

**Final Adopted**

**Cook County, Georgia**  
**Pre-Disaster Mitigation Plan**



*For*

**Cook County and**  
**the Cities of Adel, Cecil, Lenox and Sparks**

*Prepared with assistance from the*

**Southern Georgia Regional Commission**

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## **Chapter #1-Introduction to the Planning Process**

<b>Chapter 1 Section</b>	<b>Updates to Section</b>
I. Purpose and need of the plan, authority & statement of problem	<ul style="list-style-type: none"> <li>• Changed Section title</li> </ul>
II. Local methodology, brief description of plan update process, Participants in update process	<ul style="list-style-type: none"> <li>• Update the participants, planning process and how data was collected.</li> <li>• Also changed the Section title</li> </ul>
III. Description of how each section of the original plan was reviewed and analyzed and whether it was revised	<ul style="list-style-type: none"> <li>• New Section.</li> <li>• Changes were made as necessary to Sections so that they agree with the new Local Hazard Mitigation Plan Update Template.</li> </ul>
IV. Organization of the plan	<ul style="list-style-type: none"> <li>• Updated per new Local Hazard Mitigation Plan Update Template and includes a timeline.</li> </ul>
V. Local Hazard, Risk, and Vulnerability (HRV) summary, local mitigation goals and objectives	<ul style="list-style-type: none"> <li>• The title of this Section was changed according to the new Update Template.</li> </ul>
VI. Multi-Jurisdictional special considerations (HRV, goals, special needs)	
VII. Adoption, implementation, monitoring and evaluation	<ul style="list-style-type: none"> <li>• Plan will be adopted after GEMA reviews and approves the update plan.</li> <li>• Old Section VII was deleted.</li> </ul>
VIII. Community Data (demographics, census, commerce, history, etc.)	<ul style="list-style-type: none"> <li>• The title of this Section was changed according to the new Update Template.</li> <li>• Updated demographics, census, commerce, history, etc.</li> <li>• Old Section VIII was deleted.</li> </ul>

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

On October 10, 2000 Congress enacted the Disaster Mitigation Act of 2000 (DMA 2000). Also known as the Stafford Act Amendments, it was signed into law by President Clinton on October 30, 2000, creating Public Law 106-390. The law established a national program for pre-disaster mitigation and streamlined the federal administration of disaster relief. Specific rules on the implementation of DMA 2000 required that all communities must have a Multiple Hazards Mitigation Plan in place in order to qualify for future federal disaster mitigation grants following a Presidential disaster declaration. The Pre-Disaster Plans prescribe ways to reduce or prevent future disaster damages caused by natural hazards. Pre-Disaster Mitigation planning by definition refers to any action that permanently reduces or eliminates long-term risks to human life and property.

The purpose of this document is to provide an overview of the natural hazards that may impact Cook County and the cities of Adel, Cecil, Lenox, and Sparks. Also this document will describe their plan for the “pre-disaster” mitigation of potential loss of life and damages to property that may occur with these events.

This document is the direct result of meetings & research done by the local governmental officials and citizens of Cook County and the cities of Adel, Cecil, Lenox, Sparks after they formed the Cook County Pre-Disaster Mitigation Planning Committee (otherwise known as the Cook County PDMPC). This Plan is the result of their commitment to reduce the risks of natural hazards and the effects of those natural hazards on their communities.

Authority for the development of this Plan was given by the Cook County Commission. Memorandums of Agreement were executed for the local governments by the Chairman of the County Board of Commissioners, the City of Adel Mayor, the City of Cecil Mayor, the City of Lenox Mayor, and the City of Sparks Mayor. Each Memorandum of Agreement was also executed by the Cook County PDMPC Chairman Denny Folsom.

Through all of their efforts, the Cook County Pre-Disaster Mitigation Plan along with a comprehensive range of Mitigation Goals, Objectives and Action Steps was developed (see Chapter 4) which will assist the local governments to emphasize a more direct approach to Pre-Disaster Mitigation. The long-term goal is to reduce potential natural disaster losses to life, property through Pre-Disaster Mitigation efforts. The overall focus is on the needs of Cook County and the cities of Adel, Cecil, Lenox, Sparks in order to reduce losses and enhance recovery from potential disasters.

## **SECTION II. LOCAL METHODOLOGY AND A BRIEF DESCRIPTION OF THE PLAN UPDATE PROCESS WITH A LIST OF PARTICIPANTS IN UPDATE PROCESS.**

This Pre-Disaster Mitigation Plan encompasses the jurisdictions of Cook County and the cities of Adel, Cecil, Lenox, and Sparks located in Southeast Georgia. The Southern Georgia Regional Commission was chosen to initiate the planning process and to edit this Plan. A Cook County Pre-Disaster Mitigation Planning Committee (Cook County PDMPC) was formed and a planning effort to review and collect data was undertaken which produced a Plan that contains their comprehensive range of 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 Sections I-VII) and hazardous material disasters (see Chapter 5 Section I).

An important part of the planning process is the Organization of resources. Assessing risks is also an important step in the development of the Plan. This includes identifying hazards, profiling hazard events, inventorying assets and estimating losses. Developing the Pre-Disaster Mitigation Plan, as well as, Implementing the Plan and Monitoring Its Progress are the final key parts of the planning process.

Potential members of the Cook County PDMPC were contacted by telephone, email, and/or by letter (a copy of which is included in (see Appendix E Section V) concerning their participation on the Committee. Emanuel Zanders of the Southern Georgia Regional Commission (a regional planning agency) provided input to the Cook County PDMPC by providing a regional perspective in their meetings. The Cook County PDMPC was comprised of representatives from Cook County and the cities of Adel, Cecil, Lenox, and Sparks and also included representation from other groups and individuals, as shown below, who attended meetings and/or conducted research:

**Cook County EMA Director** – Denny Folsom

**GA Forestry Commission** – Ronald Bryant

**Cook County** – Larry Arnold (Tax Assessor)

**City of Adel** – Richard Barr (Mayor)

**Cook County 911** – Cara Bradley (Communication Officer)

**City of Adel** – Michael Felts (Zoning and Inspections)

**Cook County 911** – Nickie Tucker (Communication Officer)

**City of Adel Public Works** – Wayne Giddens (Supervisor)

**City of Lenox** – Teresa Barber (City Clerk)

**City of Adel Fire Dept.** – Glenn Reed (Training Officer)

**City of Cecil** – James Spencer (Mayor)

**City of Adel Fire Dept.** – Jimmy Walker (Fire Chief)

**City of Cecil** – Florence Guest (City Clerk)

**GA Forestry Commission** – Levy Rentz

**City of Cecil** – Ben Pickett (Council Person)

**City of Sparks** – Bob Myers (Police Chief)

**City of Sparks** – Sonya Philpot (City Clerk)

In order to initiate an outreach program to neighboring communities, governments, agencies and businesses, e-mail lists were kept updated and those on them were informed of meetings through e-mails and/or telephone calls. Surrounding county EMA Directors were invited by e-mail to attend each meeting.

