

# Cook County, Georgia



## Hazard Mitigation Plan 2019-2024

### **Including the Cities of Adel, Cecil, Lenox, and Sparks**

This Plan produced for the Cook County Board of Commissioners  
by the Southern Georgia Regional Commission  
through funding provided by the Federal Emergency Management Agency  
and the Georgia Emergency Management Agency

Effective 2/18/2019 - 2/18/2024

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# Chapter 1: Introduction to the Planning Process

Summary of changes:

Table 1.1 provides a brief description of each section in this chapter and a summary of changes that have been made.

<b>CHAPTER 1 Section</b>	<b>Updates to Section</b>
<b>I. Purpose, Need, Authority, and Statement of Problem</b>	<ul style="list-style-type: none"> <li>• Language updated to reflect that this was an update to the existing plan</li> </ul>
<b>II. Local Methodology, Plan Update Process, and Participants</b>	<ul style="list-style-type: none"> <li>• Language updated to reflect that this was an update to the existing plan</li> </ul>
<b>III. Plan Review, Analysis, and Revision</b>	<ul style="list-style-type: none"> <li>• Planning Committee reviewed each section</li> <li>• Updates made using national, state, and local data</li> </ul>
<b>IV. Organization of Plan</b>	<ul style="list-style-type: none"> <li>• Consistent with original plan</li> </ul>
<b>V. Local Hazard, Risk and Vulnerability (HRV) Summary, Local Mitigation Goals, and Objectives</b>	<ul style="list-style-type: none"> <li>• Updates made using national, state, and local data</li> </ul>
<b>VI. Multi-Jurisdictional Special Considerations</b>	<ul style="list-style-type: none"> <li>• No major changes from original plan</li> </ul>
<b>VII. Adoption, Implementation, Monitoring, and Evaluation</b>	<ul style="list-style-type: none"> <li>• Evaluation method revised and updated.</li> </ul>
<b>VIII. Community Data</b>	<ul style="list-style-type: none"> <li>• Updates made using most recent available national, state, and local data</li> </ul>

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

## Section I. Purpose and Need, Authority and Statement of Problem

This document is the official plan update to the previous Cook County Pre-Disaster Mitigation Plan Update, as approved by the Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA), which took effect on February 18, 2014 and expires on February 18, 2019.

The purpose of this document is to provide an overview of the hazards that may impact Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, and to outline the community’s plans to mitigate the potential loss of life and damages to property and the economy that could occur with these events. Hazard Mitigation is a means to address and proactively reduce the potential damage that may be caused by natural or man-made disasters.

This Plan is a direct result of research and a planning and public involvement process undertaken by the local government officials and citizens of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks after they formed the Cook County Hazard Mitigation Plan Update Committee (hereafter known as the HMPUC). This Plan is the result of their commitment to reduce the risks

of natural hazards and the effects of those natural hazards to their communities. The Cities of Adel, Cecil, Lenox, and Sparks are the only incorporated cities located in Cook County.

Authority for the development of this Plan was given by the Cook County Commission as a result of their execution of the Grantee-Subgrantee Agreement for the Cook County Hazard Mitigation Grant Program (HMGP) Planning Project; and by the Cities of Adel, Cecil, Lenox, and Sparks, located within Cook County, through their participation in the planning project.

In order to initiate an outreach program to neighboring communities, governments, local and regional agencies, and to agencies authorized to regulate development, business, and the public, two Public Hearing Notices were published in the legal organ of the local newspaper. In addition, e-mail lists of stakeholders were kept updated and those on them were informed of meetings through e-mails, letters, and/or telephone calls. Surrounding county EMA Directors were notified of the plan update and invited to participate in the process. Additionally, several area county Hazard Mitigation Plans were being updated at the same time and an active meeting list was maintained for scheduling purposes.

Planning Division staff from the Southern Georgia Regional Commission, which represents eighteen counties in the region (including Cook County), attended the Cook County meetings. They participated in all aspects of the planning process and provided a regional perspective in the formation of the multi-jurisdictional Cook County and Cities of Adel, Cecil, Lenox, and Sparks Hazard Mitigation Plan.

Through the above efforts, the multi-jurisdictional Cook County and Cities of Adel, Cecil, Lenox, and Sparks Hazard Mitigation Plan was updated, including a comprehensive range of Mitigation Goals, Objectives, and Action Steps (see Chapter 4) which will assist the local governments in emphasizing a more direct approach to Hazard Mitigation. The long-term goal is to reduce potential natural disaster losses to life, property, and the economy through Hazard Mitigation efforts.

## **Section II. Local Methodology, Plan Update Process, and Participants**

### **A. Overview**

This Hazard Mitigation Plan Update encompasses the jurisdictions of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, located in Southern Georgia. Each of these jurisdictions also participated in the previous Hazard Mitigation Plan update. The Southern Georgia Regional Commission provided technical assistance. A local Hazard Mitigation Plan Update Committee (Cook County HMPUC) was formed, and a year-long planning effort was undertaken, the final product of which was a Plan Update containing updated Mitigation Goals, Objectives, and Action Steps to reduce or eliminate the potential for loss of life and damage to property and the economy caused by natural disasters (see Chapter 4).

Potential members of the Cook County HMPUC were contacted by telephone or by letter/e-mail concerning their participation on the Committee. Southern Georgia Regional Commission (SGRC) staff provided technical assistance to the Cook County HMPUC. The Cook County HMPUC was

comprised of representatives from Cook County and the Cities of Adel, Cecil, Lenox, and Sparks and also included representatives from other groups and individuals, as shown below, who attended meetings and/or conducted research:

<b>Jurisdiction</b>	<b>Title</b>	<b>Name</b>
City of Adel	City Clerk and Assistant Manager	Rhonda Rowe
City of Adel	City Manager	John Flythe
City of Adel	Electric Foreman	Jeff Baker
City of Adel	Electrical superintendent	Rene B. Cowart
City of Adel	Fire Chief	Jimmy Walker
City of Adel	Major, Police Dept.	A. Rowe
City of Adel	Mayor	Buddy Duke
City of Adel	Natural Gas Superintendent	Denny Roberts
City of Adel	Police	Raheam Perry
City of Adel	Police Chief	C. Castleberry
City of Adel	Police Officer	Thomas Morris
City of Adel	Superintendent	Thomas Rice
City of Cecil	City Clerk	Stephanie Boyd, Nakia Carter
City of Cecil	Police Chief	Calvin Troy
Cook County	Code Enforcement Officer	Jess Permenter
Cook County	Commissioner	Debra Robinson
Cook County	County Commissioner	Dwight E. Purvis
Cook County	County Manager	Faye Hughes
Cook County	EMA Director	Lamar Ray
Cook County	Road Superintendent	Daniel Barber
Cook County	Sheriff's Office Chief Investigator	Brent Exum
Cook County	Sheriff's Secretary	A. Hanks
Town of Lenox	City Clerk	Teresa Barber
Town of Lenox	Mayor	Henry Baker
Town of Lenox	Police Chief	Shane Daughtry
Town of Lenox	Public Works Director	Chris Yawn
Town of Sparks	City Clerk	Sonya Philpot
Town of Sparks	Police Chief	Bob Myers
Cook County Health Department	County Nurse Manager	Rebecca Allgood
Cook County UGA Extension	Extension Coordinator	Tucker Price
South Health District	Emergency Preparedness Director	Karen Craft
South Health District	EP Training Coordinator	Marsha DeFelice
Southern Georgia Regional Commission	Planner	Ariel Godwin

The Committee held the following meetings, the sign-in sheets of which are included in Appendix E:

- Kick-off public hearing – August 15, 2017
- First workshop – September 19, 2017
- Second workshop – October 17, 2017
- Third workshop – November 14, 2017
- Fourth workshop – January 9, 2018
- Final public hearing – Oct. 15, 2018

Building upon the previous Plan, each chapter was reviewed chronologically with updated hazard, risk, and vulnerability data, as well as previous accomplishments of mitigation strategy efforts.

Open discussion was permitted at all public meetings for suggestions and/or comments regarding the plan update. Also, during general question and answer periods, comments (if any) were noted by the Southern Georgia Regional Commission staff and incorporated into the plan as appropriate.

Copies of the previous Plan were made available at each meeting, while relevant chapters and sections under discussion were photocopied and distributed to those in attendance for comments. Outside of the formal meetings, parts of the plan were e-mailed to certain individuals who were unable to attend the meetings, and their comments were sought. Copies of the previous Plan and the draft Plan Update document were also available on the Southern Georgia Regional Commission website and from the local EMA office and city and county government offices.

For the plan update, the Hazard Mitigation Plan Update Committee (HMPUC) used the prior Hazard Mitigation Plan as a basis, reviewing all chapters and sections and updating them as appropriate using national, state, and local data sources. The HMPUC reviewed the individual parts of the prior plan (with an emphasis on the hazards, goals, objectives, and action steps), and updated these elements through open discussion in which updates were noted by SGRC staff, who then used notes from the workshops to create the new Hazard Mitigation Plan document. The Wildfire section was updated using the Georgia Forestry Commission's "Community Wildfire Protection Plan" (see Appendix C). The CWPP was consulted to ensure consistency between the CWPP and HMP, and all action items from the CWPP that were still relevant were included as action steps in the HMP. Land use descriptions, information about zoning, and information about community services were updated using the current joint Comprehensive Plan for the County and Cities. Other documents used were the local Emergency Operations Plan, the previous Hazard Mitigation Plan, the State of Georgia Hazard Mitigation Plan, and information from the National Climatic Data Center (NCDC). The State Hazard mitigation plan was consulted to ensure the HMP would be consistent with this plan, and data from the NCDC were used to create the Hazard Frequency Table and associated information regarding each hazard, which can be found in Chapter 2. The County and Cities do not have a Flood Mitigation Assistance Plan or a Flood Insurance Study.

## **B. Public Comment and Participation**

The publication of a Public Notice in the legal organ is considered the legal method of notifying the public and inviting them to meetings.

The public was invited to attend and comment during two public hearings. The "kick-off" public hearing was advertised in the local newspaper (meeting advertisements and sign-in sheets are provided in Appendix E). A second and final public hearing was held on Oct. 15, 2018 and was advertised in the local newspaper (see Appendix E). Citizens, including staff and members of the HMPUC, were present (see Appendix E). There were no substantive comments. Therefore, there was no need to consider or add public comments.

In addition, an e-mail list of stakeholders was kept up to date, including all the attendees who wrote their e-mail address on the sign-in sheet at each meeting, as well as any other interested parties.

Further reminders of meetings were provided as needed through telephone calls and in-person communication.

### **C. Mission and Vision Statements**

The HMPUC decided on the following Mission Statement and Vision Statement in the original plan and re-confirmed them in this update to help guide them through the planning process.

**Cook County and the Cities of Adel, Cecil, Lenox, and Sparks**  
**Hazard Mitigation Plan Update Committee**  
**Mission Statement**

**This committee’s mission is to make the citizens, businesses, communities, and local governments of Cook County and the cities of Adel, Cecil, Lenox, and Sparks less vulnerable to the effects of natural hazards through the effective study of hazard mitigation, hazard risk assessments, wise floodplain management, and a coordinated approach to mitigation policy through state, regional, and local planning activities.**

**Cook County and the Cities of Adel, Cecil, Lenox, and Sparks**  
**Hazard Mitigation Plan Update Committee**  
**Vision Statement**

**This committee’s vision is to institutionalize a local Pre-Disaster Mitigation ethic through leadership, professionalism, and excellence, thus leading the way to a safe, sustainable way of life for Cook County and the cities of Adel, Cecil, Lenox, and Sparks.**

Due to Cook County and the Cities of Adel, Cecil, Lenox, and Sparks being such close-knit communities, the Cook County HMPUC chose not to break into subcommittees, but to address issues as a whole group. Various members of this group had direct knowledge relating to local infrastructure and agencies, emergency planning, hazard planning, and the operations of major departments and emergency services. Through their efforts, this Plan was developed.

The HMPUC was responsible for identifying natural hazard events and completing a profile, vulnerability assessment, potential loss estimation (see Chapter 2, Appendix A, and Appendix D), and updating the Georgia Mitigation Information System (GMIS) Critical Facilities Inventory (see Appendix F). They were also responsible for reviewing and updating the Mitigation Goals, Objectives, and Action Steps (see Chapter 4), among other responsibilities.

### **Section III. Plan Review, Analysis, and Revision**

As mentioned above, the prior Hazard Mitigation Plan was used as a basis for the plan update. The Hazard Mitigation Plan Update Committee (HMPUC) reviewed all chapters and sections of the prior plan and updated them as appropriate, using national, state, and local sources. Other documents consulted included:

- The Georgia Forestry Commission’s “Community Wildfire Protection Plan” (see Appendix C)
- The current joint Comprehensive Plan for the County and Cities, which includes the five-year Community Work Program
- The Local Emergency Operations Plan
- The State of Georgia Hazard Mitigation Plan
- The local Service Delivery Strategy
- Data from the National Climatic Data Center (NCDC).

After organizing resources, an update of the risk assessment was performed. New forms, worksheets, and data (included in the Appendix) were also completed. Afterward, the Mitigation Goals, Objectives, and Action Steps were reviewed to determine if they were to remain the same or be added to, modified, or removed.

All chapters of this Plan have been updated to reflect the new material. See the tables at the beginnings of the chapters for further information regarding which items were changed and updated.

### **Section IV. Organization of the Plan**

This Plan focuses on seven natural hazards chosen by the HMPUC that may affect and cause damage to Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. Chapter 2, Chapter 4, and Appendix A are each subdivided into Sections I through VII; these sections reflect the 7 natural hazards that were chosen. The natural hazards are as follows (in order of priority):

1. Hurricanes/Tropical Storms
2. Tornadoes
3. Floods
4. Windstorms/Hailstorms/Lightning
5. Wildfires
6. Extreme Heat
7. Drought

Other hazards, such as Avalanche, Coastal Erosion, Coastal Storm, Dam Failure, Earthquake, Expansive Soils, Extreme Heat, Land Slide, SLOSH (Sea, Lake and Overland Surges from Hurricanes), Tsunami, and Volcano, were examined and determined not to be of sufficient significance in the community to warrant their inclusion in the present Hazard Mitigation Planning effort, based on past history and available data.

This Plan also contains a HAZUS report (see Appendix G), a comprehensive range of Mitigation Goals, Objectives, and Action Steps (Chapter 4), and information on implementation, monitoring, and plan update and maintenance (see Chapter 6), as well as other FEMA-required items and materials (included in various Chapters, Sections and Appendices).

Throughout the effective time period of this Plan, the County Commissioners and City Council Members will assign staff, as appropriate, to implement the comprehensive range of Mitigation Goals, Objectives, and Action Steps and other pertinent items that are contained in this Plan.

The Cook County and Cities of Adel, Cecil, Lenox, and Sparks Hazard Mitigation Plan exists in one bound volume appended with various papers and documents, as well as a PDF document that is available on the SGRC website. The planning efforts of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are intended to be an ongoing process and the Plan is to be amended as appropriate.

This Plan was prepared for:  
Cook County Board of Commissioners  
1200 South Hutchinson Avenue  
Adel, GA 31620  
Phone: (229) 896-2266  
FAX: (912) 896-6888  
[cookgov@windstream.net](mailto:cookgov@windstream.net)

This Plan was prepared by:  
Southern Georgia Regional Commission  
327 West Savannah Avenue  
Valdosta, Georgia 31601  
Voice: (229) 333-5277 Fax: (229) 333-5312  
[agodwin@sgrc.us](mailto:agodwin@sgrc.us)

Copies of the Plan are on file and may be examined at the County and City government offices, the County Emergency Management Agency, the Southern Georgia Regional Commission office (as well as the SGRC website, [www.sgrc.us](http://www.sgrc.us)), and the Georgia Emergency Management and Homeland Security Agency (GEMHSA).

## **Section V. Local Hazard, Risk, and Vulnerability (HRV) Summary, Local Mitigation Goals, and Objectives**

The HMPUC determined that the hazards established in the previous plan were still the most significant threats to the community, and their order of priority remains unchanged. A Hazard, Risk, and Vulnerability (HRV) Assessment has been formulated through a variety of information obtained during the planning process. Information has been obtained from online databases, published sources, and personal accounts regarding hazards, their history in the community, and when and where they were active. This summary is provided in Chapter 2.

The vulnerability of the community to natural hazards is also summarized in the Hazard Frequency Table (see Appendix D), and the Inventory of Assets and number of people exposed to each hazard is evaluated in GEMA Worksheet 3A (see Appendix A). Critical Facilities and Critical Infrastructure are also examined as to the present value and potential losses from natural hazards (see Appendix F).

A description that identifies and analyses a comprehensive range of Mitigation Goals, Objectives, and Action Steps to reduce the effects of each hazard (based on risk assessment findings, with identifiable comprehensive ranges for each jurisdiction) is included in Chapter 4, Sections I-VII. In Chapter 6, Section I, there is a description related to prioritization of these Mitigation Goals, Objectives, and Action Steps through the use of cost/benefit analysis, STAPLEE (Social, Technical, Administrative, Political, Legal, Economic and Environmental), and other criteria. Also in Chapter 6, there are sections on Implementing the Action Plan (see Section I), Evaluation, Monitoring, Updating (see Section II), and Plan Update and Maintenance (see Section III).

## **Section VI. Multi-Jurisdictional Special Considerations**

Cook County has a total land area of 227.16 square miles with a population density of 75.6 people per square mile (US Census data, 2016). As such, certain services, including emergency services, may have large distances to cover when responding to an event, which may negatively influence emergency response times and strain resources. Cook County contains four incorporated cities: Adel (the county seat), Cecil, Lenox, and Sparks.

The City of Adel has 16 full-time paid firefighters and 20 volunteers. The other Cities and the County are served by volunteer firefighters. The following are the ISO Classes of fire stations in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks.

<b>Station</b>	<b>ISO Class</b>
Cook County Volunteer Fire Department – Chaserville	5B/A
Cook County Volunteer Fire Department – Pine Valley	6/8
Cook County Volunteer Fire Department – Southeast	9
Adel Fire Department	2
Cecil Volunteer Fire Department	4/9
Lenox Volunteer Fire Department	5/5x
Sparks Volunteer Fire Department	4/5

## **Section VII. Adoption, Implementation, Monitoring, and Evaluation**

After all plan development workshops were concluded, the draft plan was submitted to all local governments for their review. The draft plan was then submitted to GEMA and FEMA for their review and approval. After their approval, and any recommended changes, a second and final public hearing was held on Oct. 15, 2018 in order to provide a further opportunity for public comment and review. After this final public hearing, resolutions adopting the plan were passed by the local governments on Oct. 15, 2018 (Cook County), Nov. 5, 2018 (Adel and Lenox), June 13, 2019 (Cecil), and Dec. 10, 2018 (Sparks) adopting the Plan Update. Copies of the public hearing advertisements and resolutions are available in Appendix E.

