0
5230842	DAWSON (ZONE)		01/20/2001	1200	Winter Weather	0	0	0	0
5340919	DAWSON (ZONE)		02/06/2003	1500	Winter Weather	0	0	0	0
5430931	DAWSON (ZONE)		12/19/2004	1700	Winter Weather	0	0	0	0
5447745	DAWSON (ZONE)		04/02/2005	1000	Winter Weather	0	0	0	0
5491190	DAWSON (ZONE)		02/06/2006	400	Winter Weather	0	0	0	0
5491086	DAWSON (ZONE)		02/12/2006	0	Winter Weather	0	0	0	0
5491090	DAWSON (ZONE)		02/18/2006	1200	Winter Weather	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
73437	DAWSON (ZONE)		01/16/2008	2100	Winter Weather	0	0	0	0
74961	DAWSON (ZONE)		01/19/2008	1200	Winter Weather	0	0	0	0
76237	DAWSON (ZONE)		01/22/2008	900	Winter Weather	0	0	0	0
86310	DAWSON (ZONE)		03/08/2008	600	Winter Weather	0	0	0	0
143423	DAWSON (ZONE)		12/01/2008	630	Winter Weather	0	0	0	0
216449	DAWSON (ZONE)		01/07/2010	1600	Winter Weather	0	0	0	0
216437	DAWSON (ZONE)		02/04/2010	1300	Winter Weather	0	0	0	0
216815	DAWSON (ZONE)		02/12/2010	1430	Winter Weather	0	0	0	0
272943	DAWSON (ZONE)		12/12/2010	1200	Winter Weather	0	0	0	0
273904	DAWSON (ZONE)		12/15/2010	1925	Winter Weather	0	0	0	0
284726	DAWSON (ZONE)		02/03/2011	1630	Winter Weather	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
285832	DAWSON (ZONE)		02/09/2011	2200	Winter Weather	0	0	0	0
355878	DAWSON (ZONE)		11/29/2011	600	Winter Weather	0	0	0	0
549202	DAWSON (ZONE)		11/01/2014	0	Winter Weather	0	0	0	0
565503	DAWSON (ZONE)		02/20/2015	1500	Winter Weather	0	0	0	0
613681	DAWSON (ZONE)		01/20/2016	600	Winter Weather	0	0	0	0
614320	DAWSON (ZONE)		02/15/2016	200	Winter Weather	0	0	0	0
668168	DAWSON (ZONE)		01/06/2017	1700	Winter Weather	0	0	0	0
733723	DAWSON (ZONE)		01/16/2018	1800	Winter Weather	0	0	0	0
932951	DAWSON (ZONE)		01/07/2021	1300	Winter Weather	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5580629	DAWSON (ZONE)		01/11/1996	1600	Heavy Snow	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
554784 1	DAWSON (ZONE)		03/20/1996	1600	Heavy Snow	0	0	0	0
516688 6	DAWSON (ZONE)		12/03/2000	500	Heavy Snow	0	0	0	0
527691 0	DAWSON (ZONE)		01/02/2002	600	Heavy Snow	0	0	0	0
533842 1	DAWSON (ZONE)		01/23/2003	0	Heavy Snow	0	0	0	0
15907	DAWSON (ZONE)		02/01/2007	400	Heavy Snow	0	0	0	0
219614	DAWSON (ZONE)		03/02/2010	600	Heavy Snow	0	0	0	0
275124	DAWSON (ZONE)		12/25/2010	1200	Heavy Snow	0	0	0	0
280322	DAWSON (ZONE)		01/09/2011	2100	Heavy Snow	0	0	0	0
430482	DAWSON (ZONE)		03/06/2013	300	Heavy Snow	0	0	0	0
501771	DAWSON (ZONE)		02/11/2014	700	Heavy Snow	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5586878	DAWSON (ZONE)		01/08/1997	1900	Ice Storm	0	0	1000	0
5670066	DAWSON (ZONE)		12/23/1998	1200	Ice Storm	0	0	0	0
5670068	DAWSON (ZONE)		12/23/1998	1200	Ice Storm	0	0	0	0
5679307	DAWSON (ZONE)		01/02/1999	1800	Ice Storm	0	0	3000	0
5127778	DAWSON (ZONE)		01/22/2000	1300	Ice Storm	0	0	980000	0
5128341	DAWSON (ZONE)		01/28/2000	1900	Ice Storm	0	0	32790	0
5326324	DAWSON (ZONE)		12/04/2002	1400	Ice Storm	0	0	0	0
5384191	DAWSON (ZONE)		01/25/2004	500	Ice Storm	0	0	10000	0
5483357	DAWSON (ZONE)		12/15/2005	0	Ice Storm	0	0	15000	0
213193	DAWSON (ZONE)		01/29/2010	2100	Ice Storm	0	0	0	0
423770	DAWSON (ZONE)		01/25/2013	700	Ice Storm	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
565457	DAWSON (ZONE)		02/16/2015	1400	Ice Storm	0	0	0	0