Additionally, several area county Hazard Mitigation Plans were being developed at the same time and an active meeting list was maintained for scheduling purposes, which was discussed at area meetings in order to invite those in other areas to the Cook County meetings.

The Committee met on the dates below. The agendas, and sign-in sheets are included in Appendix E Sections II and Section III:

October 11, 2011 (Public Hearing)

November 15, 2011

April 9, 2012

June 6, 2012

August 8, 2012

Plans consulted during the planning process include: The Cook County/City of Adel/City of Cecil/City of Lenox/City of Sparks Comprehensive Plan, The Cook County Emergency Operations Plan, the Cook County Community Wildfire Protection Plan, the Cook County Flood Insurance Study, and the State Hazard Mitigation Strategy.

Cook County nor its Cities have a Flood Mitigation Assistance Plan, so none was reviewed and used during the planning process.

#### **Public Comment and Participation:**

The public was invited to attend and comment during two public hearings. One public hearing was held on October 11, 2011 and was advertised in the Adel News Tribune. five (5) citizens including local staff and members of the previous Cook County PDMPC attended this public hearing along with one (1) planner from the Southern Georgia Regional Commission and one (1) representative from GEMA (see Appendix E).

The second public hearing for public review and comment of the GEMA and FEMA approved document was held on January 6<sup>th</sup> 2014 at 5:00 pm and was advertised in the Adel News Tribune. Cook County and the Cities of Adel, Cecil, Lenox and Sparks placed on their meeting agendas resolutions of adoption for the approved update, all governments adopted and resolutions along with a copy of the ad placed in paper and a sign in sheet are included in Appendix E.

The Cook County PDMPC decided on the following Mission Statement and the following Vision Statement to help guide them through the planning process.



**Cook County/City of Adel/City of Cecil/City of Lenox/City of Sparks**  
**Pre-Disaster Mitigation Planning Committee Mission Statement**

**“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/City of Adel/City of Cecil/City of Lenox/City of Sparks**  
**Pre-Disaster Mitigation Planning 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, Cook County and the cities of Adel, Cecil, Lenox, and Sparks.**

## **Section III                                      Original Plan Review and Revision**

The planning committee with assistance from the Southern Georgia Regional Commission (SGRC) collected new data and reviewed all chapters and sections of the original plan. Resources such as, but not limited to, the Cook County Tax Assessor, 2012 Community Wildfire Protection Plan, the Joint Comprehensive Plan, and the Five Year Short Term Work Program were used to collect data at the local level. In conjunction with local resources, the SGRC utilized National and State resources such as; the National Climatic Data Center (NCDC), GEMA’s GMIS, and the U.S. Census to gather pertinent info for the completion of this update.

The resources mentioned above provided the data for the updated GEMA worksheets pertaining to risk assessment, hazard profiling, inventory of assets, repetitive loss properties, the hazard frequency table, and an evaluation of mitigation actions. These worksheets were used to make necessary revisions throughout the plan. Furthermore, the Mitigation Goals, Objectives and Action Steps were reviewed to determine if they were to remain the same, be added to, modified or removed. Revisions were made based upon the change in needs and/or capabilities of Greater Cook County. All chapters have been updated to reflect the new material. Please see the tables at the beginning of the chapters to further show which sections were changed and what information was updated.

The plan was revised as required under the guidance of the committee. Cook County, and the cities of Adel, Cecil, Lenox, and Sparks, will formally adopt the Mitigation Update Plan through resolutions after GEMA and FEMA approval.

## **Section IV**

## **Organization of the Plan**

This plan is composed of seven chapters, beginning with this introductory chapter as Chapter 1. A detailed analysis of each of seven natural hazards is presented in Chapter 2. The analysis consists of a description of the hazard and the damage potential, historical frequency and probability of future occurrence, an inventory of assets exposed to the hazard and an estimate of the loss which the community could reasonably be expected to incur, land use patterns as they relate to each hazard, and any aspects of hazards which may be unique. Technological hazards are included in Chapters 3 and 5 of this state-mandated format. Presented in Chapter 4 is an itemized list of goals, objectives, tasks and action steps, which are proposed for implementation to mitigate likely adverse impacts of specific hazard events. Chapter 6 describes how the plan will be implemented and maintained. Chapter 7 is the conclusion. The Appendices include additional data by hazard, including maps and critical facility data, and required documentation.

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## **Section V Local Hazard, Risk, and Vulnerability (HRV) summary, local mitigation goals and objectives.**

As noted above, Chapter 2 identifies and assesses community risks to certain natural hazards and identifies how to reduce exposure to them. The assessment provides the factual basis for activities proposed to reduce losses, including a description of the type, location, and extent of natural hazards deemed most likely to befall Cook County. Reference was made to the historical

record to compile information on previous events and for use in estimating the probability of hazard recurrence. Vulnerability includes a summary of past events and their impacts. This is quantified by describing the types and numbers of existing and future buildings, infrastructure, and critical facilities located in identified hazard prone/susceptible areas. The result of this assessment is that Cook County and the Cities of Adel, Cecil, Lenox, and Sparks are most at risk from the following natural hazards: Hurricanes/Tropical Storms, Tornadoes, Flood, Windstorms/Hailstorms/Lightning, Wildfire, Extreme Heat, and Drought. As for technological hazards, Cook County and the municipalities are most at risk from a Hazardous Materials Release as a result of a transportation accident.

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

**Inventory of Critical Facilities:** All critical facilities Cook County have been identified, updated, mapped, and illustrated on the GMIS database and are also included in Appendix A of this update.

**Identification of Hazards:** Maps and historical data sources were studied and reviewed in order to identify the geographic extent, intensity, and probability of occurrence for various hazard events. The planning committee identified seven (7) major hazards that typically affect Cook County along with information regarding Hazardous Materials Release. An updated comprehensive hazard history for Cook County and the Cities of Adel, Cecil, Lenox, and Sparks is included in Appendix D.

**Profile of Hazard Events:** The planning committee analyzed each hazard and how they have affected Cook County in the past. Also the committee evaluated what part of Cook County's population and infrastructure has historically been vulnerable to each specific hazard. An updated profile of each hazard is discussed in Chapters 2 and 3.