The comprehensive range of Mitigation Goals, Objectives, and Action Steps (see Chapter 4), which contains items related to all local governments, will be implemented as soon as possible and/or as funds become available to do so.

All sections of the Plan will be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals Objectives and Action Steps will be reported to the public through appropriate means (TV, website, social media, local newspapers, City Council meetings, County Commission meetings, etc.).

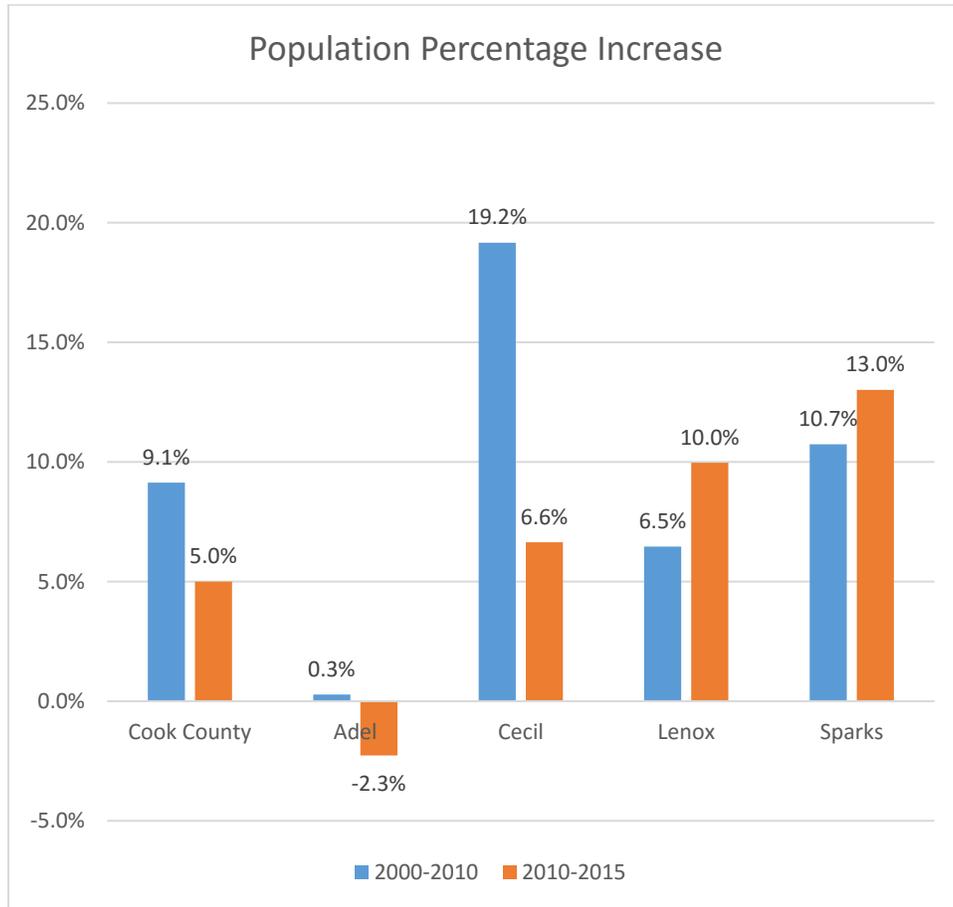
The method that the County EMA will use to monitor the plan will be to conduct quarterly telephone interviews with the various local governments and area agencies in order to chart their plan progress. Also, throughout the year, a series of informal meetings will be held in which various aspects of the plan are discussed. In addition, annual evaluations of the plan will take place on or near the anniversary of the date of Plan adoption. The annual evaluation will assess which of the goals, objectives, and action steps have been achieved; whether those goals, objectives, and action steps still address current and expected conditions; whether the nature or magnitude of risks has changed; whether current resources are appropriate for implementing the plan; and whether agencies and other parties have participated as originally proposed.

During this annual evaluation, problems (if any) with completing the action steps will be discussed, methods of resolving those problems (if any) will be formulated, the action steps will be updated (if necessary), and new actions steps will be developed (if necessary) in response to new problems that have developed throughout the year. If any changes or updates are needed to the other sections of the plan itself, these will also be discussed and noted. Critical Facilities and infrastructure changes and updates will also be discussed at this time and then added to the online GEMA database as required. New hazards in the area (if any) will be discussed and planned for and an assessment made as to whether community needs dictate additions to the materials of the plan.

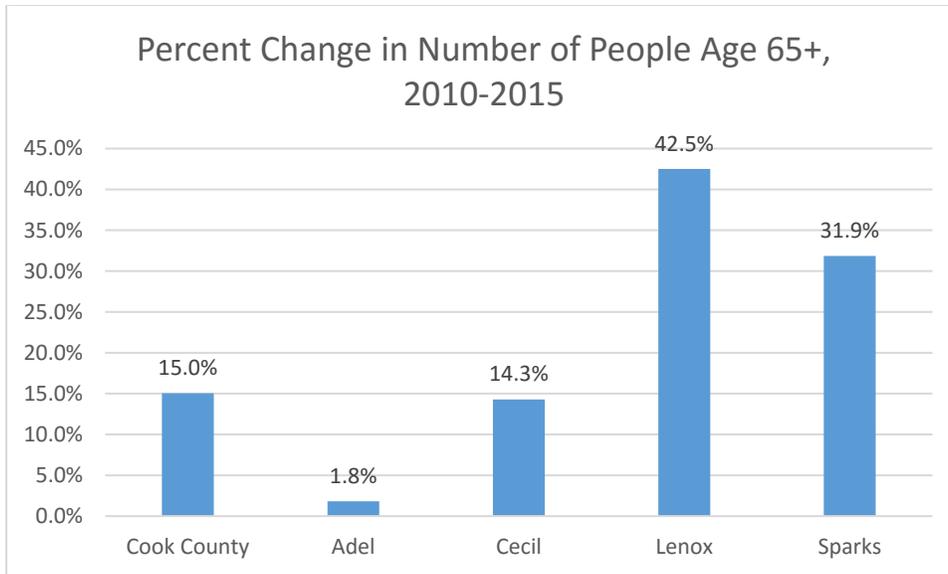
The major criteria to measure plan success will be the number of goals, objectives, and action steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

The Plan will be updated by the EMA Director and chosen representatives of all of the local governments every five years, as required by FEMA. All sections of this Plan will be updated at that time. The Plan update will be reviewed by all jurisdictions and relevant stakeholders. The requirements of this Hazard Mitigation Plan will be taken into consideration and incorporated into Comprehensive Plans, Capital Improvement Plans, Local Emergency Operations Plans, and all other such Plans, as appropriate. This updating process will be publicly advertised and public comment solicited and incorporated as necessary and as appropriate.

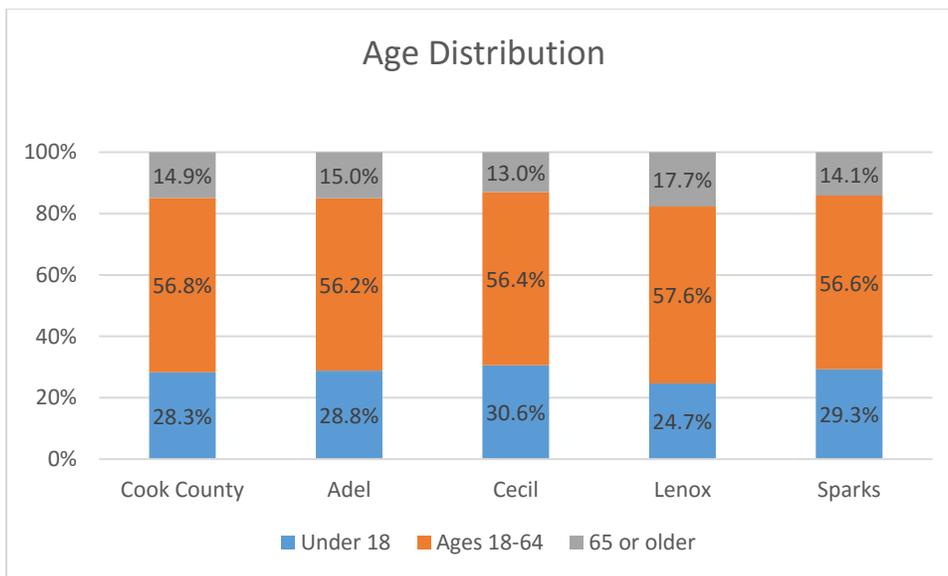
## Section VIII. Community Data



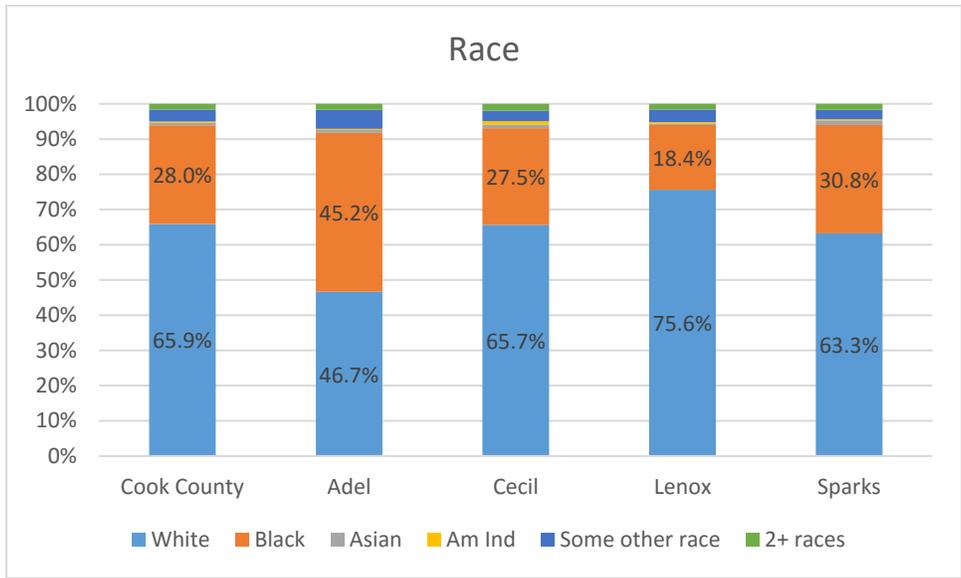
According to 2015 U.S. Census Bureau American Community Survey 5-year estimates, the population of Cook County is 18,073, an increase of 5% since 2010. The City of Adel's 2015 population is 5,213, a 2.3% decrease since 2010. The City of Cecil's 2015 population is 305, a 6.6% increase since 2010. The Town of Lenox's 2015 population is 960, a 10% increase since 2010. The Town of Sparks' 2015 population is 2,319, a 13% increase since 2010. Cook County had a 9.1% increase in population between 2000 and 2010, while the City of Adel's population increased by 0.3%, the City of Cecil's population increased by 19.2%, the Town of Lenox's population increased by 6.5%, and the Town of Sparks' population increased by 10.7%.



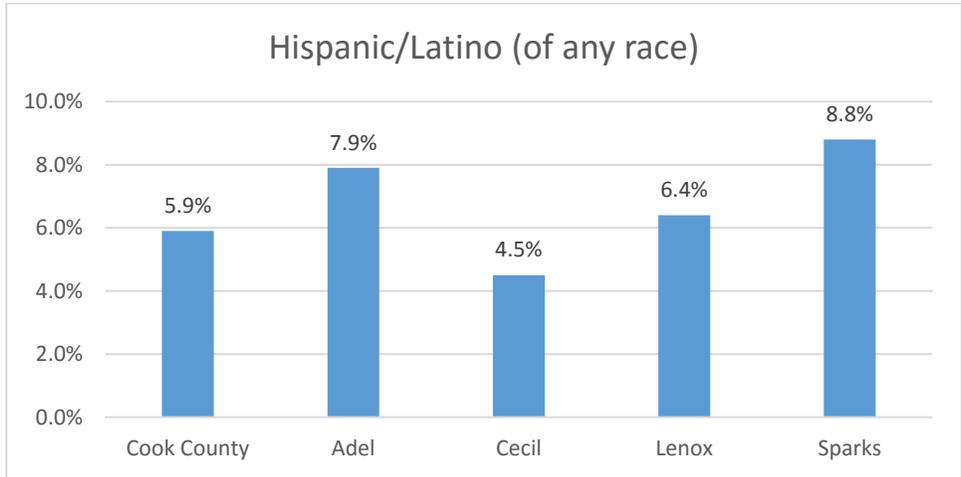
The total number of people aged 65 and older increased in Cook County from 2010 to 2015 (15.0%). The number of people aged 65+ increased in Adel (1.8%), Cecil (14.3%), Lenox (42.5%), and Sparks (31.9%).



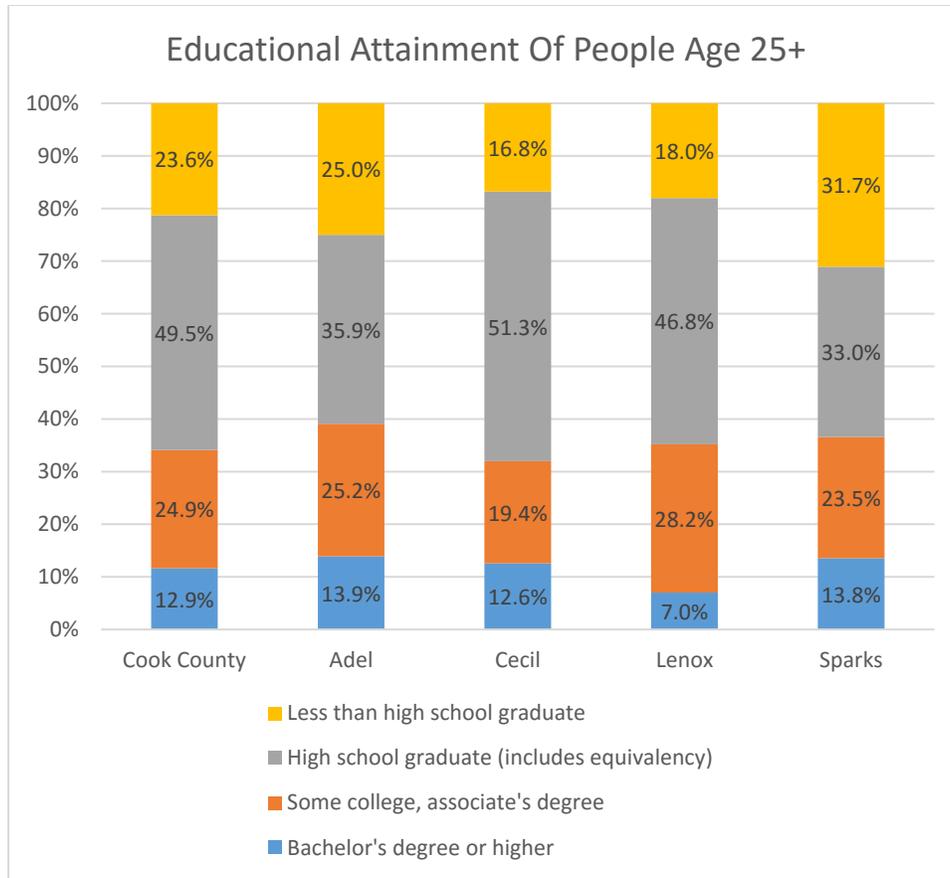
According to 2015 estimates, the age distribution in Cook County is 14.9% over 65, 56.8% ages 18-64, and 28.3% under 18. In the City of Adel, the age distribution is 15% over 65, 56.2% ages 18-64, and 28.8% under 18. In the City of Cecil, the age distribution is 13% over 65, 56.4% ages 18-64, and 30.6% under 18. In the Town of Lenox, the age distribution is 17.7% over 65, 57.6% ages 18-64, and 24.7% under 18. In the Town of Sparks, the age distribution is 14.1% over 65, 56.6% ages 18-64, and 24.7% under 18. Cook County's population is 51.4% female and 48.6% male, the City of Adel's population is 51.9% female and 48.1% male, the City of Cecil's population is 54.2% female and 44.8% male, the Town of Lenox's population is 50.6% female and 49.4% male, and the Town of Sparks' population is 52.6% female and 47.4% male.



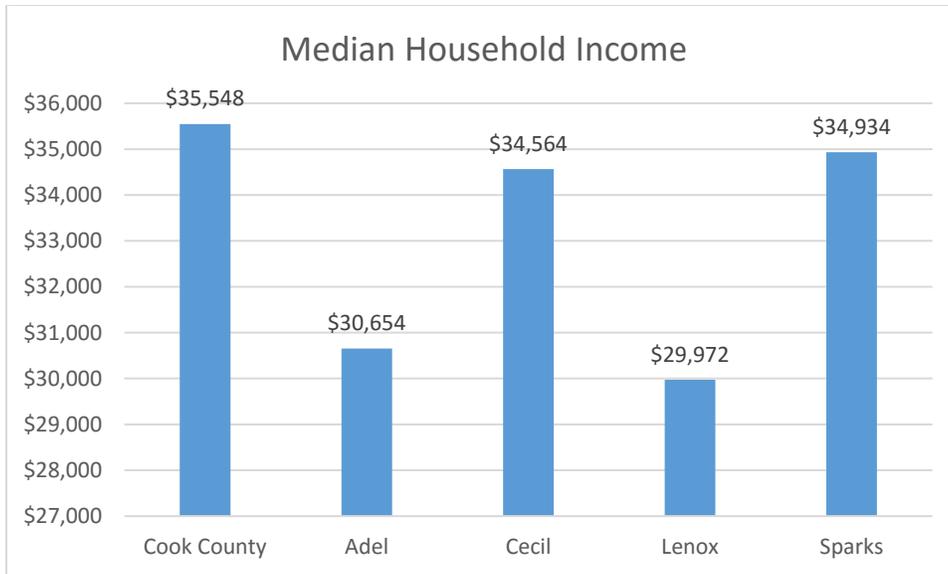
The population of Cook County is 65.9% White/Caucasian, 28% Black/African American, 3.4% some other race, 1.6% two or more races, 0.7% Asian, and 0.4% Native American. The City of Adel’s population is 46.7% White/Caucasian, 45.2% Black/African American, 5.4% some other race, 1.7% two or more races, 0.8% Asian, and 0.3% Native American. The City of Cecil’s population is 65.7% White/Caucasian, 27.5% Black/African American, 2.9% some other race, 2.0% two or more races, 1.0% Asian, and 1.0% Native American. The Town of Lenox’s population is 75.6% White/Caucasian, 18.4% Black/African American, 3.6% some other race, 1.6% two or more races, 0.4% Asian, and 0.4% Native American. The Town of Sparks’ population is 63.3% White/Caucasian, 30.8% Black/African American, 2.7% some other race, 1.7% two or more races, 1.3% Asian, and 0.3% Native American.