Tornadoes

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	TOR_F_SCALE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
9993549	DAWSON CO.		04/03/1974	1845	Tornado	F4	5	13	2500000	0
5321962	DAWSON CO.	JUNO	11/11/2002	220	Tornado	F2	0	3	200000	0

Drought

EVENT_ID	CZ_NAME_STR	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5613275	DAWSON (ZONE)	09/01/1997	0	Drought	0	0	0	0
5693895	DAWSON (ZONE)	05/01/1999	0	Drought	0	0	0	0
5713452	DAWSON (ZONE)	08/01/1999	0	Drought	0	0	0	0
5127164	DAWSON (ZONE)	02/01/2000	0	Drought	0	0	0	0
5147510	DAWSON (ZONE)	05/01/2000	0	Drought	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5152118	DAWSON (ZONE)	06/01/2000	0	Drought	0	0	0	1260000
5173375	DAWSON (ZONE)	07/01/2000	0	Drought	0	0	0	0
5160368	DAWSON (ZONE)	10/01/2000	0	Drought	0	0	0	0
5268697	DAWSON (ZONE)	10/01/2001	0	Drought	0	0	0	0
5269999	DAWSON (ZONE)	11/01/2001	0	Drought	0	0	0	0
5274234	DAWSON (ZONE)	12/01/2001	0	Drought	0	0	0	0
5284463	DAWSON (ZONE)	04/01/2002	0	Drought	0	0	0	0
5316932	DAWSON (ZONE)	08/01/2002	0	Drought	0	0	0	0
5340174	DAWSON (ZONE)	01/01/2003	0	Drought	0	0	0	0
5389938	DAWSON (ZONE)	03/01/2004	0	Drought	0	0	0	0
36500	DAWSON (ZONE)	05/01/2007	0	Drought	0	0	0	0
66835	DAWSON (ZONE)	09/01/2007	0	Drought	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
62679	DAWSON (ZONE)	10/01/2007	0	Drought	0	0	0	0
66932	DAWSON (ZONE)	11/01/2007	0	Drought	0	0	0	0
68098	DAWSON (ZONE)	12/01/2007	0	Drought	0	0	0	0
349392	DAWSON (ZONE)	09/01/2011	0	Drought	0	0	0	0
670792	DAWSON (ZONE)	06/01/2016	0	Drought	0	0	0	0
670874	DAWSON (ZONE)	07/01/2016	0	Drought	0	0	0	0
670938	DAWSON (ZONE)	08/01/2016	0	Drought	0	0	0	0
671282	DAWSON (ZONE)	09/01/2016	0	Drought	0	0	0	0
671370	DAWSON (ZONE)	10/01/2016	0	Drought	0	0	0	0
672031	DAWSON (ZONE)	11/01/2016	0	Drought	0	0	0	0
672142	DAWSON (ZONE)	12/01/2016	0	Drought	0	0	0	0
672242	DAWSON (ZONE)	01/01/2017	0	Drought	0	0	0	0

EVENT_ID	CZ_NAME_STR	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
677284	DAWSON (ZONE)	02/01/2017	0	Drought	0	0	0	0
690354	DAWSON (ZONE)	03/01/2017	0	Drought	0	0	0	0
690413	DAWSON (ZONE)	04/01/2017	0	Drought	0	0	0	0
701359	DAWSON (ZONE)	05/01/2017	0	Drought	0	0	0	0
857712	DAWSON (ZONE)	09/24/2019	0	Drought	0	0	0	0
862816	DAWSON (ZONE)	10/01/2019	0	Drought	0	0	0	0
863003	DAWSON (ZONE)	11/01/2019	0	Drought	0	0	0	0