**Inventory of Assets:** This step was accomplished by determining the proportion of buildings, value of buildings, and the population in Cook County that are located in hazard areas. Worksheet #3a was updated to outline this step of the HRV assessment.

**Estimation of Losses:** Use of Worksheet 3a (Inventory of Assets) and Georgia Mitigation Information System (GMIS) reports and maps for critical facilities allowed the committee to analyze losses likely to be sustained in a geographic area. Describing vulnerability in terms of dollar losses provides the county with a common framework in which to measure the effects of hazards on structures throughout the county. All information in this section has been updated. *(see Appendix A and Appendix D).*

**Evaluation of Mitigation Goals, Objectives, and Actions:** The Cook PDMPC utilized two meetings to discuss goals, objectives and actions. During the review the committee decided if the goals, objectives, and steps were completed, ongoing, or discontinued. The steps were ranked as high priority, medium priority, or low priority. In order to evaluate alternative actions and to rank priorities, SGRC Staff used the STAPLEE criteria as a guide. This criterion is a planning tool created by FEMA. STAPLEE is an acronym for Social, Technical, Administrative, Political, Legal, Economic, and Environmental. Each mitigation strategy step was evaluated using STAPLEE criteria as the guiding principle to identify those steps best for Brooks County.

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

This plan has been developed for Cook County and the municipalities of Adel, Cecil, Lenox, and Sparks. In general, all the jurisdictions are equally vulnerable to the natural hazards addressed in this plan, and the mitigation action steps are intended to be undertaken by all jurisdictions. However, special considerations unique to a jurisdiction are noted where applicable.

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

Presented in Chapter 6 is a description of plan implementation, monitoring, evaluation, and update activities, it also identifies who will have authority and responsibility for implementing and coordinating this plan, and for prioritizing projects when applying for funding. This chapter also includes the methodology for evaluating the plan on an annual basis, and meeting the DMA 2000 requirement that the plan be updated every five years. This section details the process that will ensure the Cook County Pre-Disaster Mitigation Plan becomes an integral part of local government and life in the community.

**\*\*Copies of Local Resolutions for Plan Adoption are to be added once adopted.**

## **Section VIII**

## **Community Data**

### **Population**

<b>Jurisdiction</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>
Cook County	17,125	**17,251	16,603

### **Per Capita Income**

<b>Jurisdiction</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>
Cook County	\$24,944	\$24,071	\$23,804

### **Education**

#### ***COMMUNITY SCHOOLS:***

4 county public schools with teachers, students in 2009; 1 private school with 60 students in 2005.

#### ***HIGHER EDUCATION:***

**Technical College:** Moultrie at Moultrie (23 miles) with 1,700 students; Wiregrass - Cook County Campus at Sparks (local) with 122 students.

**2-yr:** Abraham Baldwin Agricultural College at Tifton (24 miles) with 3,033 students.

**4-yr:** Valdosta State University at Valdosta (26 miles) with 9,900 students.

**Other Facilities:** Satellite campus of Valdosta Technical College. Cook County Workforce Development Center, opened in April 2002 with 280 students.

### **Local Taxes**

#### ***PROPERTY:***

Property taxes are determined by tax rates and assessment ratios which vary by location and state. A realistic method to compare property taxes from different locations is to use the 'effective tax rate'. Effective tax rates combine city, county, school, and state tax rates into one convenient figure – the annual tax for each \$1,000 of property at its fair market value. This rate applies to all property – land, buildings, equipment and inventory. Certain property is exempt from local property tax.

#### ***Effective Rates:***

<u>City</u>	<u>Year</u>	<u>Within City</u>	<u>Outside City</u>
Adel	2009	\$12.97	\$10.39

#### ***SALES:***

City and County have 3% local sales tax in addition to the 4% state sales tax.

## **Incentives/Exemptions**

### ***INVENTORY (Freeport):***

Freeport is the general term used for the exemption of ad valorem tax on inventories as defined by Georgia law. The law offers manufacturers, distributors, wholesalers and warehouse operations an attractive inventory tax exemption on three classes of property.

\*\* Cook County exempts 100% on all classes of certain business inventory from property taxation.\*\*

### ***JOB TAX CREDIT:***

Tier: 3, Amount: \$1,250 as of 2012

Tier refers to the economic well-being of a county. For more information go to <http://www.dca.state.ga.us/economic/TaxCredits/programs/taxcredit.asp>

***JOINT DEVELOPMENT AUTHORITY:*** Yes

## **Municipal Services**

### ***FIRE PROTECTION:***

12 full-time and 20 volunteer city personnel. 125 county volunteer personnel. Protection outside city limits. Fire insurance classification 3 in city and 10 in county.

### ***ZONING:***

City has zoning ordinance and subdivision design standards. County has zoning ordinance.

## **Transportation**

***COMMERCIAL AIRPORT:*** Valdosta Airport (26 miles) service by ASA.

***GENERAL AVIATION AIRPORT:*** Adel Airport (local) with a 4,000 feet bituminous runway, aircraft tiedown, fuel, hangar, lighted runway, minor repairs. Taxi/runway extension under design; Valdosta Airport (26 miles) with a 6,300 feet bituminous runway, aircraft tiedown, airframe & power plant repair, lighted runway, VOR/DME, ILS.

***RAIL:*** CSX piggyback - Cordele (128 miles); Norfolk Southern piggyback - Cordele (61 miles); Norfolk Southern rail - Adel (local).

### ***WATER:***

Navigable River: Altamaha River (9 foot channel depth) with public barge dock at Brunswick (120miles).

Seaport: Brunswick Seaport (120 miles) with maintained channel depth of 32 feet.

## **Utilities**

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

***Natural Gas:***

Available in industrial quantities on both a firm and an interruptible basis.

***Water:***

Plant capacity: 10,000,000 gal/day. Consumption: 1,800,000 gal/day average.

Elevated storage capacity: 800,000 gal. Source: 6 deep wells. Pumping capacity: 6,500 gal/min.

***Sewer:***

Plant Capacity: Plant Capacity: 3,400,000 gal/day; Plant Load: 1,200,000 gal/day.

SOURCE: <http://www.georgiafacts.net>

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

<b>Chapter 2 Section</b>	<b>Updates to Section</b>
<b>I.</b> Hurricane and Tropical Storm	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
<b>II.</b> Tornado	Updated events, added critical facilities to GMIS, updated tax information. . Recalculated hazard frequency data.
<b>III.</b> Flood	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
<b>IV.</b> Windstorms/Hailstorms/Lightning	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
<b>V.</b> Extreme Heat	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
<b>VI.</b> Wildfire	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
<b>VII.</b> Drought	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.