The percentage of the population that is Hispanic/Latino (of any race) is 5.9% in Cook County, 7.9% in the City of Adel, 4.5% in the City of Cecil, 6.4% in the Town of Lenox, and 8.8% in the Town of Sparks.



Among persons aged 25 or older, in Cook County, 23.6% have no high school diploma, 49.5% are high school graduates (includes equivalency) with no further education, 24.9% have an associate's degree or some college, and 12.9% have a bachelor's or higher degree. Among persons aged 25 or older in the City of Adel, 25% have no high school diploma, 35.9% are high school graduates (includes equivalency) with no further education, 25.2% have an associate's degree or some college, and 13.9% have a bachelor's or higher degree. Among persons aged 25 or older in the City of Cecil, 16.8% have no high school diploma, 51.3% are high school graduates (includes equivalency) with no further education, 19.4% have an associate's degree or some college, and 12.6% have a bachelor's or higher degree. Among persons aged 25 or older in the Town of Lenox, 18% have no high school diploma, 46.8% are high school graduates (includes equivalency) with no further education, 28.2% have an associate's degree or some college, and 7% have a bachelor's or higher degree. Among persons 25 or older in the Town of Sparks, 31.7% have no high school diploma, 33% are high school graduates (includes equivalency) with no further education, 23.5% have an associate's degree or some college, and 13.8 have a bachelor's degree or higher.



As of 2015 (US Census Bureau American Community Survey 5-year estimates), the median household income is \$35,548 in Cook County, \$30,654 in the City of Adel, \$34,564 in the City of Cecil, \$29,972 in the Town of Lenox, and \$34,934 in the Town of Sparks.

Source: U.S. Census Bureau ([www.census.gov](http://www.census.gov))



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## :: Cook County ::

### Community Profile

**County Formed** July 30, 1918

**County Seat** Adel

**Incorporated Cities** Adel, Cecil, Lenox and Sparks

**Total Area** 233.184834 square miles

**History** From its county population in 2000 of 15837 to its current population estimate of 17214, the county has experienced a growth change of 1377.

One of only twenty-five Georgia counties that still have their original boundaries, Cook County was named for Philip Cook, a general in the Seminole Wars and the Civil War (1861-65), a U.S. congressman from 1873 to 1882, and Georgia's secretary of state from 1890 through 1894.

Adel, the county seat, was incorporated in 1889, and the county courthouse was built there in 1939. Located at a railroad junction, Adel was first called "Puddleville" for the effect rain had on its then-unpaved streets. The name was changed in 1873.

**Points of Interest** Recreational facilities in the county include half of Reed Bingham State Park, a 1,613-acre park surrounding a 375-acre lake. (The other half is located in neighboring Colquitt County.)

The South Georgia Motorsports Park, built in 2004 in Cecil, is a National Hot Rod Association-sanctioned arena with a half-mile oval track and motocross track.

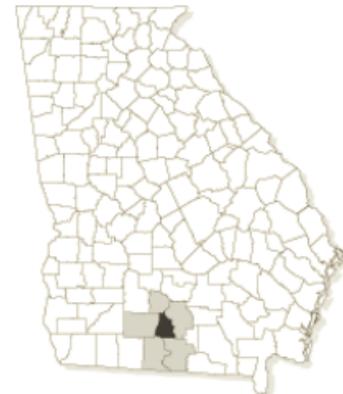
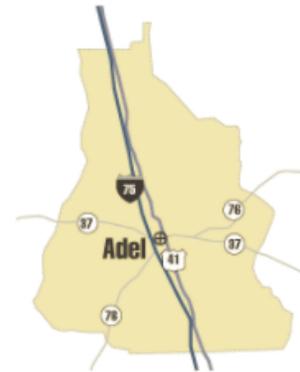
**Notable Citizens** A notable person from Cook County is Eugene Patterson, a recipient of a Pulitzer Prize. He was the editor of *The Atlanta Constitution* during the Ralph McGill era (1960-68) and wrote for the Associated Press. Patterson became chairman and CEO of what is now the biggest daily newspaper in Florida - the St. Petersburg Times and started Florida Trend magazine. He was also instrumental in starting Georgia Trend magazine.

**Annual Events** Adel hosts an annual Adel Daylily Festival in summer that features arts, crafts, and food.

**County** <http://www.cookcountyga.us/>

**Chamber of Commerce** <http://www.adelcookchamber.org/>

**Additional County Info** <http://www.georgiaplanning.com/CountyPortal/countyportal.asp?FIPS=13075>



Reed Bingham State Park

Source: Georgia Department of Community Affairs, Georgia County Snapshots (<http://www.dca.state.ga.us/countysnapshotsnet/>).

## **Chapter 2: Local Natural Hazard, Risk, And Vulnerability (HRV) Summary**

### Summary of changes:

During the plan update process, the HMPUC reviewed the hazards that may affect the community, and their priority. This updated plan includes the same seven natural hazards that were included in the previous plan, in the same order of priority. Table 2.1 provides a brief description of each section in this chapter and a summary of changes that have been made.

<b>Chapter 2 Section</b>	<b>Updates to Section</b>
I. Hurricanes/Tropical Storms	Updated data and information; edited for clarity
II. Tornadoes	Updated data and information; edited for clarity
III. Floods	Updated data and information; edited for clarity
IV. Windstorms/Hailstorms/Lightning	Updated data and information; edited for clarity
V. Wildfires	Updated data and information; edited for clarity
VI. Extreme Heat	Updated data and information; edited for clarity
VII. Drought	Updated data and information; edited for clarity

Table 2.1: Overview of updates to Chapter 2

Five of these hazards constitute an equal threat to all geographic areas of the community. The remaining two, flood and wildfire, are the only hazards for which the level of risk varies geographically within the county. Flood and wildfire are limited to somewhat smaller areas (see Chapter 2 and Appendix A). Cook County is entirely within Wind Hazard Zone 2 (see Chapter 2).

Other hazards, such as Avalanche, Coastal Erosion, Coastal Storm, Dam Failure, Earthquake, Expansive Soils, Extreme Heat, Land Slide, SLOSH (Sea, Lake and Overland Surges from Hurricanes), Tsunami, and Volcano, were examined and determined not to be of sufficient significance in the community to warrant their inclusion in the present Hazard Mitigation Planning effort, based on past history and available data.

## **Section I. Hurricanes/Tropical Storms**

### **A. Identification of Hazard**

The threat of hurricanes/tropical storms has been chosen by the HMPUC as the most likely hazard to occur and cause damage in the community, based on past experience, the FEMA-described methodology, and other factors. Historic data have been examined from various sources, including the National Climatic Data Center (see Appendix F), as well as from local history and personal accounts, in order to determine the frequency of events. For further information, see the HAZUS Report in Appendix G.

Hurricanes and tropical storms are both types of tropical cyclones. Tropical cyclones are the general term used for all circulating weather systems over tropical water.<sup>1</sup> Tropical cyclones are destructive and have the potential to cause great damage and loss of life. They are divided into four major types: Hurricanes, Tropical Storms, Tropical Disturbances, and Tropical Depressions.

A hurricane, also known as a typhoon, is defined by NOAA's National Hurricane Center (<http://www.nhc.noaa.gov/aboutgloss.shtml>) as a tropical cyclone in which the maximum sustained surface wind (using the U.S. 1-minute average) is 64 kt (74 mph or 119 km/hr) or more. 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.

A tropical storm is defined as tropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) ranges from 34 kt (39 mph or 63 km/hr) to 63 kt (73 mph or 118 km/hr).

A tropical disturbance is a discrete tropical weather system of apparently organized convection -- generally 100 to 300 nmi in diameter -- originating in the tropics or subtropics, having a nonfrontal migratory character, and maintaining its identity for 24 hours or more. It may or may not be associated with a detectable perturbation of the wind field.

A tropical depression is defined as tropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) is 33 kt (38 mph or 62 km/hr) or less.

The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 categorization based on the hurricane's intensity at the indicated time. The scale provides examples of the type of damage and impacts in the United States associated with winds of the indicated intensity. The following table shows the scale broken down by winds:

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<sup>1</sup> A tropical cyclone is defined by NOAA as "a warm-core non-frontal synoptic-scale cyclone, originating over tropical or subtropical waters, with organized deep convection and a closed surface wind circulation about a well-defined center. Once formed, a tropical cyclone is maintained by the extraction of heat energy from the ocean at high temperature and heat export at the low temperatures of the upper troposphere. In this they differ from extratropical cyclones, which derive their energy from horizontal temperature contrasts in the atmosphere (baroclinic effects)." (<http://www.nhc.noaa.gov/aboutgloss.shtml>)

## SAFFIR-SIMPSON HURRICANE SCALE

(Source: NOAA <http://www.nhc.noaa.gov/aboutgloss.shtml>)

Category	Wind Speed	Damage
1	74 - 95	Very dangerous winds will produce some damage
2	96 - 110	Extremely dangerous winds will cause extensive damage
3	111 - 129	Devastating damage will occur
4	130 - 156	Catastrophic damage will occur
5	> 156	Catastrophic damage will occur

The official Atlantic hurricane season (which includes Gulf Coast and East Coast hurricanes) is June 1 through November 30, but hurricanes and tropical storms may also occur outside of those dates. Whether the hurricane/tropical storm is a short-term event or a long term event depends on many factors including category, strength, speed, and impact of other weather systems, including fronts and wind patterns.

Because of their location, Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are vulnerable to severe hurricanes/tropical storms forming in both the Atlantic Ocean and the Gulf of Mexico. Also due to location, hurricanes may degrade into tropical storms, tropical depressions, or tropical disturbances by the time they reach this area. These may or may not contain tornadoes or hail. In some cases, tropical storms, depressions, or disturbances may never reach hurricane strength before reaching the shore. The effects vary depending on the severity of the hurricane/tropical storm and the duration of the event.

### **B. Profile of Events, Frequency of Occurrences, Probability**

According to the NOAA Storm Events Database (see Appendix F), there are 6 reports of Hurricanes/Tropical Storms occurring in Cook County (including the Cities) between 01/01/1950 and 12/31/2017. Besides these events, there was one additional Tropical Storm event occurring on Sept. 11, 2017 which has not yet been recorded in the NCDC database, bringing the total to 7 events between 01/01/1950 and 12/31/2017. The Historic Recurrence Interval is 9.71 years. This is a 10.29% Historic Frequency Chance per year. The past 10-year Record Frequency Per Year is 0.3, the past 20-year frequency is 0.35, and the past 50-year frequency is 0.14 (see the Hazard Frequency Table in Appendix D).

Since the previous Hazard Mitigation Plan was completed, two Hurricane/Tropical Storm events have occurred. On Sept. 1, 2016, Tropical Storm Hermine caused widespread power outages, downed power lines, impassable roads due to fallen trees, and damage to homes and other structures. On Sept. 11, 2017, Tropical Storm Irma caused widespread power outages, downed power lines, impassable roads due to fallen trees, and damage to homes and other structures.

Although the most complete available data were used for this analysis, the possibility remains that other hurricane/tropical storm events may have occurred in the community that went unreported or underreported.

### **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to hurricanes/tropical storms. Cook County has a wind hazard score of 2 (91-100 mph gust). A map of the wind hazard score and critical facilities is provided in Appendix A.

An estimated 100% of the Residential property (7,373 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$404,515,378. Also, an estimated 100% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (2,845 of 2,845) in the community may be affected, with a total value of \$587,190,249. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, all of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard. The total value of these Critical Facilities is \$198,051,152.

## **E. Land Use and Development Trends**

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy.

No other land use or development trends that relate to this hazard have been identified at this time.

## **F. Multi-Jurisdictional Differences**

Hurricane/tropical storm events are usually area-wide, and no difference in severity is expected between Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. However, the impact may be more severe in places with higher population density due to more people being in danger, more people needing to be evacuated, more debris from damaged buildings, and other impacts associated with higher population density. In jurisdictions without building codes and inspections, structures may exist that are not built to code and therefore may be especially vulnerable to the effects of strong winds and other hazards.

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are members of the National Flood Insurance Program (source: <https://www.fema.gov/cis/GA.html>). Cook County and the Cities of

Adel, Cecil, Lenox, and Sparks do not participate in the Community Rating System (CRS) program. As of 2017, they were not eligible, according to FEMA (source: <http://www.fema.gov/library/viewRecord.do?id=3629>).

### **G. Overall HRV Summary of Events And Their Impact**

Hurricanes/tropical storms have the potential to cause damage at any place, at any time, throughout Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. They are usually preceded by some watch or warning well in advance. The cost of the damage and potential loss of life may be higher if the path of the hurricanes/tropical storms covers populated areas as opposed to more sparsely populated or unpopulated areas.

The Cook County HMPUC has developed a comprehensive range of Mitigation Goals, Objectives, and Action Steps to lessen the impacts from this hazard. These are contained in Chapter 4.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community's overall vulnerability to this hazard.

## Section II. Tornadoes

### **A. Identification of Hazard**

The threat of tornadoes has been chosen by the HMPUC as the second most likely hazard to occur and cause damage in the community, based on past experience, the FEMA-described methodology, and other factors. Historic data have been examined from various sources, including the National Climatic Data Center (see Appendix F), as well as from local history and personal accounts, in order to determine the frequency of events. For further information, see the HAZUS Report in Appendix G.

A tornado is defined by NOAA (<http://www.nssl.noaa.gov/education/svrwx101/tornadoes/>) as a narrow, violently rotating column of air that extends from the base of a thunderstorm to the ground. Because wind is invisible, it is hard to see a tornado unless it forms a condensation funnel made up of water droplets, dust and debris. Tornadoes are the most violent of all atmospheric storms.

About 1,200 tornadoes hit the U.S. yearly. A tornado watch is issued when weather conditions are favorable for tornadoes. During a tornado watch, residents are advised to watch and prepare for severe weather and stay tuned to NOAA Weather Radio to know when warnings are issued. A tornado warning is issued when a tornado has been reported by spotters or indicated by radar and there is a serious threat to life and property to those in the path of the tornado. When a tornado warning is issued, residents must act immediately to find safe shelter. A warning can cover parts of counties or several counties in the path of danger.

The Enhanced Fujita Scale, implemented by the National Weather Service in 2007, is used to assign a tornado a rating based on estimated wind speeds and related damage. The wind speeds associated with the EF ratings are shown in the table below. Because of the difficulty of measuring wind speeds inside a tornado, wind speeds are estimated based on the type of damage that occurs; more information is available on the NOAA website at <http://www.spc.noaa.gov/faq/tornado/ef-scale.html>.

#### **ENHANCED FUJITA WIND DAMAGE SCALE**

(Source: <http://www.spc.noaa.gov/faq/tornado/ef-scale.html>)

<b>EF Number</b>	<b>3-Second Gust</b>	<b>Damage</b>
EF-0	65 to 85 mph	Light damage. Some damage chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
EF-1	86 to 110 mph	Moderate Damage., The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages may be destroyed.
EF-2	111 to 135 mph	Significant Damage. Roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; high rise windows broken and blown in; light-object missiles generated.

EF-3	136 to 165 mph	Severe Damage. Roofs and walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
EF-4	166 to 200 mph	Devastating, damage. Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown and large missiles generated.
EF-5	Over 200 mph	Incredible, damage. Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles fly through the air in excess of 100 m (109 yards); trees debarked; steel reinforced concrete structures badly damaged.

Tornadoes may occur at any time of year, although the peak “tornado season” for the Southern Plains is during May into early June. Tornadoes can occur due to inclement weather conditions, as a result of a passing front, or as part of thunderstorm or hurricane/tropical storm events. Tornadoes can occur at any time of the day or night, but according to NOAA (<http://www.nssl.noaa.gov/education/svrwx101/tornadoes/>), most tornadoes occur between 4:00 and 9:00 p.m. The path and severity of a tornado cannot be determined in advance. The best defense is to heed tornado warnings and seek appropriate shelter when a tornado has been sighted in the area or when conditions conducive to a tornado are present.

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are all vulnerable to the effects of tornadoes. According to NOAA (<https://www.ncdc.noaa.gov/climate-information/extreme-events/us-tornado-climatology>), an average of 30 tornadoes occur per month in Georgia.

**B. Profile of Events, Frequency of Occurrences, Probability**

According to the NOAA Storm Events Database (see Appendix F), there are 13 reports of tornadoes occurring in Cook County (including the Cities) between 01/01/1950 and 12/31/2017. The Historic Recurrence Interval is 5.23 years. This is a 19.12% Historic Frequency Chance per year. The past 10-year Record Frequency Per Year is 0.4, the past 20-year frequency is 0.25, and the past 50-year frequency is 0.26 (see the Hazard Frequency Table in Appendix D).

Since the previous Hazard Mitigation Plan was completed, three tornado events have occurred. In a particularly severe and tragic tornado event on January 22, 2017, an EF-3 tornado swept about 35 manufactured homes into a pile of rubble at the far end of the Sunshine Acres mobile home park. Seven people lost their lives. The tornado then went on to destroy about two thirds of a brick home on Val Del Road, collapsing in two walls and removing most of the second story. Another home built of concrete blocks was destroyed. A nearby farm had several concrete anchors for a large metal structure pulled from the ground. Maximum winds were estimated near 140 mph.

Although the most complete available data were used for this analysis, the possibility remains that other events may have occurred in the community that went unreported or underreported.

## **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to this hazard.

An estimated 100% of the Residential property (7,373 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$404,515,378. Also, an estimated 100% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (2,845 of 2,845) in the community may be affected, with a total value of \$587,190,249. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, all of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard. The total value of these Critical Facilities is \$198,051,152.

## **E. Land Use and Development Trends**

Typically, mobile/manufactured homes are most vulnerable to tornado damage. According to 2016 Census Bureau estimates, 34.9% of occupied housing units in Cook County (including the Cities) are mobile homes (2,087 mobile homes and approximately 5,905 people based on the average household size of 2.83 persons per household in the County). In the City of Adel, 7.4% of occupied housing units are mobile homes (138 mobile homes and approximately 392 people). In the City of Cecil, 49.6% of occupied housing units are mobile homes (62 mobile homes and approximately 175 people). In the Town of Lenox, 49.6% of occupied housing units are mobile homes (141 mobile homes and approximately 399 people). In the Town of Sparks, 46.9% of occupied housing units are mobile homes (390 mobile homes and approximately 1,103 people).

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy.

No other land use or development trends that relate to this hazard have been identified at this time.

## **F. Multi-Jurisdictional Differences**

Tornadoes tend to follow a straight path regardless of natural features or political boundaries, and no difference in severity is expected between Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. However, the impact may be more severe in places with higher population density due to more people being in danger, more people needing to be evacuated, more debris from damaged buildings, and other impacts associated with higher population density. In areas with a large number of mobile homes, the damage can be expected to be more severe.