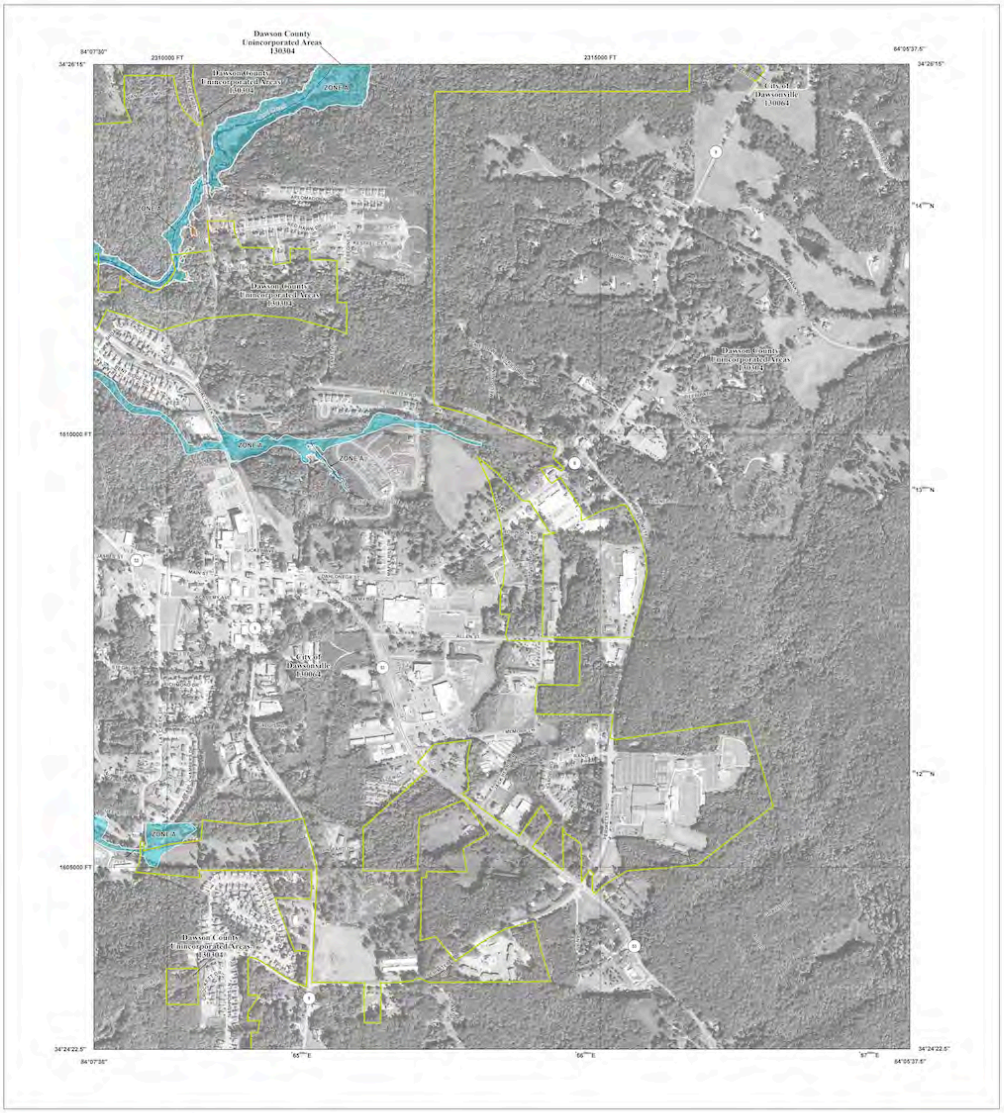
Flooding

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5605344	DAWSON (ZONE)		02/27/1997	2200	Flood	0	0	0	0
5441168	DAWSON (ZONE)		02/21/2005	1730	Flood	0	0	5000	0
200817	DAWSON CO.	HUBBARDSVILLE	09/21/2009	1355	Flood	0	0	10000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
5578103	HABERSHAM (ZONE)		12/01/1996	1120	Flash Flood	0	0	0	0
5639947	DAWSON CO.	JUNO	04/17/1998	300	Flash Flood	0	0	10000	0
5316275	DAWSON CO.	DAWSONVILLE	09/21/2002	1530	Flash Flood	0	0	50000	0
5334753	DAWSON CO.	WEST PORTION	07/10/2003	830	Flash Flood	0	0	25000	0
5334754	DAWSON CO.	WEST PORTION	07/10/2003	1400	Flash Flood	0	0	0	1000
5424879	DAWSON CO.	COUNTY WIDE	09/16/2004	1845	Flash Flood	0	0	250000	0
5514743	DAWSON CO.	NORTHEAST PORTION	06/25/2006	1130	Flash Flood	0	0	2000	0
126039	DAWSON CO.	AFTON	07/09/2008	200	Flash Flood	0	0	5000	0
446279	DAWSON CO.	LUMPKIN	05/19/2013	400	Flash Flood	0	0	50000	0
456687	DAWSON CO.	AMICALOLA	07/03/2013	1445	Flash Flood	0	0	5000	0
469084	DAWSON CO.	BRIGHT	08/07/2013	410	Flash Flood	0	0	5000	0
469096	DAWSON CO.	HUBBARDSVILLE	08/07/2013	636	Flash Flood	0	0	5000	0
471051	DAWSON CO.	JUNO	08/22/2013	1630	Flash Flood	0	0	25000	0
881781	DAWSON CO.	BRIGHT	02/06/2020	1133	Flash Flood	0	0	50000	0

EVENT_ID	CZ_NAME_STR	BEGIN_LOCATION	BEGIN_DATE	BEGIN_TIME	EVENT_TYPE	DEATHS_DIRECT	INJURIES_DIRECT	DAMAGE_PROPERTY_NUM	DAMAGE_CROPS_NUM
881782	DAWSON CO.	BRIGHT	02/06/2020	1133	Flash Flood	0	0	0	0
926127	DAWSON CO.	BRIGHT	10/10/2020	2216	Flash Flood	0	0	0	0
926129	DAWSON CO.	DAWSONVILLE	10/10/2020	2216	Flash Flood	0	0	0	0
926126	DAWSON CO.	BRIGHT	10/10/2020	2216	Flash Flood	0	0	0	0

Dawsonville Firm Map



Appendix E – Dawson County Worksheet 3As

Appendix F – Documentation of Peer Review

Appendix G – Dawson County HAZUS Report