Below, each of these seven (7) hazards is individually addressed in order of selection by the Committee.



## **Section I**

## **Hurricanes/Tropical Storms**

### **A. Identification of Hurricanes/Tropical Storms:**

The threat of Hurricanes/Tropical Storms has been chosen by the Cook County PDMPC as the most likely hazard to occur & cause damage throughout the County based on past experience, the FEMA described methodology and other factors. Historic data has been examined from various sources (see Appendix A) and from the National Climatic Data Center, as well as from local history and personal accounts (see Meeting Minutes in Appendix E), in order to determine frequency of events.

In addition there are hazard maps generated by The GEMA Pre-Disaster Mitigation Critical Facility Inventory for Wind (see Appendix A) that were examined. Hurricanes/Tropical Storms are not addressed but a GEMA hazard map showing no data has been printed (see Appendix A). Complete inventory information is contained at <https://www.itos.uga.edu/gema> (password protected) & in the Appendices of this Plan. These map values come from the predicted model of the GEMA database. Tropical Cyclones are the general term used for all circulating weather systems over tropical water. Tropical Cyclones are destructive and have the potential to cause great damage and loss of life and are divided into four major types: Tropical Disturbance, Tropical Depressions, Tropical Storms and Hurricanes.

A Tropical Disturbance is a discrete tropical weather system of apparently organized convection originating in the tropics or subtropics, having a non-frontal migratory character, and maintaining its identity for 24 hours or more (see <http://www.aoml.noaa.gov/hrd/tcfaq/A5.html>).

Tropical Depressions are defined as an organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph.

Tropical Storms are defined as an organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 to 73 mph.

A Hurricane is defined as an intense tropical weather system with a well-defined circulation and maximum sustained winds of 74 mph or higher.

**The information above may be seen “Do You Know What To Do When A Disaster Strikes?”.**

According to the National Hurricane Center ([www.nhc.noaa.gov](http://www.nhc.noaa.gov)), the earliest Hurricane ever recorded in the Atlantic was on March 7, 1908. The latest forming Hurricane was Hurricane Alice on December 31, 1954. Also, the year 2005 saw thirty-one (31) storms, twenty seven (27)

named storms and was a record breaking year for the number of hurricanes formed with fifteen (15). 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. Please see “Do You Know What To Do When A Disaster Strikes?”

## **B. Profile of Hurricanes/Tropical Storms:**

Tropical storms (including tropical depressions) with less threatening winds may still cause considerable property damage from the storms’ heavy rains and strong winds. During recent years, repetitive damage in Cook County has been caused by such storms. According to the National Climatic Data Center records, in 2004 Tropical Storm Jeanne moved north across south central Georgia during the early morning hours of September 27. Maximum sustained winds up to 40 knots with peak gusts to 50 knots were reported. Rainfall totals varied from an inch at Albany, Georgia to nine inches at Tifton, Georgia. Wide spread area flooding was reported over portions of south central Georgia, with many county and dirt roads washed out. There were numerous reports of downed trees and power lines. An estimated 36,000 customers were without power, and many homes were damaged by fallen trees. A state of emergency was declared for the affected counties, including Cook County.

Also in 2004, Cook County was declared a Federal disaster area after Tropical Storm Frances caused extensive damage in the county. Beginning on September 3, 2004, the county was inundated with heavy rains and high winds. The flooding on three roads caused washouts of culverts on Rutland Road, Beulah Church Road, and Bullard Road. Flooding also caused erosion and washout of approximately 20 feet of the asphalt surface of Brushy Creek Road. In addition to the road damage, the high winds blew tree limbs and other debris onto county roads and public property causing an immediate threat to lives, and public health and safety. The cost of debris removal exceeded \$33,000.

In September, 1998, Tropical Storm Earl produced widespread moderate to heavy rain averaging three to six inches and strong winds with gusts of 40 to 50 mph as it moved from southwest to east-central Georgia. Local officials in the region reported county roads closed due to high water, flooding of low-lying areas, and sporadic power outages. Total estimated damage regionally was \$650,000.

Since the previous update of this plan there was one Tropical Storm recorded by the NCDC, which occurred in the County on August 22, 2008 resulting in \$30,000 worth of property damage.

See the National Climatic Data Center (NCDC) table in Appendix D for additional details regarding past hazard events in Cook County. Because the size of a hurricane/tropical storm event means that extremely large geographic areas are affected simultaneously, all of Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks are 100% at-risk of

experiencing hurricanes and tropical storms. Therefore, there are no differences in the historic trend or the probability of future occurrences between the jurisdictions. Within each community there is a 6.25% chance of a hurricane event each year based upon the historic record of 1 event in the past 16 years and a 25% chance of a tropical storm event each year based upon the historic record of 4 events in 16 years.

**Please see the table below for information on Hurricane categories:**

#### **SAFFIR-SIMPSON HURRICANE SCALE**

<i>Category</i>	<i>Wind Speed</i>	<i>Damage</i>
<b>1</b>	<b>74-95 mph</b>	<b>Minimal, no real damage to building structures. Unanchored mobile homes, shrubbery and trees damaged. Also some coastal road flooding and minor pier damage.</b>
<b>2</b>	<b>96-110 mph</b>	<b>Moderate, some damage to roofs, door and windows. Considerable damage to vegetation, mobile homes and piers.</b>
<b>3</b>	<b>111-130 mph</b>	<b>Extensive, some structural damage to small residences and utility buildings. Mobile homes are destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by floating debris.</b>
<b>4</b>	<b>131-155 mph</b>	<b>Extreme, some complete roof failure on small residences. Major erosion of beach areas. Major damage to lower floors of structures near the shore.</b>
<b>5</b>	<b>&gt;155 mph</b>	<b>Catastrophic, complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away.</b>

**From “Do You Know What To Do When A Disaster Strikes?”**

Hurricane/Tropical Storm season in Georgia is officially from June 1 through November 30, but they may occur slightly before or after those dates.

Because of its location, Cook County is vulnerable to severe Hurricanes/Tropical Storms forming in both the Atlantic Ocean and the Gulf of Mexico. Also, the potential Hurricanes may degrade into Tropical Storms, Tropical Depressions or Tropical Disturbances by the time they reach Cook County. However, even if the Tropical Storms, Depressions or Disturbances never

reach Hurricane strength before making shore, they may contain Tornadoes or Hail. The effects vary depending on the severity of the Hurricane/Tropical Storm and the duration of the event.