## **G. Overall HRV Summary of Events And Their Impact**

Tornadoes have the potential to cause damage at any place, at any time, throughout Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. They can form quickly and residents may not have time to find adequate shelter, or else adequate shelter facilities may not be available. The cost of the damage and potential loss of life may be higher if the event strikes populated areas as opposed to more sparsely populated or unpopulated areas, or if the event strikes areas with a large number of mobile homes.

The HMPUC has developed a comprehensive range of Mitigation Goals, Objectives, and Action Steps to lessen the impacts from this hazard. These are contained in Chapter 4.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community's overall vulnerability to this hazard.

## Section III. Floods

### A. Identification of Hazard

The threat of a flood has been chosen by the HMPUC as the third most likely hazard to occur and cause damage in the community, based on past experience, the FEMA-described methodology, and other factors. Historic data have been examined from various sources, including the National Climatic Data Center (see Appendix F), as well as from local history and personal accounts, in order to determine the frequency of events. For further information, see the HAZUS Report in Appendix G.

Floods may occur at any time, in many cases without warning, and their effects can range from minor inconvenience to wholesale destruction. Floods are most often caused by heavy rains associated with thunderstorms, hurricanes, or tropical storms. Flooding can result from a rise in the level of a body of water such as a river or a lake, or from rain falling faster than it can be absorbed by the ground (especially under weather conditions that make soil less pervious, for example after a period of drought). Flooding frequently occurs in urban areas when a large amount of rain, above the capacity of the urban drainage system, falls on impervious surfaces such as streets, buildings, and parking lots. Flooding can also result from the failure of man-made structures such as levees and dams.

Flash floods are floods that occur in short time-spans, often so quickly that people are caught off-guard. Flash floods can occur as a result of any of the causes mentioned above, but are most often due to extremely heavy rainfall from thunderstorms. More information is available at the National Weather Service (<https://www.weather.gov/phi/FlashFloodingDefinition>).

According to the National Weather Service (<http://tadd.weather.gov/>), more deaths occur each year due to flooding than from any other thunderstorm-related hazard. The Centers for Disease Control and Prevention report that over half of all flood-related drownings occur when a vehicle is driven into hazardous flood water. The next highest percentage of flood-related deaths is due to walking into or near flood waters. People underestimate the force and power of water. Many of the deaths occur in automobiles as they are swept downstream. Of these drownings, many are preventable, but too many people continue to drive around the barriers that warn you the road is flooded. A mere 6 inches of fast-moving flood water can knock over an adult. It takes just 12 inches of rushing water to carry away a small car, while 2 feet of rushing water can carry away most vehicles. It is never safe to drive or walk into flood waters.

Flood zones, as defined by FEMA, are described in the table below.

#### **Flood Zone Designations and Descriptions**

Source: FEMA (<https://hazards.fema.gov/onlinelomc/ext/Help/loadInstructions>)

<b>Zone Designations</b>	<b>Zone Descriptions</b>
<b>A</b>	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones.
<b>AH</b>	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the

	life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
<b>AO</b>	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
<b>A1-A30</b>	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
<b>A99</b>	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
<b>AE</b>	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
<b>AR</b>	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
<b>V</b>	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
<b>V1-V30</b>	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
<b>VE</b>	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
<b>B</b>	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
<b>C</b>	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level.
<b>D</b>	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.
<b>X Shaded</b>	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
<b>X Unshaded</b>	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level.

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are all vulnerable to the effects of flooding. Areas within flood zones are naturally more vulnerable. For more information, see the maps in Appendix A.

**B. Profile of Events, Frequency of Occurrences, Probability**

According to the NOAA Storm Events Database (see Appendix F), there are 5 reports of floods occurring in Cook County (including the Cities) between 01/01/1950 and 12/31/2017. The Historic Recurrence Interval is 13.6 years. This is a 7.35% Historic Frequency Chance per year. The past 10-year Record Frequency Per Year is 0.3, the past 20-year frequency is 0.25, and the past 50-year frequency is 0.1 (see the Hazard Frequency Table in Appendix D).

Since the previous Hazard Mitigation Plan was completed, three flood events have occurred. Most recently, on July 14<sup>th</sup>, 2015, slow-moving storms led to flash flooding across portions of Cook County. A stationary thunderstorm over Adel resulted in very heavy rainfall in a short period of time. Some streets had water up to a foot deep and were briefly closed.

Although the most complete available data were used for this analysis, the possibility remains that other events may have occurred in the community that went unreported or underreported.

### **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to this hazard.

An estimated 28.63% of the Residential property (2,111 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$126,936,702. Also, an estimated 67.6% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (1,922 of 2,845) in the community may be affected, with a total value of \$521,093,727. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, 7 of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) are in flood zones and therefore could be affected by this hazard. Six facilities have a Flood Hazard Score of 3, and one has a Flood Hazard Score of 4. The total value of these Critical Facilities is \$2,363,900.

Many individuals do not have access to transportation and thus are susceptible to weather hazards. It is very important to notify these individuals through weather radios, radio stations, and other means so that they may seek shelter and/or make arrangements for transportation to shelter facilities. Therefore, a major consideration should be helping individuals, government, and non-profit organizations prepare for the pending flood hazard events.

The GMIS reports do not list any Repetitive Loss/NFIP properties in Cook County or the Cities of Adel, Cecil, Lenox, and Sparks.

### **E. Land Use and Development Trends**

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy.

No other land use or development trends that relate to this hazard have been identified at this time.

## **F. Multi-Jurisdictional Differences**

According to FEMA data, 33% of the total area of Cook County (49,267 acres) is within a flood zone (32.5% in Zone A, 0.4% in Zone AE, and 0.1% in the 0.2 percent annual chance flood hazard zone). Approximately 22% of the City of Adel (1,279 acres), 18.6% of the City of Cecil (118 acres), 25.2% of the Town of Lenox (262 acres), and 39.5% of the Town of Spark (1,027 acres) are within flood zones.

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are members of the National Flood Insurance Program (source: <https://www.fema.gov/cis/GA.html>). As of early 2018, all these jurisdictions are in compliance with NFIP requirements and intend to remain in compliance by enforcing flood plain ordinances which prohibit or severely limit development in floodplains. For example, section 10 of the Cook County Zoning Ordinance, “Water Resource Districts,” contains restrictions on building and land use intended to protect river waters, control erosion, and absorb flood waters.

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks do not participate in the Community Rating System (CRS) program. As of 2017, they were not eligible, according to FEMA (source: <http://www.fema.gov/library/viewRecord.do?id=3629>).

## **G. Overall HRV Summary of Events And Their Impact**

Floods have the potential to cause damage at any place, at any time, throughout Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, and especially in flood-prone areas. Floods can happen quickly and residents may not have time to evade floodwaters. The cost of the damage and potential loss of life may be higher if the event strikes populated areas as opposed to more sparsely populated or unpopulated areas.

The HMPUC has developed a comprehensive range of Mitigation Goals, Objectives, and Action Steps to lessen the impacts from this hazard. These are contained in Chapter 4.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community’s overall vulnerability to this hazard.

## Section IV. Windstorms/Hailstorms/Lightning

### A. Identification of Hazard

The threat of Windstorms/Hailstorms/Lightning has been chosen by the HMPUC as the fourth most likely hazard to occur and cause damage in the community, based on past experience, the FEMA-described methodology, and other factors. Historic data have been examined from various sources, including the National Climatic Data Center (see Appendix F), as well as from local history and personal accounts, in order to determine the frequency of events.

**Wind** is categorized, according to its strength and severity, using the Beaufort Wind Scale, developed in 1805 by Sir Francis Beaufort of the U.K. Royal Navy. The Beaufort Wind Scale is shown in the table below. (Source: <http://www.spc.noaa.gov/faq/tornado/beaufort.html>)

**Beaufort Wind Scale**

Force	Wind (Knots)	Wind (Mph)	World Meteorological Organization (WMO) Classification	Appearance of Wind Effects	
				On the Water	On Land
0	Less than 1	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	4-7	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	8-12	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	13-18	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	19-24	Fresh Breeze	Moderate waves 4-8 ft taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	25-31	Strong Breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	32-38	Near Gale	Sea heaps up, waves 13-19 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	39-46	Gale	Moderately high (18-25 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Twigs breaking off trees, generally impedes progress
9	41-47	47-54	Strong Gale	High waves (23-32 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs

10	48-55	55-63	Storm	Very high waves (29-41 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	56-63	64-72	Violent Storm	Exceptionally high (37-52 ft) waves, foam patches cover sea, visibility more reduced	Very rarely experienced; accompanied by widespread damage.
12	64+	73+	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	Devastation.

**Thunderstorms** are defined by NOAA as rain showers during which thunder is heard. The following are some of the most common thunderstorms types:

(Source: <http://www.nssl.noaa.gov/education/svrwx101/thunderstorms/types/>)

- **Single-cell thunderstorms**, often called “popcorn” convection, are small, brief, weak storms that grow and die within an hour or so. They are typically driven by heating on a summer afternoon. Single-cell storms may produce brief heavy rain and lightning.
- A **multi-cell storm** is a common type of thunderstorm in which new updrafts form along the leading edge of rain-cooled air (the gust front). Individual cells usually last 30 to 60 minutes, while the system as a whole may last for many hours. Multicell storms may produce hail, strong winds, brief tornadoes, and/or flooding.
- A **squall line** is a group of storms arranged in a line, often accompanied by “squalls” of high wind and heavy rain. Squall lines tend to pass quickly and are less prone to produce tornadoes than are supercells. They can be hundreds of miles long but are typically only 10 or 20 miles wide.
- A **supercell** is a long-lived (greater than 1 hour) and highly organized storm feeding off an updraft (a rising current of air) that is tilted and rotating. This rotating updraft - as large as 10 miles in diameter and up to 50,000 feet tall - can be present as much as 20 to 60 minutes before a tornado forms. Scientists call this rotation a mesocyclone when it is detected by Doppler radar. The tornado is a very small extension of this larger rotation. Most large and violent tornadoes come from supercells.

**Hail** is a form of precipitation that occurs when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere, where they freeze into balls of ice. Hail can damage aircraft, homes and cars, and can be deadly to livestock and people. Hail is usually pea-sized to marble-sized, but big thunderstorms can produce big hail.

Hail size is estimated by comparing it to a known object. Most hail storms are made up of a mix of sizes, and only the very largest hail stones pose serious risk to people caught in the open. The following are some common size measurements.

(Source: <http://www.nssl.noaa.gov/education/svrwx101/hail/>):

- Pea = 1/4 inch diameter
- Marble/mothball = 1/2 inch diameter

- Dime/Penny = 3/4 inch diameter
- Nickel = 7/8 inch
- Quarter = 1 inch — hail quarter size or larger is considered severe
- Ping-Pong Ball = 1 1/2 inch
- Golf Ball = 1 3/4 inches
- Tennis Ball = 2 1/2 inches
- Baseball = 2 3/4 inches
- Tea cup = 3 inches
- Grapefruit = 4 inches
- Softball = 4 1/2 inches

**Lightning** is a giant spark of electricity in the atmosphere or between the atmosphere and the ground. In the initial stages of development, air acts as an insulator between the positive and negative charges in the cloud and between the cloud and the ground; however, when the differences in charges becomes too great, this insulating capacity of the air breaks down and there is a rapid discharge of electricity that we know as lightning. Lightning most often strikes during thunderstorms, but can strike many miles from the center of the storm, or can even strike in areas not covered by a storm (this phenomenon is known as a “bolt from the blue”).

According to NOAA (<http://www.lightningsafety.noaa.gov/>), lightning strikes the United States about 25 million times a year. Although most lightning occurs in the summer, people can be struck at any time of year. Lightning kills an average of 47 people in the United States each year, and hundreds more are severely injured.

Lightning can strike in any place at any time but, contrary to popular myth, is not attracted to metal. Tall, isolated structures with a pointy shape are most likely to be struck by lightning. When thunder and lightning are present, the best course of action is to seek shelter inside a robust building. Sheltering under a tree increases the risk of getting struck by lightning and is more dangerous than being out in the open. Most cars protect their occupants from lightning because they have metal roofs and sides; contrary to popular myth, it is not the car’s rubber tires that protect the occupants. When sheltering inside a building, one should avoid metal objects (metal doors, plumbing, electronics, etc.). (Source: <http://www.lightningsafety.noaa.gov/myths.shtml>)

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are all equally vulnerable to the effects of lightning.

## **B. Profile of Events, Frequency of Occurrences, Probability**

According to the NOAA Storm Events Database (see Appendix F), there are 72 reports of Windstorms/Hailstorms/Lightning occurring in Cook County (including the Cities) between 01/01/1950 and 12/31/2017. The Historic Recurrence Interval is 0.94 years. This is a 105.88% Historic Frequency Chance per year. The past 10-year Record Frequency Per Year is 3.5, the past 20-year frequency is 2.35, and the past 50-year frequency is 1.4 (see the Hazard Frequency Table in Appendix D).

Since the previous Hazard Mitigation Plan was completed, 15 Windstorms/Hailstorms/Lightning events have been recorded. These include a lightning event on August 11<sup>th</sup>, 2015 in which ten cows were killed when a pine tree they were standing under was struck by lightning; a hailstorm on April 20<sup>th</sup>, 2015, in which nickel-sized hail caused damage to automobiles; and a lightning event on July 13<sup>th</sup>, 2017 in which a church was damaged.

Although the most complete available data were used for this analysis, the possibility remains that other events may have occurred in the community that went unreported or underreported.

### **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to this hazard.

An estimated 100% of the Residential property (7,373 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$404,515,378. Also, an estimated 100% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (2,845 of 2,845) in the community may be affected, with a total value of \$587,190,249. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, all of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard. The total value of these Critical Facilities is \$198,051,152.

### **E. Land Use and Development Trends**

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy.

No other land use or development trends that relate to this hazard have been identified at this time.

## **F. Multi-Jurisdictional Differences**

Lightning may happen at any place at any time, and no difference in severity is expected between Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. However, the impact may be more severe in places with higher population density due to more people being in danger, and other impacts associated with higher population density. No other multi-jurisdictional differences have been identified at this time.

## **G. Overall HRV Summary of Events And Their Impact**

Lightning has the potential to cause damage at any place, at any time, throughout Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, especially during thunderstorms. Where lightning strikes cannot be predicted and residents may not have time to seek shelter. The cost of the damage and potential loss of life may be higher if the event strikes populated areas as opposed to more sparsely populated or unpopulated areas.

The HMPUC has developed a comprehensive range of Mitigation Goals, Objectives, and Action Steps to lessen the impacts from this hazard. These are contained in Chapter 4.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community's overall vulnerability to this hazard.

## **Section V. Wildfires**

### **A. Identification of Hazard**

The threat of wildfire has been chosen by the HMPUC as the fifth most likely hazard to occur and cause damage in the community, based on past experience, the FEMA-described methodology, and other factors. Historic data have been examined from various sources, including the National Climatic Data Center and Georgia Forestry Commission (see Appendix F), as well as from local history and personal accounts, in order to determine the frequency of events.

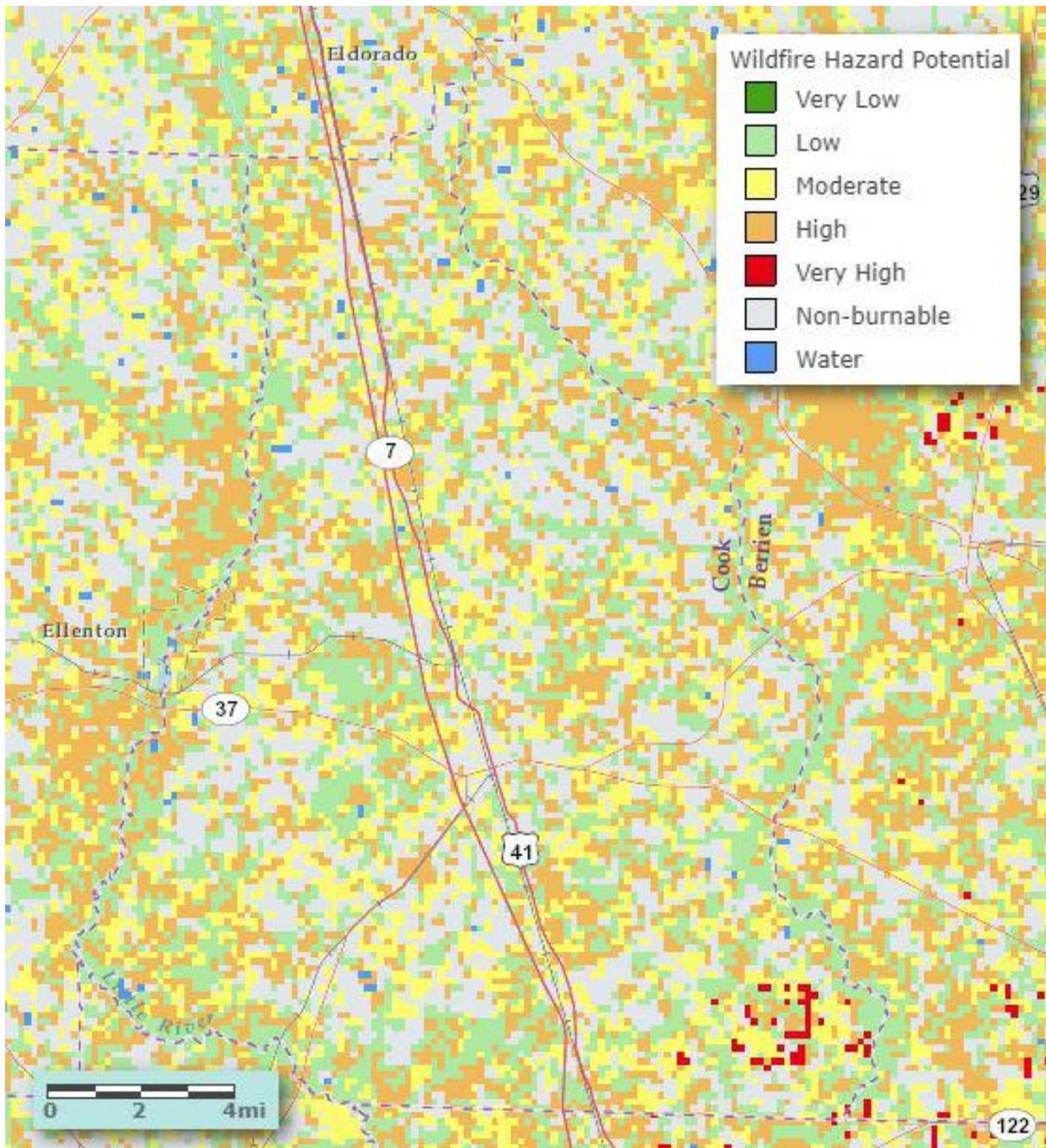
Much of southern Georgia is covered by forests, and fires play an important role in the health of forest ecosystems by breaking down organic matter into soil nutrients and helping seeds to germinate (source: NASA, [https://earthobservatory.nasa.gov/Features/GlobalFire/fire\\_2.php](https://earthobservatory.nasa.gov/Features/GlobalFire/fire_2.php)). When naturally occurring wildfires are suppressed, combustible fuel (such as dead leaves and branches) accumulates in the forest. This increases the risk of larger, more destructive fire events in the future. Controlled, prescribed fires lower the risk of larger fire events and are beneficial to forest health (source: USDA, <https://www.fs.usda.gov/detail/dbnf/home/?cid=stelprdb5281464>).