### **C. Inventory of Assets Exposed to Hurricanes/Tropical Storms:**

All structures in Cook County are equally exposed to hurricanes and tropical storms. Manufactured homes are more vulnerable than properly built stick-built homes, which are built to a wind-load of 100 mph sustained. In addition, Cook County is covered with dense tree vegetation. This plant cover creates considerable debris in windstorms, and falling trees and broken limbs can disrupt electrical power and communication transmission lines.

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Hurricanes/Tropical Storms. The number of structures within the hazard area for each jurisdiction is as follows:

**Cook County:** 6,928 structures      **City of Adel:** 3,485 structures

**City of Cecil:** 236 structures      **Town of Lenox:** 566 structures

**Town of Sparks:** 924 structures

*\*\*Please see GEMA Worksheet 3A: Inventory of Assets in the Appendices for a breakdown by jurisdiction and structure type.*

All 29 of the Critical Facilities and Infrastructure are located in this Hurricane/Tropical Storm hazard area and the separate hazard area of Wind and have a total of 634,129 square feet. All of the Critical Facilities have a Wind Hazard Score of two (2).

*(see GEMA Pre-Disaster Mitigation Critical Facility Inventory Database Reports contained at <https://www.itos.uga.edu/gema> (password protected)).*

### **D. Estimate of Potential Losses due to Hurricanes/Tropical Storms:**

The total replacement value of Critical Facilities in Greater Cook County is \$190,238,700.

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Hurricanes/Tropical Storms.

The total value of structures for each jurisdiction is as follows:

**Cook County:** \$293,941,091

**City of Adel:** \$227,119,332

**City of Cecil:** \$7,354,379

**Town of Lenox:** \$23,303,924

**Town of Sparks:** \$42,329,454

*\*\*Worksheet 3A in the Appendices breaks down the tax assessor data by jurisdiction.*

#### **E. Land Use and Development Trends Related to Hurricanes/Tropical Storms:**

Cook County design-wind for properly constructed and properly anchored manufactured homes is 80 mph sustained winds, while design-wind for stick-built homes, is 100 mph. Because the hurricane/tropical storm hazard zone is countywide, existing land use patterns and development trends will result in future development in the county that may be affected by hurricanes/tropical storms. The mitigation strategy in Chapter 4 includes action steps intended to reduce the possible adverse effect on such development.

#### **F. Multi-Jurisdictional Differences for Hurricanes/Tropical Storms:**

There is an equal chance of Hurricanes/Tropical Storms occurring in any jurisdiction. All of Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks may be affected by Hurricanes/Tropical Storms.

#### **G. General Overall HRV Summary of Hurricanes/Tropical Storms:**

Hurricanes/Tropical Storms have the potential to cause damage at any place, at any time, throughout Cook County. These disasters are usually preceded by some watch or warning well in advance. Of course, the cost of the damage and potential loss of life may be higher if the path

of the Hurricanes/Tropical Storms were to occur in populated areas and municipalities, as opposed to if it were to occur in more agricultural based sections of the Cook County. Property damages can run into the millions of dollars, including government infrastructure (washed out roads), flooding of homes and debris removal.

There haven't been any changes since the previous plan was approved that would negatively affect the community's overall vulnerability to this hazard. However, there have been improvements that reduce negative impacts such as the Code Red warning system, attainment of Storm Ready designation, and installation of auxiliary generators for emergency shelters.

The Cook County PDMPC recognizes Hurricanes/Tropical Storms as the most likely natural hazard to occur and cause damage. They developed a comprehensive range of Mitigation Goals, Objectives and Action Steps to lessen Hurricane/Tropical Storm impacts on Cook County.

## **Section II**

## **Tornado**

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

The threat of a Tornado has been chosen by the Cook County PDMPC as the second most likely hazard to occur & cause damage in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks based on past experience, the FEMA described methodology and other factors. Historic data has been examined from various sources including the National Climatic Data Center as well as from local history and personal accounts in order to determine frequency of events.

<b><i>Number</i></b>	<b>Wind Speed</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 mph 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 mph to 135 mph	Significant Damage. Roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; highrise windows broken and blown in; light-object missiles generated.
EF-3	136 mph to 165mph	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 mph 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	Above 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.

In addition there are hazard maps generated by The GEMA Pre-Disaster Mitigation Critical Facility Inventory that were examined. Tornadoes are not addressed, but a GEMA Hazard Map showing no data has been printed out. Complete inventory information is contained at <https://www.itos.uga.edu/gema> (password protected) & in Appendix A of this Plan. These map values come from the predicted model of the GEMA GMIS database.

A Tornado is a violently rotating column of air extending to the ground. Tornadoes are one of nature's most destructive forces. Tornadoes can generate wind speeds of up to 318 miles per hour. A Tornado's damage path can be more than a mile wide and fifty (50) miles in length.

Tornadoes have the potential to be destructive and may occur at any time. Tornadoes may develop quickly in Cook County. Tornadoes can occur at any place, at any time due to inclement weather conditions, as a result of a passing front, or as part of Thunderstorm or Hurricane/Tropical Storm events. Tornado season in Georgia is typically from March through August. Tornadoes are most likely to occur between 3:00 p.m. and 9:00 p.m. Tornadoes may cause damage to Cook County at any time, but Hurricane/Tropical Cyclone season (June 1 to November 30th) is another time that they are particularly active. Not until the last minute, if then, is it possible to determine the time and location of a Tornado.



## **B. Profile of Tornado Events, Frequency of Occurrences, and Probability:**

The path width of a tornado averages about 200 yards and therefore can have a substantial impact on human life and property. Damage from the average tornado includes roof surfaces, mobile homes pushed off of their foundations, and automobiles pushed off of the road. More severe tornadoes can lift 300-ton objects and toss homes more than 300 feet.

In the past 16 years, National Climatic Data Center records show that Cook County has experienced 2 reported tornadoes. This record represents a 12.5% chance of a tornado event per year, which is applicable to all communities as a tornadic event is a random event, not limited to any specific geographic area or symptomatic of any particular topography or land characteristics. Most of the tornadoes were associated with fast-moving cold fronts. In recent years with the development of Doppler radar, Cook County has been placed under numerous tornado warnings by the National Weather Service due to cyclonic activities detected by the radar in thunderstorms passing over Cook County.

**The break-out of reported tornadoes in Cook County since 1950 is:**

**1 F2 (113-157 mph)**

**7 F1 (73 – 112 mph)**

**2 F0 (40 – 72 mph)**

Based upon the historic record, the EF-1 category tornado is the most common type of tornado to occur within Cook County. It can be expected that the EF-1 tornado will continue to be the most common tornado within Cook County.

There has been one Tornado since the previous update of this plan. This event occurred on August 22, 2008 in the City of Adel and was categorized as an EF-1 by the NCDC with property damage totaling \$25,000.

There are hazard maps generated by GEMA's Pre-Disaster Mitigation Critical Facility Inventory that were examined. Tornadoes are not addressed but a GEMA hazard map has been printed with no data (see Appendix A). Complete inventory information is contained at <https://www.itos.uga.edu/gema> (password protected) & in Appendices of this Plan. These map values come from the predicted model of the GEMA GMIS database.

### **C. Inventory of Assets Exposed to Tornadoes:**

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Tornadoes. The number of structures within the hazard area for each jurisdiction is as follows:

**Cook County:** 6,928 structures      **City of Adel:** 3,485 structures

**City of Cecil:** 236 structures      **Town of Lenox:** 566 structures

**Town of Sparks:** 924 structures

*\*\*Please see GEMA Worksheet 3A: Inventory of Assets in the Appendices for a breakdown by jurisdiction and structure type.*

All 29 of the Critical Facilities and Infrastructure are located in this Hurricane/Tropical Storm hazard area and the separate hazard area of Wind and have a total of 634,129 square feet. All of the Critical Facilities have a Wind Hazard Score of two (2).

*(see GEMA Pre-Disaster Mitigation Critical Facility Inventory Database Reports contained at <https://www.itos.uga.edu/gema> (password protected)).*

### **D. Estimate of Potential Loss to a Tornado:**

The threat of Tornadoes is a constant in Cook County, due to their unpredictability and random occurrence of the hazard. When and where they will occur, and the potential damage that they

may cause, is not easy to figure due to the unpredictability of the hazard itself and the intensity levels of Tornadoes that may occur.

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Hurricanes/Tropical Storms.

The total value of structures for each jurisdiction is as follows:

**Cook County:** \$293,941,091

**City of Adel:** \$227,119,332

**City of Cecil:** \$7,354,379

**Town of Lenox:** \$23,303,924

**Town of Sparks:** \$42,329,454

*\*\*Worksheet 3A in the Appendices breaks down the tax assessor data by jurisdiction.*

In the GEMA Pre-Disaster Mitigation Critical Facility Inventory appearing on-line at <https://www.itos.uga.edu/gema> (password protected) and in the Appendices, we estimate the potential losses that could occur to the Critical Facilities and Infrastructure. When available, we also estimate many values related to disaster losses including replacement costs, content loss, displacement costs and other values.

100% of the 29 Critical Facilities located in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Tornadoes. The total replacement value on these Critical Facilities is \$190,238,700. The replacement values contained in this inventory are figured at a commercial building cost rate of \$300.00 per square foot.

Damage to crops is not taken into account in any of these figures. According to the most recent figures (2010) on The University of Georgia's Website [www.georgiastats.uga.edu](http://www.georgiastats.uga.edu) (Georgia County Guide), Cook County's Forestry & Forest Products Farm Gate Value is \$120,000. The Total Farm Gate Value in Cook County is approximately \$84,320,346. The total Livestock and Aquaculture Value is \$3,080,755. While we have these values listed, we recognize that

Tornadoes would not normally fully impact the value of these properties, or be big enough to wipe out all assets.

#### **E. Land Use and Development Trends Related to Tornadoes:**

The building code standards for Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks are intended to secure buildings for heavy winds; however, tornado winds are unpredictable and usually cause disaster to structures no matter how they are constructed. Cook County design-wind for properly constructed and properly anchored manufactured homes is 80 mph sustained winds, while design-wind for stick-built homes is 100 mph. Because the hurricane/tropical storm hazard zone is countywide, existing land use patterns and development trends will result in future development in the county that may be affected by hurricanes/tropical storms. The mitigation strategy in Chapter 4 includes action steps intended to reduce the possible adverse effect on such development.

In an effort to improve infrastructure, fire services, and police protection to support future development, the local officials pursue Community Development Block Grants with the assistance of the Southern Georgia Regional Commission. Once approved, CDBGs can aid Greater Cook County can help complete projects that will mitigate the effects of natural hazard disasters.

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

All of Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks may be affected by Tornadoes. <https://www.itos.uga.edu/gema> The GEMA maps in the Appendix graphically show that all of Greater Cook County has a Wind hazard score of two (2). While wind zone maps are not indicative of where a tornado may strike, they are the most closely related maps to identify tornado risk available in the ITOS database. Therefore, it has been determined that there is an equal chance of Tornadoes occurring in any jurisdiction throughout Cook County.

#### **G. General Overall HRV Summary of Tornadoes:**

Tornadoes have the potential to cause damage at any place, at any time, throughout Cook County. Of course, the cost of the damage and potential loss of life may be higher if the Tornado were to occur in populated areas and municipalities, as opposed to if they were to occur in more agricultural based sections of Cook County. The vulnerability grows as Cook County becomes

more urbanized. An F1 or F2 tornado in the more developed areas of Cook County could cause significant damage and loss of life.

Since approval of the previous plan there haven't been any changes that would negatively affect the community's overall vulnerability to this hazard. However, there have been improvements that reduce negative impacts such as the Code Red warning system, attainment of Storm Ready designation, and installation of auxiliary generators for emergency shelters. One of the most notable goals accomplished is development of a hardened command center from which 911 and emergency personnel can coordinate and direct community response to hazard incidents. The Cook County PDMPC updated the comprehensive range of Mitigation Goals, Objectives and Action Steps to lessen Tornadoes impact on Cook County; these can be found in Chapter 4.

## **Section III**

## **Flood**

### **A. Identification of Flood:**

Cook County is located within the "Tifton Uplands" of the Southern Coastal Plain physiographic province. The county's land surface is nearly level to gently sloping and is dissected by numerous shallow rivers and streams. The largest of these are the Little River which forms the county's western border with Brooks and Colquitt Counties, and the New and Withlacoochee Rivers which form the county's eastern border with Berrien County. The central and southern portions of the county, near the Cities of Adel, Cecil and Sparks, have a number of depressional bays and cypress ponds which range from a few acres to several hundred acres in size. The presence of these depressional areas with the nearly level topography around them greatly reduces the rate of surface drainage in this portion of the county.