Low humidity, lack of recent precipitation (or drought conditions), wind speed, and temperature are a combination of weather conditions that favor the kindling and spread of wildfires. A high fuel load (i.e. the accumulation of dead vegetation), in combination with the above, also provides for the kindling and spread of wildfires. Much of Cook County, including some areas near the Cities, is forested with commercial and free-growing pine trees and other trees. These trees can and do catch fire frequently in both small and large fire events.

According to NASA (<https://earthobservatory.nasa.gov/IOTD/view.php?id=89757>), an estimated 84 percent of wildfires are caused by humans. Some common ways that people start fires include discarding cigarettes, leaving campfires unattended, and losing control of prescribed burns or crop fires. Sparks from railroads and power lines, as well as arson, also routinely cause wildfires.

When a residential area, whether it be a single home or an entire subdivision, is adjacent to an area containing vegetative fuels, such as a forest or other wooded area, this is referred to as a Wildland-Urban Interface area (WUI). These are the areas at greatest risk for property damage due to Wildfire.

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are all vulnerable to the effects of wildfires. The USDA Forest Service assigns areas a Wildfire Hazard Potential (WHP) score of Very Low, Low, Moderate, High, or Very High. As the map below shows, most of Cook County is scored either Low, Moderate, High, or Non-burnable, except for some small areas in the southeast corner of the county which are scored Very High.



Data Source: USDA Forest Service and Fire Modeling Institute  
<https://www.arcgis.com/home/item.html?id=f291ac4840984de5a0cf842d8d7a0973>

### **B. Profile of Events, Frequency of Occurrences, Probability**

According to Georgia Forestry Commission data (see Appendix F), there are 2,864 reports of wildfires occurring in Cook County (including the Cities) between 01/01/1967 and 12/31/2017. The Historic Recurrence Interval is 0.02 years. This is a 5,728% Historic Frequency Chance per

year. The past 10-year Record Frequency Per Year is 35.7, the past 20-year frequency is 58.85, and the past 50-year frequency is 57.28 (see the Hazard Frequency Table in Appendix D).

Since the previous Hazard Mitigation Plan was completed, 83 wildfire events have occurred.

Although the most complete available data were used for this analysis, the possibility remains that other events may have occurred in the community that went unreported or underreported.

### **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to this hazard.

An estimated 100% of the Residential property (7,373 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$404,515,378. Also, an estimated 100% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (2,845 of 2,845) in the community may be affected, with a total value of \$587,190,249. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, all of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard. The total value of these Critical Facilities is \$198,051,152.

### **E. Land Use and Development Trends**

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy.

No other land use or development trends that relate to this hazard have been identified at this time.

### **F. Multi-Jurisdictional Differences**

Wildfires may happen at any place at any time, but are more likely in forested areas. Unincorporated Cook County has more areas rated "High" for Wildfire Hazard Potential than the

Cities, and unincorporated Cook County is the only jurisdiction that has any areas rated “Very High.” The impact of a wildfire would be more severe in places with higher population density due to more people being in danger and more potential for destruction of homes and other buildings. In jurisdictions without building codes and inspections, structures may exist that are not built to code and therefore may be especially vulnerable to the effects of wildfires and other hazards.

The City of Adel has 16 full-time paid firefighters and 20 volunteers. The other Cities and the County are served by volunteer firefighters. The following are the ISO Classes of fire stations in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks.

<b>Station</b>	<b>ISO Class</b>
Cook County Volunteer Fire Department – Chaserville	5B/A
Cook County Volunteer Fire Department – Pine Valley	6/8
Cook County Volunteer Fire Department – Southeast	9
Adel Fire Department	2
Cecil Volunteer Fire Department	4/9
Lenox Volunteer Fire Department	5/5x
Sparks Volunteer Fire Department	4/5

**G. Overall HRV Summary of Events And Their Impact**

Wildfires have the potential to cause damage at any place, at any time, throughout Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. They can spread quickly and residents may not have time to evacuate. The cost of the damage and potential loss of life may be higher if the event strikes populated areas as opposed to more sparsely populated or unpopulated areas.

The HMPUC has developed a comprehensive range of Mitigation Goals, Objectives, and Action Steps to lessen the impacts from this hazard. These are contained in Chapter 4.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community’s overall vulnerability to this hazard.

## Section VI. Extreme Heat

### A. Identification of Hazard

The threat of extreme heat has been chosen by the HMPUC as the sixth most likely hazard to occur and cause damage in the community, based on past experience, the FEMA-described methodology, and other factors. Historic data have been examined from various sources, including the National Climatic Data Center (see Appendix F), as well as from local history and personal accounts, in order to determine the frequency of events.

The major hazard presented by heat waves is not so much to infrastructure as to the population. Despite the comparatively warm climate of this region, there are many residents who are not adequately prepared to handle extreme heat events (for example, those without air conditioning in their homes). The risk is particularly high for the elderly and the young. Extreme heat is a hazard that may result in loss of life or damage to property and the economy. Due to weather forecasting methods, most extreme heat events can be predicted with some level of accuracy ahead of time.

The heat index is a measure that combines the effects of heat and humidity. When heat and humidity combine to reduce the amount of evaporation of sweat from the body, outdoor exercise becomes dangerous even for those in good shape (source: National Weather Service, <http://www.nws.noaa.gov/forecasts/wfo/definitions/defineHeatIndex.html>).

The table below shows the levels of danger associate with the heat index as calculated by the National Weather Service (source: <https://www.weather.gov/ama/heatindex>).

<b>Heat Index category and effects</b>		
Classification	Heat Index	Effect on the body
<b>Caution</b>	<b>80°F - 90°F</b>	<b>Fatigue possible with prolonged exposure and/or physical activity</b>
<b>Extreme Caution</b>	<b>90°F - 103°F</b>	<b>Heat stroke, heat cramps, or heat exhaustion possible with prolonged exposure and/or physical activity</b>
<b>Danger</b>	<b>103°F - 124°F</b>	<b>Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity</b>
<b>Extreme Danger</b>	<b>125°F or higher</b>	<b>Heat stroke highly likely</b>

The Heat Index chart below shows Heat Index Values for various temperatures and humidity levels. As an example, if the air temperature is 96° F and the relative humidity is 65%, the heat index—i.e., how hot it feels—is 121° F.

## NOAA's National Weather Service

### Heat Index Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

**Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity**

Caution     
  Extreme Caution     
  Danger     
  Extreme Danger

For the National Weather Service’s Tallahassee district (which includes Cook County), an **Excessive Heat Watch** is issued when conditions are favorable for an excessive heat event in the next 24 to 72 hours. A Watch is used when the risk of a heat wave has increased but its occurrence and timing is still uncertain. A Watch provides enough lead time so that those who need to prepare can do so, such as city officials who have excessive heat event mitigation plans. The National Weather Service office in Tallahassee will issue this product if the heat index might reach or exceed 113°F.

A **Heat Advisory** is issued when an excessive heat event is expected in the next 24 hours. This products are issued when an excessive heat event is occurring, is imminent, or has a very high probability of occurring. An advisory is for less serious conditions that cause significant discomfort or inconvenience and, if caution is not taken, could lead to a threat to life. The National Weather Service will issue this product if the heat index might reach 108-112°F.

An **Excessive Heat Warning** is issued when an excessive heat event is expected in the next 24 hours. A warning is issued when an excessive heat event is occurring, is imminent, or has a very high probability of occurring. The warning is used for conditions posing a threat to life. The National Weather Service will issue this product if the heat index is expected to reach or exceed 113°F. (Source: Florida State University, <https://emergency.fsu.edu/hazards/heat/about>)

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are all equally vulnerable to the effects of extreme heat.

## **B. Profile of Events, Frequency of Occurrences, Probability**

According to National Weather Service data (see Appendix F), there are 35 reports of extreme heat events occurring in Cook County (including the Cities) between 01/01/2006 and 12/31/2017. The Historic Recurrence Interval is 0.31 years. This is a 318.18% Historic Frequency Chance per year. The past 10-year Record Frequency Per Year is 3.4, the past 20-year frequency is 1.75, and the past 50-year frequency is 0.7 (see the Hazard Frequency Table in Appendix D). These were all Heat Advisories except for two events in 2012, which were Excessive Heat Warnings.

Since the previous Hazard Mitigation Plan was completed, 6 extreme heat events have occurred. These were all Heat Advisories.

Although the most complete available data were used for this analysis, the possibility remains that other events may have occurred in the community that went unreported or underreported.

## **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to this hazard.

An estimated 100% of the Residential property (7,373 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$404,515,378. Also, an estimated 100% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (2,845 of 2,845) in the community may be affected, with a total value of \$587,190,249. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, all of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard. The total value of these Critical Facilities is \$198,051,152.

## **E. Land Use and Development Trends**

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy.

No other land use or development trends that relate to this hazard have been identified at this time.

#### **F. Multi-Jurisdictional Differences**

Extreme heat may happen at any place at any time, and no difference in severity is expected between Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. However, the impact may be more severe in places with higher population density due to more people being in danger. Power failures exacerbate extreme heat events because of the ensuing lack of air conditioning. No other multi-jurisdictional differences have been identified at this time.

#### **G. Overall HRV Summary of Events And Their Impact**

Extreme heat has the potential to harm people throughout Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, especially during the summer months. The potential for damage to health and loss of life will be higher for people without air conditioning, and would be exacerbated by a power failure. Extreme heat is a far greater threat to public health than to buildings and infrastructure.

The HMPUC has developed a comprehensive range of Mitigation Goals, Objectives, and Action Steps to lessen the impacts from this hazard. These are contained in Chapter 4.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community's overall vulnerability to this hazard.

## **Section VII. Drought**

### **A. Identification of Hazard**

The threat of drought has been chosen by the HMPUC as the seventh most likely hazard to occur and cause damage in the community, based on past experience, the FEMA-described methodology, and other factors. Historic data have been examined from various sources, including the National Climatic Data Center and U.S. Drought Monitor (see Appendix F), as well as from local history and personal accounts, in order to determine the frequency of events.

Although drought is associated with the summer months in many other parts of the United States, our region has a humid subtropical climate with more precipitation, on average, in the summer than in the winter. Drought can occur at any time, and its effects can last throughout the year and continue from year to year. These effects may include agricultural losses, increased wildfire and fire risk, lack of water for citizens and firefighting, increased flooding risk (because dry land can be less absorbent of rainfall), and other effects that influence other hazards and the safety of the community.

Crops (including trees) are usually most adversely affected by drought events, along with community residents whose water supplies are restricted or cut off (especially those using individual wells). Residents of unincorporated Cook County have wells, which may go dry during drought periods, thus leaving those residents without water for extended periods of time. The Cities of Adel, Cecil, Lenox, and Sparks have municipal water systems.

The U.S. Drought Monitor (<http://droughtmonitor.unl.edu>), established in 1999, is a weekly map of drought conditions that is produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted and maintained by the NDMC. The Drought Monitor summary map identifies general drought areas, labelling droughts by intensity, with D1 being the least intense and D4 being the most intense. Descriptions of these categories are provided in the table below (source: <http://droughtmonitor.unl.edu/AboutUs/ClassificationScheme.aspx>).

Category	Description	Possible Impacts
D0	Abnormally Dry	Going into drought: <ul style="list-style-type: none"> <li>▪ short-term dryness slowing planting, growth of crops or pastures</li> </ul> Coming out of drought: <ul style="list-style-type: none"> <li>▪ some lingering water deficits</li> <li>▪ pastures or crops not fully recovered</li> </ul>
D1	Moderate Drought	<ul style="list-style-type: none"> <li>▪ Some damage to crops, pastures</li> <li>▪ Streams, reservoirs, or wells low, some water shortages developing or imminent</li> <li>▪ Voluntary water-use restrictions requested</li> </ul>
D2	Severe Drought	<ul style="list-style-type: none"> <li>▪ Crop or pasture losses likely</li> <li>▪ Water shortages common</li> <li>▪ Water restrictions imposed</li> </ul>
D3	Extreme Drought	<ul style="list-style-type: none"> <li>▪ Major crop/pasture losses</li> <li>▪ Widespread water shortages or restrictions</li> </ul>
D4	Exceptional Drought	<ul style="list-style-type: none"> <li>▪ Exceptional and widespread crop/pasture losses</li> <li>▪ Shortages of water in reservoirs, streams, and wells creating water emergencies</li> </ul>

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are all equally vulnerable to the effects of drought.

### B. Profile of Events, Frequency of Occurrences, Probability

According to the NOAA Storm Events Database (see Appendix F), there are 25 reports of drought events occurring in Cook County (including the Cities) between 01/01/1950 and 12/31/2017. The Historic Recurrence Interval is 2.72 years. This is a 36.76% Historic Frequency Chance per year. The past 10-year Record Frequency Per Year is 2.4, the past 20-year frequency is 1.25, and the past 50-year frequency is 0.5 (see the Hazard Frequency Table in Appendix D).

Since the previous Hazard Mitigation Plan became effective, 2 drought events have occurred. During the past 5 years, drought has caused substantial crop damage in Cook County (agriculture is a vital part of the county’s economy) and has increased the community’s vulnerability to wildfires due to the dryness of the vegetative fuel available to burn. Drought conditions have exacerbated damage done by wildfires (see Ch. 2, Section V), contributing to the 83 wildfire events that have occurred since the last plan was adopted, and exacerbating the damage caused by these wildfires. Drought levels up to D4 (Exceptional Drought) have been reported 2 times since the previous Plan was completed, on 11/22/2016 and 12/01/2016. In both events, local estimates report that drought resulted in crop losses and heightened wildfire risk.

Although the most complete available data were used for this analysis, the possibility remains that other events may have occurred in the community that went unreported or underreported.

## **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to this hazard.

An estimated 100% of the Residential property (7,373 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$404,515,378. Also, an estimated 100% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (2,845 of 2,845) in the community may be affected, with a total value of \$587,190,249. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, all of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard. The total value of these Critical Facilities is \$198,051,152.

## **E. Land Use and Development Trends**

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy. No other land use or development trends that relate to this hazard have been identified at this time.

## **F. Multi-Jurisdictional Differences**

Residents of unincorporated Cook County have wells, which may go dry during drought periods, thus leaving those residents without water for extended periods of time. The Cities of Adel, Cecil, Lenox, and Sparks have municipal water systems. No other multi-jurisdictional differences have been identified at this time.

## **G. Overall HRV Summary of Events And Their Impact**

Drought has the potential to harm people and the economy throughout Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, potentially at any time of the year, and most significantly in unincorporated areas not served by municipal water systems. Drought may increase the likelihood of wildfires and flooding. Water shortages can impede firefighting efforts at all levels.

The HMPUC has developed a comprehensive range of Mitigation Goals, Objectives, and Action Steps to lessen the impacts from this hazard. These are contained in Chapter 4.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community's overall vulnerability to this hazard.

## **Chapter 3:** **Local Technological Hazard, Risk,** **and Vulnerability (HRV) Summary**

### **Section I. Hazardous Materials Release**

#### **A. Identification of Hazard**

Hazardous materials are substances or materials that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce. When these materials are released they become dangerous. A release may occur by spilling, leaking, emitting toxic vapors, or any other process that enables the material to escape its container, enter the environment, and create a potential hazard.

The effects of hazardous material releases can occur very rapidly with little or no advance warning, in the form of explosions, fires, and immediate health impacts. Slower effects can include long-term environmental damage and long-term health problems resulting from exposure.

#### **B. Profile of Events, Frequency of Occurrences, Probability**

Hazardous material spills are common in areas where hazardous materials are fabricated, processed, and stored. Transportation of hazardous materials by truck is the cause of the greatest number of hazardous materials events. Many products containing hazardous chemicals are routinely used and stored in homes. These products are also shipped daily on the nation's highways, railroads, waterways, and in pipelines. In most cases, disasters involving hazardous materials are confined to a localized area, whether an accidental release occurs at a fixed facility or in association with a transportation incident. The United States Environmental Protection Agency categorizes wastes according to four characteristics: Ignitability, corrosivity, reactivity, and toxicity. Furthermore, the EPA categorizes hazardous wastes according to the following hazard codes (source: <https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes>):

- (T) - Toxic Waste
- (H) - Acute Hazardous Waste
- (I) - Ignitable Waste
- (C) - Corrosive Waste
- (R) - Reactive Waste
- (E) - Toxicity Characteristic Waste

The extent or severity of a hazardous materials release within the community is not predictable due to the varied nature of hazardous materials and the widespread area covered by the transportation network upon which such materials may be transported.

According to the USDOT Pipeline and Hazardous Materials Safety Administration's Office of Hazardous Materials Safety database (see Appendix F), there are 3 reports of Hazardous Materials

Release events occurring in Cook County (including the Cities) between 01/01/2001 and 12/31/2017. The Historic Recurrence Interval is 5.67 years. This is a 17.65% Historic Frequency Chance per year. The past 10-year Record Frequency Per Year is 0.1, the past 20-year frequency is 0.15, and the past 50-year frequency is 0.06 (see the Hazard Frequency Table in Appendix D).

One hazardous materials release event has been recorded since the previous Hazard Mitigation Plan was completed. This occurred in the Town of Lenox (USDOT Report Number E-2016060087) and involved a spill of 20 gallons of acetone from a vehicle on the highway, with damage estimated at \$5,000.

Although the most complete available data were used for this analysis, the possibility remains that other events may have occurred in the community that went unreported or underreported.

### **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to this hazard.

An estimated 100% of the Residential property (7,373 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$404,515,378. Also, an estimated 100% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (2,845 of 2,845) in the community may be affected, with a total value of \$587,190,249. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, all of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard. The total value of these Critical Facilities is \$198,051,152.

### **E. Land Use and Development Trends**

Residential land use in Cook County is concentrated along a corridor shared by Interstate 75, US Route 41, and an active freight rail line. All four incorporated cities are along this corridor. Most of the community's population lives relatively close to these major transportation routes. Therefore, the likelihood is high that any severe hazardous materials release along these transportation routes would affect one or more population centers.

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy.

No other land use or development trends that relate to this hazard have been identified at this time.

#### **F. Multi-Jurisdictional Differences**

Interstate 75, US Route 41, and an active freight rail line pass through all jurisdictions, including the centers of all the incorporated Cities. The facilities most vulnerable to a hazardous materials release are those located within a one-mile buffer of the major highways and railways, which includes most of the critical facilities in the community.

#### **G. Overall HRV Summary**

A significant portion of the community could be vulnerable to a hazardous materials release. Preparation for such an event requires specific training for first responders and coordination among agencies to ensure a swift response and containment of hazardous materials in order to minimize the potential loss of life and property. Therefore, a key priority should be to train responders to fulfill their responsibilities and conduct periodic tests to be sure the response plan is realistic and responders are ready to carry it out.

Human error is the probable cause of most transportation incidents and associated consequences involving the accidental release of hazardous materials. Varying quantities of hazardous materials are manufactured, used, or stored in Cook County. Due to the county's location on or near several major transportation routes, the potential exists for a catastrophic hazardous material release event due to a transportation accident.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community's overall vulnerability to this hazard.

## Section II. Disease Outbreak

### A. Identification of Hazard

The threat of an infectious disease outbreak has been chosen by the HMPUC as the second most likely human-caused hazard to occur and cause damage in the community.

The community is vulnerable to public health emergencies that may occur naturally on their own, including but not limited to:

- Communicable disease outbreaks
- Pandemic influenza
- Mosquito-borne illness
- Food-borne illness

Diseases that cause a public health emergency may have a rapid onset or a slow onset. They may be highly localized or may be widespread in nature. Depending on the nature of the public health emergency, treatment may or may not be immediately available.

Some examples of recent public health emergencies include:

- **Zika virus** – spread mostly by the bite of an infected *Aedes* species mosquito, Zika can be passed from a pregnant woman to her fetus. Infection during pregnancy can cause certain birth defects. There is no vaccine or medicine for Zika. Local mosquito-borne Zika virus transmission has been reported in the continental United States. (Source: <https://www.cdc.gov/zika/about/index.html>)
- **Pandemic Influenza** – Pandemics happen when new (novel) influenza A viruses emerge which are able to infect people easily and spread from person to person in an efficient and sustained way. Unlike seasonal flu, which happens annually, pandemic flu happens rarely (three times in the last century), but the results are much more devastating. Most people have little or no immunity to pandemic influenza because they have no previous exposure to the virus or similar viruses. Even healthy people may be at high risk for serious complications, and health care providers and hospitals may be overwhelmed. (Source: <https://www.cdc.gov/flu/pandemic-resources/basics/about.html>)
- **Ebola** - a rare and deadly disease caused by infection with one of the Ebola virus species, Ebola is spread through direct contact with bodily fluids. An outbreak in West Africa in 2014 is estimated to have caused more than 11,000 deaths. Although only 4 cases related to this outbreak occurred in the United States, transmission could have been far more widespread were it not for close coordination between the CDC, other federal agencies, state and local health departments, and the travel industry. (Source: <https://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/qa.html>).

## **B. Profile of Events, Frequency of Occurrences, Probability**

According to the best data available, there have not been any disease outbreak events in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. However, the entire community is equally vulnerable to this hazard and an outbreak could happen at any place at any time.

## **C./D.: Inventory of Assets Exposed and Potential Loss**

In Worksheet 3A: Inventory of Assets (appearing in Appendix A), we estimate that all of Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are equally vulnerable to this hazard.

An estimated 100% of the Residential property (7,373 of 7,373) in Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard, with a total value of \$404,515,378. Also, an estimated 100% of the Commercial, Industrial, Agricultural, Religious/Non-Profit, Government, Education and Utility properties (2,845 of 2,845) in the community may be affected, with a total value of \$587,190,249. The values are based on the most recent available tax roll data for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, provided by the Cook County Tax Assessor's Office.

Damage to crops is not taken into account in any of these figures. According to the Center for Agribusiness & Economic Development's 2015 Georgia Farm Gate Value Report ([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf)), the total farm gate value of agricultural production in Cook County is \$94,073,880.

According to the inventory database reports and maps, all of the 58 Critical Facilities and Infrastructure for Cook County (including the Cities of Adel, Cecil, Lenox, and Sparks) could be affected by this hazard. The total value of these Critical Facilities is \$198,051,152.

## **E. Land Use and Development Trends**

The County and Cities have seen an increase in population over the last few years, except for the City of Adel, where population has declined slightly.

Cook County and all the Cities have zoning regulations enforced by the Zoning Administrator. The County and all Cities have building codes and fire codes that are enforced by a building inspector. All Cities and the County participate in joint comprehensive planning and in the required updates of the Service Delivery Strategy.

No other land use or development trends that relate to this hazard have been identified at this time.

## **F. Multi-Jurisdictional Differences**

The impact of a disease event will be more severe in places with higher population density due to more people being exposed and higher potential for person-to-person transmission. No other multi-jurisdictional differences have been identified at this time.

## **G. Overall HRV Summary of Events And Their Impact**

For most of the last century, disease outbreaks have been rare in the United States due to the presence of an advanced health care system, effective vaccination programs, and coordination between the CDC, other federal agencies, state and local health departments, and health care providers. However, the potential remains for a disease outbreak to harm people throughout Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. The HMPUC has developed a comprehensive range of Mitigation Goals, Objectives, and Action Steps to lessen the impacts from this hazard. These are contained in Chapter 5.

Since the previous plan was approved, there have not been any new developments, regulations, programs, or other changes in the community that would either increase or decrease the community's overall vulnerability to this hazard.

## **Chapter 4: Local Natural Hazard Mitigation Goals and Objectives**

### Summary of Changes:

Table 4.1 provides a brief description of each section in this chapter and a summary of the changes that have been made.

<b>Chapter 4 Section</b>	<b>Updates to Section</b>
I. Hurricanes/Tropical Storms	Updated Goals, Objectives, and Action Step Formatting, Numbering and Data Fields, Updated or Deleted Prior Action Steps and Added New Action Steps (if applicable)
II. Tornadoes	Updated Goals, Objectives, and Action Step Formatting, Numbering and Data Fields, Updated or Deleted Prior Action Steps and Added New Action Steps (if applicable)
III. Floods	Updated Goals, Objectives, and Action Step Formatting, Numbering and Data Fields, Updated or Deleted Prior Action Steps and Added New Action Steps (if applicable)
IV. Windstorms/ Hailstorms/Lightning	Updated Goals, Objectives, and Action Step Formatting, Numbering and Data Fields, Updated or Deleted Prior Action Steps and Added New Action Steps (if applicable)
V. Wildfires	Updated Goals, Objectives, and Action Step Formatting, Numbering and Data Fields, Updated or Deleted Prior Action Steps and Added New Action Steps (if applicable)
VI. Extreme Heat	Updated Goals, Objectives, and Action Step Formatting, Numbering and Data Fields, Updated or Deleted Prior Action Steps and Added New Action Steps (if applicable)
VII. Drought	Updated Goals, Objectives, and Action Step Formatting, Numbering and Data Fields, Updated or Deleted Prior Action Steps and Added New Action Steps (if applicable)

Table 4.1: Overview of updates to Chapter 4: Local Natural Hazards, Mitigation Goals and Objectives

### **Overall Community Mitigation Goals, Policies, and Values Narrative**

This plan, as a joint effort between Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, 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 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. In particular, aspects of this plan will be integrated into the Comprehensive Plan during the next planning cycle.

Identified hazards and mitigation strategies of the previous Hazard Mitigation plan were integrated into the Local Emergency Operations Plan, multiple County and City SOPs and SOGs, and future planning and zoning plans. Cook County will integrate mitigation strategies identified in this plan into the Joint Comprehensive Plan, Community Wildfire Protection Plan, Continuity of Operations Plan (when applicable), and other future plans. Strategies identified in the previous plan were

applied to grant applications, building and zoning requirements, and development planning considerations for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. Many of these strategies will be applied using previously identified policies and ordinances. 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 (below) describes the authorities available to the jurisdictions and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools 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
<b>Building Codes</b>	County/Municipal Code	Yes	No	No
<b>Capital Improvements Plan</b>	Cook County and Cities of Adel, Cecil, Lenox, and Sparks Comprehensive Plan	Yes	No	No
<b>Comprehensive Plan</b>	Cook County and Cities of Adel, Cecil, Lenox, and Sparks Comprehensive Plan	Yes	No	No
<b>Economic Development Plan</b>	Cook County and Cities of Adel, Cecil, Lenox, and Sparks Comprehensive Plan	Yes	No	Yes
<b>Emergency Response Plan</b>	Cook County Local Emergency Operations Plan (LEOP)	Yes	No	Yes
<b>Zoning Ordinances</b>	Cook County Zoning Ordinance Adel Zoning Ordinance Lenox Zoning Ordinance Sparks Land Development Code	Yes	No	No

The Cities of Adel, Cecil, Lenox, and Sparks each offer many administrative and technical services to their communities. City departments (for each of the cities) include: Administrative, Public Works, Water and Sewer, Garbage, Licensing and Permits, Police Department, and Fire Department.

Opportunities to integrate the requirements of this Plan into other local planning mechanisms shall continue to be identified. Although it is recognized that there are many possible benefits to integrating components of this Plan into other local planning mechanisms, the development and maintenance of this stand-alone Hazard Mitigation Plan is deemed by the Cook County Hazard Mitigation Planning Committee to be the most effective and appropriate method to implement local hazard mitigation actions at this time.

While Cook County and the Cities of Adel, Cecil, Lenox, and Sparks each operate autonomously, there is a high level of cooperation exhibited when it comes to hazard mitigation and emergency planning efforts. Each local government has designated representatives to participate in the

emergency management process, whether it be during planning, response, or recovery phases. The local Emergency Management Agency hosts regular meetings to gather all of the relevant local, regional and state partners together to develop effective plans and strengthen relationships among all of the stakeholders. Working together, the jurisdictions have been able to access resources available through several state and federal sources that have been instrumental in improving the technical capabilities of these communities to more effectively mitigate hazards and provide more accurate warning and preparatory information to their citizens.

Overall, the priorities for each of the local communities have remained relatively unchanged. The hazards and risks associated with each have not changed, and many of the action steps identified during previous Hazard Mitigation Plans are still relevant and remain a priority in this plan as well.

Authority for the development of this Plan was given by the Cook County Commission as a result of their execution of the Grantee-Subgrantee Agreement for the Cook County Hazard Mitigation Grant Program (HMGP) Planning Project; and by the Cities of Adel, Cecil, Lenox, and Sparks, located in Cook County, through their participation in the planning project. The Cook County Emergency Management Agency is authorized to oversee emergency management within Cook County and the Cities of Adel, Cecil, Lenox, and Sparks.

The jurisdictions have many current policies and programs related to hazard mitigation, which are described in detail in the goals, objectives, and action steps contained in Chapter 4 of this Plan. All jurisdictions (within the boundaries of their budgets) have the ability to expand and improve their existing policies and programs as evidenced by the new and existing goals, objectives, and action steps included in this plan. The amount of resources available to the jurisdictions for expansion and improvement of existing programs will depend on factors such as the local government budgets and the availability of state and federal funding to support hazard mitigation activities.

This chapter contains a description of the comprehensive range of Mitigation Goals, Objectives, and Action Steps that were developed by the HMPUC to reduce damages and improve safety through Hazard Mitigation. These have been arranged by the natural hazards contained in Chapter 2. There is particular emphasis on emergency preparedness and infrastructure.

The HMPUC discussed and identified the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Chapter 4 of this Plan after identifying the hazards noted in Chapter 2 of this Plan. All areas of the community were taken into account in the development of the comprehensive range of Mitigation Goals, Objectives, and Action Steps. These were identified after the weighing of many factors discovered during the planning process, including risk assessment, storm history, past damage, community resources, and other factors.

A list of the comprehensive range of Mitigation Goals, Objectives, and Action Steps was compiled from the input of the HMPUC, as well as from others within the community. Members of the HMPUC prioritized the identified comprehensive range of Mitigation Goals, Objectives, and Action Steps based on what was anticipated to be most beneficial to the community. The benefits of all action steps were determined to be greater than the costs involved.

Several criteria were established to assist the HMPUC members in the prioritization of these suggested Mitigation Goals, Objectives, and Action Steps. Criteria included perceived cost vs. benefit or cost effectiveness, availability of potential funding sources, overall feasibility, measurable milestones, political support for the proposed actions, and the STAPLEE criteria.

Through this prioritization process, several projects emerged as having higher priority than others. Some of the projects involved expending considerable amounts of funds to initiate the required actions. The determination of the cost/benefit analysis (such as the FEMA B/CA model) of a project will be implemented at the time of project application or funding request. Other projects allowed the communities to pursue completion of the project using potential grant funding. Still others required no significant financial commitment by the communities.

In Chapter 6, Sections I-III, there is a description of the planning process involved in selecting the comprehensive range of Mitigation Goals, Objectives, and Action Steps. The Action Steps are given a rating of High, Medium, or Low Priority by the HMPUC based on a number of factors (with a primary emphasis on prioritized cost versus benefit review) identified in Chapter 6, Section I.

Relevant comprehensive ranges of Mitigation Goals, Objectives, and Action Steps are listed below throughout the chapter. The Cook County EMA Director has been chosen by Cook County and the Cities of Adel, Cecil, Lenox, and Sparks to oversee the projects. The Cook County EMA has been designated by Cook County and the Cities of Adel, Cecil, Lenox, and Sparks to be the coordinating agency for implementation and administration of these projects.

## Section I. Hurricanes/Tropical Storms

### **A. Community Mitigation Goals**

As previously indicated in Chapter 2, hurricanes and tropical storms may cause substantial damage to life, property, and the economy in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. They are usually accompanied by some advanced notice, giving the community time to prepare and/or evacuate. The HMPUC believes that, because these extreme weather events have the potential to cause great damage, injury, and loss of life, a comprehensive range of Mitigation Goals, Objectives, and Action Steps (contained in Section C below) should be implemented to reduce this hazard's potential impact on the community.

### **B. Identification and Analysis of Comprehensive Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation:**

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

#### **2. Existing Policies, Regulations, Ordinances and Land Use:**

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 2, Section I.

#### **3. Community Values, Historic and Special Considerations:**

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

#### **4. New Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

#### **5. Existing Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

### **C. Mitigation Strategy and Recommendations**

**Goal 1:** Reduce the risks and vulnerability of citizens and critical facilities to damage resulting from hurricanes.

**Objective 1:** Protect the lives, health, and property of residents from the force of hurricanes.

<b>Action Step 1: Educate homeowners and builders on individual safe rooms.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 2: Distribute programs on personal emergency preparedness, e.g., emergency survival kits.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	\$5,000
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 3: Encourage the American Red Cross to teach the Citizen’s Disaster Course on a frequent basis.</b>	
<b>Responsible Department</b>	EMA, ARC
<b>Anticipated Cost</b>	\$2,000
<b>Existing &amp; Potential Funding Sources</b>	OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 4: Encourage businesses to develop emergency plans</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 5: Increase public awareness of the Early Warning Communication/Notification System, NOAA weather radios, and available community safe shelters by publishing articles in the local newspaper, holding town hall meetings, and providing bulletins to local churches and the schools.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 6: Trim tree lines around roads, homes, utilities and businesses.</b>	
<b>Responsible Department</b>	EMA, Cook PW, Municipalities PW, Georgia Power, Colquitt EMC, Adel
<b>Anticipated Cost</b>	\$300,000
<b>Existing &amp; Potential Funding Sources</b>	Local operating funds, grants
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 7: Seek funding to retrofit government buildings and schools to reinforce windows, roofs and doors.</b>	
<b>Responsible Department</b>	EMA, Building Inspections/Code Enforcement, Board of Education
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local funds, OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 8: Initiate an inspection program at critical facilities to identify construction weaknesses subject to high wind damage.</b>	
<b>Responsible Department</b>	Building Inspections/Code Enforcement
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local funds, OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 9: Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations.</b>	
<b>Responsible Department</b>	Building Inspections/Code Enforcement
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local operating funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 10: Acquire and install auxiliary, mobile, and/or fixed generators (including transfer switches and soft start systems) where needed, including all designated evacuation and emergency shelters, community water systems, and critical facilities.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	\$350,000 per unit
<b>Existing &amp; Potential Funding Sources</b>	General Funds, DOHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	New

<b>Action Step 11: Upgrade communication capabilities among first responders, law enforcement, and other critical personnel and departments.</b>	
<b>Responsible Department</b>	EMA, Police/Sherriff's Departments, Fire Depts.
<b>Anticipated Cost</b>	\$100,000
<b>Existing &amp; Potential Funding Sources</b>	Local operating funds, grants
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	New

<b>Action Step 12: Acquire and install weather alert sirens or equivalent early warning infrastructure.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	\$150,000
<b>Existing &amp; Potential Funding Sources</b>	Local operating funds, grants
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	New

#### **D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

### **E. Local Public Information and Awareness Strategy:**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

### **F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.
- New Action Steps:
  - Action Step 10
  - Action Step 11
  - Action Step 12

## **Section II. Tornadoes**

### **A. Community Mitigation Goals**

As previously indicated in Chapter 2, this hazard may cause substantial damage to life, property, and the economy in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. Tornadoes are unpredictable and can happen at any place and at any time. Because these tornadoes may be extremely powerful and cause great damage, the HMPUC believes that the comprehensive range of Mitigation Goals, Objectives, and Action Steps (contained in Section C below) should be implemented to reduce this hazard's potential impact on the community.

### **B. Identification and Analysis of Comprehensive Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation:**

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

#### **2. Existing Policies, Regulations, Ordinances and Land Use:**

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 2, Section II.