### **Timeline for National Flood Insurance Program (NFIP) Activity**

<b>Jurisdiction</b>	<b>Initial FHBM</b>	<b>Initial FIRM</b>	<b>Updated FIRM</b>	<b>Began NFIP Participation</b>
<b>Cook County</b>	n/a	4/3/96	9/11/09	4/3/96
<b>City of Adel</b>	7/18/75	9/1/77	9/11/09	9/1/77
<b>City of Cecil</b>	n/a	12/6/01	9/11/09	12/6/01
<b>Town of Lenox</b>	n/a	12/6/01	9/11/09	12/6/01
<b>Town of Sparks</b>	2/14/75	11/16/77	9/11/09	11/16/77

**A step beyond NFIP participation is joining the Community Rating System (CRS).** The Community Rating System (CRS) is a program administered by the Federal Emergency Management Agency. It provides lower insurance premiums under the National Flood Insurance Program. The premium reduction is in the form of a CRS Class, similar to the classifications used for fire insurance. A Class 1 provides a 45% premium reduction. A Class 10 provides no reduction. The CRS Class is based on the floodplain management activities a community implements. In many cases, these are activities already implemented by the community, the state, or a regional agency. The more activities implemented, the better the CRS class. Currently Cook County and its municipalities do not participate in the CRS program.

**The benefits of joining the CRS are:**

1. Money stays in your community instead of being spent on insurance premiums.
2. Every time residents pay their insurance premiums, they are reminded that the community is working to protect them from flood losses, even during dry years.
3. The activities credited by the CRS provide direct benefits to the community, including:
  - a. Enhanced public safety,
  - b. Reduction in damage to property and public infrastructure,
  - c. Avoidance of economic disruption and losses,
  - d. Reduction of human suffering, and
  - e. Protection of the environment.
4. Local flood programs will be better organized and more formal.
5. The community can evaluate the effectiveness of its flood program against a nationally recognized benchmark.
6. Technical assistance in designing and implementing some activities is available at no charge.
7. The community will have an added incentive to maintain its flood programs over the years.
8. The public information activities will build a knowledgeable constituency interested in supporting and improving flood protection measures.

As of May 2012, 527 communities in Georgia participate in the NFIP. Of these communities, 36 (or 7%) participate in the CRS. In terms of total Flood Insurance policies held by residents, 21 of the top 50 Georgia communities participate in the CRS. The remaining 29 communities present an outreach opportunity that is used to encourage participation in the CRS.

Cook County, the Cities of Adel and Cecil, and the Towns of Lenox and Sparks do not participate in the CRS Program.

## **B. Profile of Floods:**

Members of the Cook County PDMPC have witnessed many unreported and underreported cases of minor to major flooding occurring with some instances lasting for days at a time, following large rain events. Only certain areas of the County are usually vulnerable to major flooding as mentioned in the following paragraphs.

The following are “Principal Flood Problems” documented in the 2009 Flood Insurance Study for Cook County:

The principal sources of flooding in Cook County are the Little River which runs along the western boundary, Bear Creek which runs through the center of the county and the City of Adel, New River which runs along the northeast county boundary, Brushy Creek which runs along the north central and north east portion of the county, and Rock Branch which runs along the north central portion of the county. Principal flooding sources also include Bear Creek Tributary, Channel A, Giddens Mill Creek, and Morrison Creek which are located in the vicinity of the City of Adel. Information on the past floods in Cook County is sparse. Information on the Little River indicates that floods occurred in 1948, 1960, and 1961. Major flooding occurred in Cook County in March 1998. Hurricane Floyd caused flooding in September 1999. The simultaneous impact of Tropical Storm Bonnie and Hurricane Charley on August 13, 2004 also caused flooding across the entire state. Hurricane Frances, Hurricane Ivan, and Hurricane Jeanne also caused widespread flooding across the state in September 2004. Hurricane Katrina caused widespread evacuations and localized flooding in August of 2005 (See the FIS included in the Appendices).

Even though the Cook County FIS talks about certain flood years only one is specific to Cook County (occurred in March 1998), the rest represents state flooding. According to NCDC Storm events for 1996 through 2012 only one (1) flood occurred in Cook County in that 16 year span, which gives Cook County and its Cities a 6.25% probability chance of future flood events. (Appendix G, Section I Hazard Frequency Table )

According to the GEMA GMIS database, Cook County has zero (0) Critical Facilities in the flood zone. In the past five years there were zero (0) floods recorded by the NCDC.

### **City of Adel**

According to the GEMA database, the City of Adel has zero (0) Critical Facilities in the flood zone. In the past five years there were zero (0) floods recorded by the NCDC for Adel.



### **City of Cecil**

According to the GEMA database, the City of Cecil has zero (0) Critical Facilities in the flood zone. In the past five years there were zero (0) floods recorded by the NCDC for Cecil

### **Town of Lenox**

According to the GEMA database, the Town of Lenox has zero (0) Critical Facilities in the flood zone. There are no known events of flooding in the past five years for the Town of Lenox.

### **Town of Sparks**

According to the GEMA database, the Town of Sparks has one (1) Critical Facility in the flood zone; the other six (6) are not, which gives them a Flood Hazard score of 0. There are no known events of flooding in the past five years for Sparks.

Cook County's lowest elevation is about 142 feet along the county's southern border where the Withlacoochee River enters neighboring Lowndes County. The highest elevation is a little greater than 320 feet in the extreme northern part of the county, to the east of where I-75 and U.S. #41 enter Tift County. The City of Adel is generally above 230 feet. The lowest elevation is 205 feet in the extreme southeast portion of the city where Bear Creek exits the city limits. The highest elevation in the interior part of the city is 244 feet along West Fourth Avenue and the highest overall elevation is 248 feet in the extreme northeastern part of the city approximately 2 miles northeast of downtown.

Elevations in the City of Cecil range from 220 feet in the extreme southwest portion of the city west of I-75, to a little more than 250 feet in the northern portion of the city just east of I-75. In the Town of Lenox, elevations are generally around 290 feet. The lowest elevation is about 250 feet located near the sewer treatment pond northwest of I-75 and the highest elevation is a little greater than 300 feet in the residential area northeast of downtown. Elevations in the Town of Sparks are generally about 240 feet. The elevations range from 225 feet where Bear and Giddens Mill Creek's exit southward from the City, to a little more than 250 feet in the extreme northwest portion of the City along I – 75.

AE Flood Zones have been mapped within Cook County, and indicate Base Flood Elevations (BFEs) within these zones. The BFEs range from 209 feet above sea level to 234 feet above sea level.