#### **3. Community Values, Historic and Special Considerations:**

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

#### **4. New Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

#### **5. Existing Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

### **C. Mitigation Strategy and Recommendation:**

**Goal 1:** Reduce the risks and vulnerability of citizens and critical facilities to damage resulting from tornadoes.

**Objective 1:** Protect the lives, health, and property of residents from the force of tornadoes.

<b>Action Step 1: Educate homeowners and builders on individual safe rooms.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 2: Distribute programs on personal emergency preparedness, e.g., emergency survival kits.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	\$5,000
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 3: Encourage the American Red Cross to teach the Citizen's Disaster Course on a frequent basis.</b>	
<b>Responsible Department</b>	EMA, ARC
<b>Anticipated Cost</b>	\$2,000
<b>Existing &amp; Potential Funding Sources</b>	OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 4: Encourage businesses to develop emergency plans</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 5: Increase public awareness of the Early Warning Communication/Notification System, NOAA weather radios, and available community safe shelters by publishing articles in the local newspaper, holding town hall meetings, and providing bulletins to local churches and the schools.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 6: Trim tree lines around roads, homes, utilities and businesses.</b>	
<b>Responsible Department</b>	EMA, Cook PW, Municipalities PW, Georgia Power, Colquitt EMC, Adel
<b>Anticipated Cost</b>	\$300,000
<b>Existing &amp; Potential Funding Sources</b>	Local operating funds, grants
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 7: Seek funding to retrofit government buildings and schools to reinforce windows, roofs and doors.</b>	
<b>Responsible Department</b>	EMA, Building Inspections/Code Enforcement, Board of Education
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local funds, OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 8: Initiate an inspection program at critical facilities to identify construction weaknesses subject to high wind damage.</b>	
<b>Responsible Department</b>	Building Inspections/Code Enforcement
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local funds, OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 9: Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations.</b>	
<b>Responsible Department</b>	Building Inspections/Code Enforcement
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local operating funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

**D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

**E. Local Public Information and Awareness Strategy:**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

**F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.

## **Section III. Floods**

### **A. Community Mitigation Goals**

As previously indicated in Chapter 2, this hazard may cause substantial damage to life, property, and the economy in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. Floods are unpredictable and can happen at any place and at any time. Because of the damage and loss of life it may cause, the HMPUC believes that the comprehensive range of Mitigation Goals, Objectives, and Action Steps (contained in Section C below) should be implemented to reduce this hazard's potential impact on the community.

The major flooding sources in Cook County include the Little River, the New River, the Withlacoochee River, and Bear Creek. Due to these facts, the Cook County HMPUC believes that the comprehensive range of Mitigation Goals, Objectives, and Action Steps listed below should be implemented to reduce the threat of flood damage in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks.

### **B. Identification and Analysis of the Comprehensive Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation:**

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

#### **2. Existing Policies, Regulations, Ordinances and Land Use:**

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 2, Section III.

#### **3. Community Values, Historic and Special Considerations:**

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

#### **4. New Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

#### **5. Existing Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

**C. Mitigation Strategy and Recommendations:**

**Goal 1:** Minimize losses to existing and future structures, especially community critical facilities, due to flooding caused by excessive rainfall.

**Objective 1.** Improve capacity of the Adel, Lenox, Cecil, Sparks, and Cook County existing drainage infrastructure to handle excessive rainfall.

<b>Action Step 1: Seek funding to develop a countywide Master Drainage Plan.</b>	
<b>Responsible Department</b>	County Manager
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 2: Determine, in consultation with engineers, schedule for phased implementation of the countywide Master Drainage Plan.</b>	
<b>Responsible Department</b>	County Manager
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 3: Seek funding for phased implementation of the countywide Master Drainage Plan.</b>	
<b>Responsible Department</b>	County Manager
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 4: Continue to review and update storm water run-off, watershed plans and effectiveness of present drainage ditching, culverts, storm water and sanitation network.</b>	
<b>Responsible Department</b>	County Engineer
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 5: Review existing regulations to ensure adequacy in reducing the amount of future development in identified flood hazard areas.</b>	
<b>Responsible Department</b>	Building Inspections/Code Enforcement
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 6: Update and improve floodplain maps.</b>	
<b>Responsible Department</b>	EMA, FEMA
<b>Anticipated Cost</b>	\$50,000
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 7: Distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the Community Rating System (CRS).</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 8: Review all capital improvements plans to ensure that infrastructure improvements are not directed towards flood hazard areas.</b>	
<b>Responsible Department</b>	County/City Managers, Clerks
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 9: Work with Georgia Department of Transportation to identify areas of frequent roadway flooding and develop mitigation strategies.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 10: Continue to enforce floodplain ordinances.</b>	
<b>Responsible Department</b>	County Code Enforcement
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 11: Review and amend the Adel, Lenox, Cecil, Sparks, and Cook County Building Codes as required due to mandatory changes in the National Flood Insurance Program.</b>	
<b>Responsible Department</b>	Building Inspections
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 12: Collect updated information on the number and location of all repetitive loss structures throughout the county.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Complete

<b>Action Step 13: Seek funding to buy out all structures located in highest flood prone areas.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

**Objective 2:** Protect and conserve flood-prone areas for community greenspace development.

<b>Action Step 14: Monitor comprehensive land use plans to ensure consistency with the green space program, including mapping of lands to be permanently protected.</b>	
<b>Responsible Department</b>	Building Inspections
<b>Anticipated Cost</b>	\$15,000
<b>Existing &amp; Potential Funding Sources</b>	Local Budget, State and Federal Grant Funding
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 15: Monitor existing subdivision regulations to promote conservation of floodplains, wetlands, and groundwater recharge areas.</b>	
<b>Responsible Department</b>	Building Inspections/Code Enforcement
<b>Anticipated Cost</b>	\$20,000
<b>Existing &amp; Potential Funding Sources</b>	Local Budget, State and Federal Grant Funding
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 16: Seek funding from private foundations, individuals, federal and state grants, and local communities to leverage green space grant funds.</b>	
<b>Responsible Department</b>	County Manager
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Budget, State and Federal Grant Funding
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

**Objective 3:** Ensure public health and safety during and following flood events.

<b>Action Step 17: Cap wells not in use and increase wellhead waterproofing.</b>	
<b>Responsible Department</b>	Cook County Public Health
<b>Anticipated Cost</b>	\$100,000
<b>Existing &amp; Potential Funding Sources</b>	Local Budget, State and Federal Grant Funding
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 18: Investigate methods to reduce Non-Point Source pollution, such as increasing grass growth along waterways.</b>	
<b>Responsible Department</b>	County/Cities Public Works
<b>Anticipated Cost</b>	\$100,000
<b>Existing &amp; Potential Funding Sources</b>	Local Budget, State and Federal Grant Funding
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Low
<b>Status</b>	Ongoing

#### **D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

#### **E. Local Public Information and Awareness Strategy.**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

#### **F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.
- Completed Action Steps:
  - Action Step 12: Collect updated information on the number and location of all repetitive loss structures throughout the county.

## **Section IV. Windstorms/Hailstorms/Lightning**

### **A. Community Mitigation Goals**

As previously indicated in Chapter 2, this hazard may cause substantial damage to life, property, and the economy in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. Lightning is unpredictable and can happen at any place and at any time. Because of the potential for injury, death, and property damage, the HMPUC believes that the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below should be implemented to reduce this hazard's potential impact on the community.

### **B. Identification and Analysis of Comprehensive Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation:**

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

#### **2. Existing Policies, Regulations, Ordinances and Land Use:**

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 2, Section IV.

#### **3. Community Values, Historic and Special Considerations:**

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

#### **4. New Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

#### **5. Existing Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

### **C. Mitigation Strategy and Recommendation:**

**Goal 1:** Reduce the risks and vulnerability of citizens and critical facilities to damage resulting from windstorms/hailstorms/lightning.

**Objective 1:** Protect the lives, health, and property of residents from the force of windstorms/hailstorms/lightning.

<b>Action Step 1: Educate homeowners and builders on individual safe rooms.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 2: Distribute programs on personal emergency preparedness, e.g., emergency survival kits.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	\$5,000
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 3: Encourage the American Red Cross to teach the Citizen’s Disaster Course on a frequent basis.</b>	
<b>Responsible Department</b>	EMA, ARC
<b>Anticipated Cost</b>	\$2,000
<b>Existing &amp; Potential Funding Sources</b>	OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 4: Encourage businesses to develop emergency plans</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 5: Increase public awareness of the Early Warning Communication/Notification System, NOAA weather radios, and available community safe shelters by publishing articles in the local newspaper, holding town hall meetings, and providing bulletins to local churches and the schools.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 6: Trim tree lines around roads, homes, utilities and businesses.</b>	
<b>Responsible Department</b>	EMA, Cook PW, Municipalities PW, Georgia Power, Colquitt EMC, Adel
<b>Anticipated Cost</b>	\$300,000
<b>Existing &amp; Potential Funding Sources</b>	Local operating funds, grants
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 7: Seek funding to retrofit government buildings and schools to reinforce windows, roofs and doors.</b>	
<b>Responsible Department</b>	EMA, Building Inspections/Code Enforcement, Board of Education
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local funds, OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 8: Initiate an inspection program at critical facilities to identify construction weaknesses subject to high wind damage.</b>	
<b>Responsible Department</b>	Building Inspections/Code Enforcement
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local funds, OHS-GEMA/FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 9: Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations.</b>	
<b>Responsible Department</b>	Building Inspections/Code Enforcement
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local operating funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 10: Install lightning warning and protection equipment at outdoor recreational facilities countywide.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	\$50,000
<b>Existing &amp; Potential Funding Sources</b>	Local Budgets, OHS-GEMA, FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

#### **D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

#### **E. Local Public Information and Awareness Strategy:**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

#### **F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.

## **Section V. Wildfires**

### **A. Community Mitigation Goals**

As previously indicated in Chapter 2, this hazard may cause substantial damage to life, property, and the economy in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. Wildfires are unpredictable and can happen at any place and at any time. Due to the great damage it may cause, the HMPUC believes that the comprehensive range of Mitigation Goals, Objectives, and Action Steps (contained in Section C below) should be implemented to reduce this hazard's potential impact on the community.

### **B. Identification and Analysis of the Comprehensive Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation:**

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

#### **2. Existing Policies, Regulations, Ordinances and Land Use:**

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 2, Section V.

#### **3. Community Values, Historic and Special Considerations:**

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

#### **4. New Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

#### **5. Existing Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

### **C. Mitigation Strategy and Recommendation**

**Goal 1:** Prevent damage resulting from wildfires in Cook County, reduce the threat of wildfires, and protect the life and property of residents.

**Objective 1:** Prevent destruction of forests and structures.

<b>Action Step 1: Improve communication with Georgia Environmental Protection Division in regard to illegal burning issues</b>	
<b>Responsible Department</b>	EMA, Georgia Forestry Commission
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 2: Acquire all terrain vehicles</b>	
<b>Responsible Department</b>	EMA, Georgia Forestry Commission, County/Cities Fire Departments
<b>Anticipated Cost</b>	\$200,000
<b>Existing &amp; Potential Funding Sources</b>	Georgia Forestry Commission, State and Federal Grant Programs
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 3: Seek state and federal grants to acquire better fire equipment.</b>	
<b>Responsible Department</b>	EMA, County/Cities Fire Departments
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 4: Improve wildland fire training at the local fire department level.</b>	
<b>Responsible Department</b>	Georgia Forestry Commission, County/Cities Fire Departments
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Georgia Forestry Commission, GPSTC
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 5: Improve public awareness of wildfire fighting techniques and the importance of fire buffers around the home by publishing articles in the local newspaper, holding town hall meetings, radio announcements and providing bulletins to local churches and schools.</b>	
<b>Responsible Department</b>	EMA, Georgia Forestry Commission, County/Cities Fire Departments
<b>Anticipated Cost</b>	\$15,000
<b>Existing &amp; Potential Funding Sources</b>	Georgia Forestry Commission, State and Federal Grant Programs
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 6: Support Georgia Forestry Public Outreach efforts.</b>	
<b>Responsible Department</b>	EMA, Georgia Forestry Commission, County/Cities Fire Departments
<b>Anticipated Cost</b>	\$10,000
<b>Existing &amp; Potential Funding Sources</b>	Georgia Forestry Commission, State and Federal Grant Programs
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 7: Enforce building, fire and safety codes.</b>	
<b>Responsible Department</b>	Building Inspections, County/Cities Fire Departments
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 8: Develop an ordinance to enforce burn permits at the local level.</b>	
<b>Responsible Department</b>	Cook County Code Enforcement
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 9: Investigate methods to provide landowners an incentive to prescribe burn timberland thereby minimizing heavy fuel loads.</b>	
<b>Responsible Department</b>	Georgia Forestry Commission, County/Cities Fire Departments
<b>Anticipated Cost</b>	\$25,000
<b>Existing &amp; Potential Funding Sources</b>	Georgia Forestry Commission, State and Federal Grant Programs
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 10: Create more fire breaks.</b>	
<b>Responsible Department</b>	Georgia Forestry Commission, County/Cities Fire Departments
<b>Anticipated Cost</b>	\$100,000
<b>Existing &amp; Potential Funding Sources</b>	Georgia Forestry Commission, State and Federal Grant Programs
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 11: Build roads into areas that have no other access.</b>	
<b>Responsible Department</b>	Georgia Forestry Commission
<b>Anticipated Cost</b>	\$200,000
<b>Existing &amp; Potential Funding Sources</b>	Georgia Forestry Commission, State and Federal Grant Programs
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 12: Educate public and provide information on nighttime burning and smoke management.</b>	
<b>Responsible Department</b>	EMA, Georgia Forestry Commission, County/Cities Fire Departments
<b>Anticipated Cost</b>	\$25,000
<b>Existing &amp; Potential Funding Sources</b>	Georgia Forestry Commission, State and Federal Grant Programs
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

**Objective 2:** Reduce threat of wildfire occurring during periods of drought.

<b>Action Step 13: Acquire a new fire engine for the Town of Lenox.</b>	
<b>Responsible Department</b>	Town of Lenox
<b>Anticipated Cost</b>	\$300,000
<b>Existing &amp; Potential Funding Sources</b>	Grants, general fund
<b>Jurisdiction</b>	Town of Lenox
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	New

<b>Action Step 14: Become a designated “Firewise Community”</b>	
<b>Responsible Department</b>	EMA, County/Cities Fire Departments
<b>Anticipated Cost</b>	Staff Time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 15: Install more dry hydrants.</b>	
<b>Responsible Department</b>	County/Cities Fire Departments
<b>Anticipated Cost</b>	\$300,000
<b>Existing &amp; Potential Funding Sources</b>	State and Federal Grant programs
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 16: Seek funding to acquire more fire tankers (2000 to 3000 gallons) for local fire departments.</b>	
<b>Responsible Department</b>	EMA, County/Cities Fire Departments
<b>Anticipated Cost</b>	\$500,000
<b>Existing &amp; Potential Funding Sources</b>	Local Budget, SPLOST, OHS-GEMA, FEMA, Assistance to Fire Fighters Grants, Safer Grants
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 17: Increase public awareness of wildfire dangers around the home and community, such as lighted matches, cigarettes, trash, and the process for obtaining burn permits by publishing articles in the local newspaper, holding town hall meetings, radio announcements and providing bulletins to local churches and schools.</b>	
<b>Responsible Department</b>	EMA, Georgia Forestry Commission, County/Cities Fire Departments
<b>Anticipated Cost</b>	\$25,000
<b>Existing &amp; Potential Funding Sources</b>	State of Georgia Forestry Commission, State and Federal Grant Programs
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 18: Construct a new fire station for the City of Adel.</b>	
<b>Responsible Department</b>	City of Adel
<b>Anticipated Cost</b>	\$2,000,000
<b>Existing &amp; Potential Funding Sources</b>	Local Funds, Grants
<b>Jurisdiction</b>	City of Adel
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

#### **D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

#### **E. Local Public Information and Awareness Strategy:**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

#### **F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.
- New Action Steps
  - Action Step 13
  - Action Step 18

## **Section VI. Extreme Heat**

### **A. Community Mitigation Goals**

As previously indicated in Chapter 2, this hazard may cause substantial damage to life, property, and the economy in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. Extreme Heat events can happen at any place and at any time. Because of the potential for injury and death, the HMPUC believes that the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below should be implemented to reduce this hazard's potential impact on the community.

### **B. Identification and Analysis of Comprehensive Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation:**

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

#### **2. Existing Policies, Regulations, Ordinances and Land Use:**

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 2, Section VI.

#### **3. Community Values, Historic and Special Considerations:**

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

#### **4. New Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

#### **5. Existing Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

### **C. Mitigation Strategy and Recommendation:**

**Goal 1:** Prevent heat-related injuries and deaths.

**Objective 1:** Provide potential heat-stress victims with emergency shelter.

<b>Action Step 1: Establish operating policies and procedures, identify managing entity, and determine needed equipment and supplies.</b>	
<b>Responsible Department</b>	Local Emergency Operations Planning Committee
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 2: The Director, Cook County EMA, request assistance from the National Weather Service, using National Weather Service historical information and computer programming, to determine the number of “Heat Stress” days per year in Cook County.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Complete

#### **D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

#### **E. Local Public Information and Awareness Strategy:**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

#### **F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.
- Completed Action Steps:
  - Action Step 2: The Director, Cook County EMA, request assistance from the National Weather Service, using National Weather Service historical information and computer programming, to determine the number of “Heat Stress” days per year in Cook County.

## **Section VII. Drought**

### **A. Community Mitigation Goals**

As previously indicated in Chapter 2, drought may cause substantial economic, property, and personal damage in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, particularly in the form of crop damage. Its effects can be long-term, with the damage increasing as time goes by. In addition, drought conditions can contribute to wildfires in the community. The HMPUC believes that, due to the damage drought can cause, a comprehensive range of Mitigation Goals, Objectives, and Action Steps (contained in Section C below) should be implemented to reduce this hazard's potential impact on the community.

### **B. Identification and Analysis of Comprehensive Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation:**

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

#### **2. Existing Policies, Regulations, Ordinances and Land Use:**

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 2, Section VII.

#### **3. Community Values, Historic and Special Considerations:**

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

#### **4. New Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

#### **5. Existing Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

### **C. Mitigation Strategy and Recommendations**

**Goal 1:** Reduce the economic impact of drought on the Cook County economy.

**Objective 1:** Minimize the economic impact of drought on agriculture.

<b>Action Step 1: Promote more efficient use of surface irrigation.</b>	
<b>Responsible Department</b>	Local Extension Services, County
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, State Funds
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 2: Promote construction of farm ponds for irrigation.</b>	
<b>Responsible Department</b>	Local Extension Services, County
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, State Funds
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Low

<b>Action Step 3: Identify funds to repair existing ponds.</b>	
<b>Responsible Department</b>	Local Extension Services, County
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, State Funds
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Low
<b>Status</b>	Ongoing

<b>Action Step 4: Promote the drilling of 4-inch wells to recharge farm ponds.</b>	
<b>Responsible Department</b>	Local Extension Services, County
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, State Funds
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 5: Implement a support system through FFA and USDA.</b>	
<b>Responsible Department</b>	Local Extension Services, County
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, State Funds
<b>Jurisdiction</b>	Cook County
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Low
<b>Status</b>	Ongoing

**Goal 2:** Educate the citizenry about the effects of drought on public health and safety, economic activity, and environmental resources.

**Objective 1:** Manage available water resources.

<b>Action Step 6: Heighten public awareness on actions citizens can take to conserve water.</b>	
<b>Responsible Department</b>	Local Extension Services, County/City governments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, State Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 7: Utilize the media for the distribution and publication of drought information.</b>	
<b>Responsible Department</b>	Local Extension Services, County/City governments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, State Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

<b>Action Step 8: Update community websites to provide drought related information that is readily accessible.</b>	
<b>Responsible Department</b>	Local Extension Services, County/City governments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, State Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 9: Target conservation alerts to individual households through an Early Warning Communication/Notification bulletin board.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	\$10,000 annual expense
<b>Existing &amp; Potential Funding Sources</b>	Local budget, OHS-GEMA and FEMA grant funding
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 10: Ensure the reasonable allocation of supply during drought events through a coordinated and cooperative inter-agency response.</b>	
<b>Responsible Department</b>	EMA, OHS-GEMA, FEMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local budget, OHS-GEMA, FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 11: Ensure the reasonable allocation of supply during drought events through a coordinated and cooperative inter-agency response.</b>	
<b>Responsible Department</b>	All local governments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local budgets
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2019-2024
<b>Priority</b>	High
<b>Status</b>	Ongoing

#### **D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

#### **E. Local Public Information and Awareness Strategy:**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

#### **F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.

## Chapter 5. Local Technological Hazard Mitigation Goals and Objectives

### Overall Community Mitigation Goals, Policies, and Values Narrative

The purpose of the Cook County Hazard Mitigation Plan is to not only assess the vulnerability of the area to natural hazards, but to identify those action steps that may need to be undertaken to reduce the potential loss of life and property from identified technological hazards. As in the case of natural hazards, the development of this plan requires an overall set of community goals that clearly state the community's commitment to reducing or avoiding the long-term vulnerabilities to the identified hazards. With these overall goals in place, more specific goals, objectives, and action steps to protect the community from the identified hazards can then be developed. Using the findings from the Risk Assessment as a guide, the HMPUC has developed the following overall community mitigation goals:

**Goal 1: Protect the public health and safety;**

**Goal 2: Eliminate or reduce exposure of critical community facilities to the hazards identified in the community risk assessment;**

**Goal 3: Where exposure to hazards cannot be limited, implement, to the extent resources are available, the action steps needed to reduce the potential loss of life and property;**

**Goal 4: Maintain and/or enhance the community's capacity to issue warnings and to respond promptly and effectively in a hazard event.**

With these overall community mitigation goals in place, the following Goals, Objectives, and Action Steps have been developed to specifically address the technological hazards identified in Chapter 3. In addition, the same methodology as in Chapter 4 was utilized in ranking the priority of each action step.

There have not been any changes in the overall priorities since the previous plan was completed.

### Section I. Hazardous Materials Release

#### **A. Community Mitigation Goals**

As previously indicated in Chapter 3, a hazardous materials release may cause substantial damage to life, property, and the economy in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. Such events can occur with little or no warning, giving the community no time to prepare and/or evacuate. The HMPUC believes that, because these events have the potential to cause great damage, injury, and loss of life, a comprehensive range of Mitigation Goals, Objectives, and Action Steps (contained in Section C below) should be implemented to reduce this hazard's potential impact on the community.

## B. Identification and Analysis of Comprehensive Range of Mitigation Options

### 1. Structural and Non-Structural Mitigation:

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

### 2. Existing Policies, Regulations, Ordinances and Land Use:

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 3, Section I.

### 3. Community Values, Historic and Special Considerations:

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

### 4. New Buildings and Infrastructure:

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

### 5. Existing Buildings and Infrastructure:

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

## C. Mitigation Strategy and Recommendations

### Goal 1: Protect the health and safety of residents of Cook County.

Objective 1: Minimize the effects of hazardous material spills.

<b>Action Step 1: Maintain HazMat response training</b>	
<b>Responsible Department</b>	EMA, City and County Managers, Fire Departments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2018-2023
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 2: Seek funding to expand HazMat training to first responders (fire, police, sheriff, EMS)</b>	
<b>Responsible Department</b>	EMA, City and County Managers, Fire Departments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	FEMA, GEMA, DHS and local budget
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2018-2023
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 3: Increase public awareness and procedures to follow if a hazardous material spill event occurs by publishing articles in the local newspaper, holding town hall meetings, radio announcements and providing bulletins to local churches and schools.</b>	
<b>Responsible Department</b>	EMA
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds, GEMA, FEMA
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2018-2023
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 4: Train local government officials on proper response procedures for hazardous material spill events.</b>	
<b>Responsible Department</b>	Local Emergency Operations Planning Committee, EMA, Fire Departments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2018-2023
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 5: Review and update Standard Operating Procedures (SOP) for responding to a hazardous material spill event.</b>	
<b>Responsible Department</b>	Local Emergency Operations Planning Committee, EMA, Fire Departments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2018-2023
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 6: Investigate, implement, and train first responders in methods to relocate residents if a hazmat event occurs.</b>	
<b>Responsible Department</b>	Local Emergency Operations Planning Committee, EMA, Fire Departments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2018-2023
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 7: Provide workplace training on decontamination steps.</b>	
<b>Responsible Department</b>	Local Emergency Operations Planning Committee, EMA, Fire Departments
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2018-2023
<b>Priority</b>	High
<b>Status</b>	Ongoing

<b>Action Step 8: Review annually all hazardous material transportation routes (relocate routes if necessary)</b>	
<b>Responsible Department</b>	Local Emergency Operations Planning Committee, EMA, GDOT
<b>Anticipated Cost</b>	Staff time
<b>Existing &amp; Potential Funding Sources</b>	Local Operating Funds
<b>Jurisdiction</b>	Cook County, Adel, Cecil, Lenox, Sparks
<b>Timeframe</b>	2018-2023
<b>Priority</b>	Medium
<b>Status</b>	Ongoing

#### **D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

#### **E. Local Public Information and Awareness Strategy:**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

#### **F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.

## **Section II. Disease Outbreak**

### **A. Community Mitigation Goals**

As previously indicated in Chapter 3, a disease outbreak may cause substantial damage to life, public health, and the economy in Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. A disease outbreak can overwhelm community resources and first responders, and may be difficult or impossible to contain. Because these events have the potential to cause great damage, injury, and loss of life, the HMPUC believes that a comprehensive range of Mitigation Goals, Objectives, and Action Steps (contained in Section C below) should be implemented to reduce this hazard's potential impact on the community.

### **B. Identification and Analysis of Comprehensive Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation:**

This Hazard Mitigation Plan contains both structural and non-structural options. For more information, see the comprehensive range of Mitigation Goals, Objectives, and Action Steps contained in Section C below.

#### **2. Existing Policies, Regulations, Ordinances and Land Use:**

Chapter 2 of this plan contains information regarding existing policies, regulations, ordinances, and land use that are relevant to this hazard. For more information, see Chapter 3, Section I.

#### **3. Community Values, Historic and Special Considerations:**

Historic buildings exist in the community, a few of which are Critical Facilities. There are historic and special considerations that pose significant challenges with regard to the retrofitting of historic buildings in order to make them more resilient to natural hazards. A small number of properties in the community are listed in the National Register of Historic Places.

#### **4. New Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect new buildings and infrastructure from the effects of this hazard.

#### **5. Existing Buildings and Infrastructure:**

The mitigation strategy and recommendations that follow include action steps designed to protect existing buildings and infrastructure from the effects of this hazard.

### C. Mitigation Strategy and Recommendations

#### 1. Mitigation Goal – Protect the population of Cook County from the effects of a disease outbreak.

Action Step	Responsible Department	Est. Cost	Funding Sources	Jurisdiction	Timeframe	Priority	Status
<b>Objective #1 - Secure external sources of funding and training to help prepare for and respond to events.</b>							
Increase Immunization education, prevention and pre-planning efforts, particularly for the homeless and low-income individuals in the community, and host flu shot and other immunization clinics.	Health Department	\$100,000	General Funds, GEMA, FEMA, Health Department	County and Cities	2019-2024	High	New
Identify vulnerable populations (homeless, migrants, low income, etc.) and identify community groups to work with in order to reach and educate these populations effectively regarding health issues.	EMA, Health Department	Staff time	General Funds, GEMA, FEMA	County and Cities	2019-2024	High	New
Develop plan to identify community locations to obtain and distribute Water, Food, Ice, Tarps, medical countermeasures, etc.	EMA	Staff time	General Funds, GEMA	County and Cities	2019-2024	Medium	New
Develop Local Emergency Planning Committee	EMA	Staff time	General Funds	County and Cities	2019-2024	Medium	New
Approach large businesses about working with the EMA on developing public health emergency plans.	Health Dept.	Staff time	General Funds	County and Cities	2019-2024	Medium	New

#### **D. Special Multi-Jurisdictional Strategy and Considerations:**

Most of the strategies outlined above apply to and are intended to be carried out by each of the local jurisdictions. In certain cases, where the action step may not apply to all jurisdictions, the applicable jurisdictions are noted in the table.

#### **E. Local Public Information and Awareness Strategy:**

All sections of the Plan shall be monitored and evaluated annually by the County Emergency Management Agency. Incremental accomplishments of Mitigation Goals, Objectives, and Action Steps will be reported to the public through appropriate means (news media, social media, web pages, City Council and County Commission meetings, etc.). By utilizing available resources, each jurisdiction will keep the public constantly informed of the development of these strategies and of how citizens can best assist with and/or take advantage of these efforts.

The major criteria to measure plan success will be the number of Goals, Objectives, and Action Steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property. For further details on plan execution, see Chapter 6.

#### **F. Changes from the Previous Plan**

- Action Steps were not numbered in the previous plan. In this update, they are numbered.

## **Chapter 6:** **Executing The Plan**

### Summary of changes:

- Revised and updated language.

### **Section I.** **Implementation of the Action Plan**

#### **A. Administrative Actions**

The meetings and planning process of the HMPUC have been overseen by the Cook County Emergency Management Agency. The Southern Georgia Regional Commission contracted with the Cook County Commission to administer and facilitate the planning process. The Cook County Commission and the Cities of Adel, Cecil, Lenox, and Sparks will adopt the Plan (on approval by GEMA and FEMA) by the resolutions contained in Appendix E.

#### **B. Authority and Responsibility**

The Cook County Commission and the Cities of Adel, Cecil, Lenox, and Sparks have authorized the submission of this Plan to both GEMA and FEMA for approval.

As determined by the City and County governments and the HMPUC, the Cook County EMA Director will be responsible for this Plan and its continued usage as a planning document. The EMA Director will oversee implementation, monitoring, and updates for all jurisdictions. The respective jurisdictions will be responsible for the implementation of their specific mitigation activities as proposed in this plan.

#### **C. Prioritization**

##### **1. Methodology for Prioritization**

In prioritizing the implementing of the action steps identified in this plan, those hazards deemed to pose the greatest threat will be given the primary consideration. In prioritizing the implementation feasibility of the action steps and projects, local governments will take into consideration the additional factors of cost and time. Those activities requiring smaller amounts of money and staff time to implement will be given highest implementation priority. Those steps requiring additional funding for equipment or staff time beyond the normal budgets of the communities will be incorporated into the budget process when possible based on the cost-benefit analysis described below.

##### **2. Use of Cost Benefit Analysis**

The data provided in Worksheet 3 will be utilized to quantify the number of persons and/or property at risk from each hazard. Combined with the criteria in Worksheet 4, this will allow local governments to assess the potential value of at-risk properties and the resulting benefits from the proposed action steps.

In prioritizing projects, the local governments will also utilize cost benefit analysis (CBA) to evaluate the feasibility of a major project. CBA is a well-established method for quantitatively comparing the benefits and costs of mitigation projects. The end result is a Benefit-Cost Ratio (BCR), which is derived from a project's total net present value of benefits divided by the total project cost estimate, which must include all documented project and maintenance costs. The benefits of mitigation projects are avoided damages, disruptions, losses, and casualties. Examples of common benefits include avoided or reduced damages to buildings, contents, or infrastructure; avoided or reduced economic impacts of loss of function of buildings; avoided or reduced displacement costs for temporary quarters; avoided or reduced loss of public services; avoided or reduced loss of net business income; avoided or reduced economic impacts of loss of function of infrastructure; avoided or reduced road or bridge closures; avoided or reduced loss of utility services; and avoided or reduced deaths and injuries.

### **3. Use of Other Calculations**

Additional calculations that were performed included: Availability of potential funding sources; overall feasibility; measurable milestones; public and political support for the proposed actions; and the STAPLEE criteria.

### **4. Use of Other Review Structure**

In addition to the cost-benefit analysis, other factors that may affect the prioritization of projects include the availability of special tax, grant, and/or loan funds which become available on a limited basis to finance project implementation, such as SPLOST funds or FEMA Pre-Disaster Mitigation Program funds.

## **D. Incorporation of Local Hazard Mitigation Plan Into Other Plans/Planning Measures**

This Plan will be reviewed by Cook County and the Cities of Adel, Cecil, Lenox, and Sparks. The requirements of this Hazard Mitigation Plan will be taken into consideration and will be incorporated into Comprehensive Plans, Five-Year Short-Term Work Program, Capital Improvement Plans, Local Emergency Operations Plans, and all other such Plans as appropriate.

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

To facilitate inclusion of this Plan, the Cook County Commission and the Cities of Adel, Cecil, Lenox, and Sparks will provide a copy of this Plan to the persons and/or committees responsible for writing and updating plans.

## **Section II.** **Evaluation and Monitoring**

### **A. Method**

The Cook County EMA Director will be charged with ensuring that this plan is monitored and periodically updated in subsequent years. The method that the Cook County EMA will use to monitor the plan and evaluate implementation progress will be the following:

- The Cook County EMA will conduct quarterly telephone interviews with the various local governments and area agencies in order to chart their plan progress.
- The EMA Director will hold formal public meetings at least once a year to monitor the progress of the plan implementation and allow the public a forum for expressing concerns, opinions, and ideas.
- Throughout the year, a series of informal meetings will be held in which various aspects of the plan, including monitoring and evaluation, are discussed.

### **B. Criteria Used To Monitor and Evaluate the Plan**

The major criteria to measure plan success will be the number of goals, objectives, and action steps, or components thereof, that have been completed, which in turn will result in savings of life, money, and property.

## **Section III.** **Plan Update and Maintenance**

### **A. Public Involvement**

Because the Hazard Mitigation Plan is intended to help ensure a safe and livable environment for all Cook County and Cities of Adel, Cecil, Lenox, and Sparks residents, it is imperative that public involvement be an integral part of the planning process.

Since adoption of the original Cook County Pre-Disaster Mitigation Plan, citizens have been kept involved and apprised of plan progress through such forums as regularly scheduled County Commission meetings, public hearings, and applicable newspaper coverage. This same level of public education and awareness and citizen involvement will continue over the next five years until the next required update of the Hazard Mitigation Plan. When specific issues dictate, public hearings will be conducted, and all other community planning efforts (Comprehensive Plan, Regional Plan, etc.) will afford citizens the opportunity to participate in and comment on the need to incorporate hazard mitigation initiatives.

To facilitate the goal of continued public involvement in the planning process, the EMA will assure that the following steps are taken:

- The public will be directly involved in the update and review of the Plan.
- Copies of the plan will be kept on hand at appropriate agencies throughout the community.

- The plan will be available City, County, and/or Regional Commission websites, and will contain an e-mail address and phone number the public can use for submitting comments and concerns about the plan.
- A public meeting will be held annually to provide the public with a forum for expressing concerns, opinions, and ideas. The EMA will set meeting schedules and dates and use County resources to publicize and host this meeting.

## **B. Timeframe**

Pursuant to the requirements set forth in the Disaster Mitigation Act of 2000, the community is again required to update and evaluate the plan no more than five years after its adoption. At least one year prior to the end of the required five-year update period, the EMA Director will begin the planning process for a new update to this plan. This will consist of establishing a new planning committee that will be tasked with completing the update following the same process used for this update.

No later than the conclusion of the five-year period following approval of the plan update, the EMA Director shall submit a revised Hazard Mitigation Plan to GEMA for its approval. It is important to note that the plan update process, as established by the planning committee, is subject to change, depending upon subsequent regulations and/or requirements set forth by GEMA and FEMA.

## **Chapter 7:** **Conclusion**

### Summary of changes:

- Revised and updated language.

Cook County and the Cities of Adel, Cecil, Lenox, and Sparks have suffered considerable damage in the past from natural hazards. Planning ahead and undertaking structural and nonstructural action steps before a disaster occurs can save lives and property. This philosophy has been the driving force behind the preparation of the Cook County Hazard Mitigation Plan.

Education of the population and enhanced warning can decrease the vulnerability of the county's citizens and visitors. Continued and improved public information and communication with the population are important parts of this plan. Because of this planning process, Cook County and Cities of Adel, Cecil, Lenox, and Sparks officials have gained a better understanding of the hazards affecting the community.

As a result of the planning process described in Chapter 1 and the hazard, risk, and vulnerability assessment in Chapter 2, Cook County and the Cities of Adel, Cecil, Lenox, and Sparks have a realistic perspective on the hazards to which the community is exposed. With the mitigation strategy outlined in Chapter 4 and the implementation plan included in Chapter 6, the local leaders have an "action plan" to follow when allocating resources to reduce their community's vulnerability to such hazards.

## **References**

Cook County Board of Tax Assessors (<http://www.qpublic.net/ga/cook/>)

Cook County website (<https://cookcountyga.us/>)

City of Adel website (<http://www.cityofadel.us/>)

Town of Lenox website (<http://www.cityoflenox.municipalimpact.com/city-hall>)

Center for Agribusiness & Economic Development. 2015 Georgia Farm Gate Value Report.  
([http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015\\_DEC16.pdf](http://caes2.caes.uga.edu/center/caed/documents/GAFGVR2015_DEC16.pdf))

Federal Emergency Management Agency ([www.fema.gov](http://www.fema.gov))

FEMA National Flood Insurance Program Community Status Book  
(<https://www.fema.gov/national-flood-insurance-program-community-status-book>)

Georgia Data. "Agriculture." (<https://georgiadata.org/agriculture.html>)

Georgia Emergency Management Agency, Georgia Mitigation Information System  
(<https://apps.itos.uga.edu/GEMA.GMIS/>)

Georgia Emergency Management and Homeland Security Agency (<http://www.gema.ga.gov/>)

Georgia Forestry Commission ([www.gatrees.org](http://www.gatrees.org))

National Oceanic and Atmospheric Administration, National Centers for Environmental Information, Storm Events Database (<http://www.ncdc.noaa.gov/stormevents/>)

National Weather Service. Archived NWS Watch/Warnings at the Iowa State University Environmental Mesonet (<https://mesonet.agron.iastate.edu/request/gis/watchwarn.phtml>)

Southern Georgia Regional Commission ([www.sgrc.us](http://www.sgrc.us))

USDOT Pipeline and Hazardous Materials Safety Administration. Office of Hazardous Materials Safety database  
(<https://hazmatonline.phmsa.dot.gov/IncidentReportsSearch/IncrSearch.aspx>)

U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>)

United States Census Bureau ([www.census.gov](http://www.census.gov))

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**Appendix G. HAZUS Report**