Annual precipitation runoff for Cook County ranges from 10 – 11 inches, which equals approximately 5.4 billion cubic feet (40.3 billion gallons) of water. This represents the volume of water directly entering the county's rivers, streams, and depressional areas. The remaining water

either evaporates or is absorbed by the ground. Surface stream drainage within Cook County is directed by a dendritic (branching tree – like) pattern. The larger depressional areas have no drainage outlets and their water levels fluctuate greatly during the year. Elsewhere, drainage is through shallow streams which flow either eastward or westward toward the bordering rivers.

All surface waters within the county eventually flow into the Suwannee River which empties into the Gulf of Mexico. The county can be divided almost equally into two (2) major drainage basins for both the Little and Withlacoochee Rivers. It should be noted that the Little River is actually a tributary of the Withlacoochee, and the two rivers flow southward from Cook County for about 15 miles before joining in west – central Lowndes County.

**. Inventory of Assets Exposed to Flood:**

Approximately 3% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Flood. The number of structures within the hazard area for each jurisdiction is as follows:

**Cook County:** 208 structures      **City of Adel:** 104 structures

**City of Cecil:** 8 structures      **Town of Lenox:** 17 structures

**Town of Sparks:** 28 structures

*\*\*Please see GEMA Worksheet 3A: Inventory of Assets in the Appendices for a breakdown by jurisdiction and structure type.*

All 29 of the Critical Facilities and Infrastructure are located in this Hurricane/Tropical Storm hazard area and the separate hazard area of Wind and have a total of 634,129 square feet. All of the Critical Facilities have a flood Hazard Score of two (2).

*(see GEMA Pre-Disaster Mitigation Critical Facility Inventory Database Reports contained at <https://www.itos.uga.edu/gema> (password protected)).*

In order to determine the number of non-Critical Facility structures potentially affected by Floods, it was assumed that the Critical Facilities themselves were representative of the building patterns of the community. Therefore, a figure of 3% was used to extrapolate numbers and values of various classes of structures.

<b>Jurisdiction</b>	<b>Hazard Score</b>	<b># of Critical Facilities</b>	<b>Square Footage</b>
Cook County	0	4	6,227
City of Adel	0	12	431,459
City of Cecil	0	2	5,502
Town of Lenox	0	4	11,708
Town of Sparks	0	6	178,673
Town of Sparks	3	1	560
<b>TOTAL</b>		<b>29</b>	<b>634,129</b>

#### **D. Estimate of Potential Losses due to Floods:**

The threat of a Flood is unpredictable in Cook County due to the random occurrence of the hazard. When and where flooding will occur and the potential damage that it will cause is not easy to figure due to the hazard and the strength levels of the causes that may trigger the occurrence. However the recent updates to Flood Insurance Rate Maps (F.I.R.M.) has contributed to the ability identify structures in vulnerable areas.

There is a total of 29 Critical Facilities throughout the Greater Brooks County area. One facility in the Town of Sparks (Wastewater Treatment Plant) has a Flood Hazard score of three (3), while the remaining 21 facilities have a score of zero (0).

The GMIS reports that there are zero (0) NFIP Repetitive Loss Properties in Greater Cook County.

*The following table shows the number of critical facilities by jurisdiction, hazard score, and replacement value.*

<b>Jurisdiction</b>	<b>Hazard Score</b>	<b># of Critical Facilities</b>	<b>Replacement Value</b>
Cook County	0	4	\$1,868,100
City of Adel	0	12	\$129,437,700
City of Cecil	0	2	\$1,650,600
Town of Lenox	0	4	\$3,512,400

Town of Sparks	0	6	\$53,601,900
Town of Sparks	3	1	\$168,000
<b>TOTAL</b>		<b>19</b>	<b>\$190,238,700</b>

Approximately 3% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Flood.

The total value of structures for each jurisdiction is as follows:

**Cook County:** \$9,049,983

**City of Adel:** \$6,813,580

**City of Cecil:** \$220,631

**Town of Lenox:** \$699,117

**Town of Sparks:** \$1,269,884

*\*\*Worksheet 3A in the Appendices breaks down the tax assessor data by jurisdiction.*

#### **E. Land Use and Development Trends Related to Floods:**

Local ordinances in Cook County and the municipalities limit building activity in flood prone areas. Code and ordinance updates address the environmentally sensitive resources, namely floodplains, wetlands, groundwater recharge areas, prime agricultural and forest lands, scenic views, sites and historic resources. Because portions of the total built community are exposed to flooding, existing land use patterns and development trends may result in future development in the county that may be affected by flood. The mitigation strategy in Chapter 4 includes action steps intended to reduce the possible adverse effect on such development.

The **Water Resource Protection Districts Ordinance (WRPDO)** was adopted by Cook County and the City of Adel. This ordinance protects the sensitive natural resources: groundwater recharge areas, protected river corridors, and wetlands located throughout Cook County. By explaining the requirements for developing property containing protected water resources, the ordinances help ensure our water resources are protected from adverse effects of land development.

A **National Wetland Inventory (NWI)** database for the geographic extent of Cook County has been constructed by the U.S. Department of the Interior, Fish and Wildlife Service and integrated into the County's Geographic Information System (GIS) and can be used to protect these sensitive areas.

The **Cecil Bay Wetland** offers mitigation credits for use by public and private end-users to provide advance compensatory mitigation for authorized impacts to the wetland. Use of mitigation credits provides a simple and cost-effective means of complying with all Federal, State and Local mitigation requirements for permitted development actions. The purpose is to identify when a development will have an adverse impact on the aquatic environment, and require compensation for those impacts as a condition of permits. Cecil Bay covers 1,670 acres and was established as a wetland mitigation bank in 2002 by the Williams Investment Company located in Adel, GA. EPA states that a mitigation bank is a wetland, stream, or other aquatic resource area that has been restored, established, enhanced, or (in certain circumstances) preserved for the purpose of providing compensation for unavoidable impacts to aquatic resources permitted under Section 404 or a similar state or local wetland regulation. The value of a bank is defined in "compensatory mitigation credits." A bank's instrument identifies the number of credits available for sale and requires the use of ecological assessment techniques to certify that those credits provide the required ecological functions.

Listed below are **Quality Community Objectives from** Greater Cook County 2030 Comprehensive Plan that are help mitigate natural hazards:

**Open Space Preservation Objective:** New development should be designed to minimize the amount of land consumed and open space should be set aside from development for use as public parks or as greenbelts/wildlife corridors.

**Environmental Protection Objective:** Environmentally sensitive areas should be protected from negative impacts of development. Environmentally sensitive areas such as ground water recharge areas, wetlands, and native upland habitat (such as mature tree stands and southern hardwoods) deserve special protection, particularly when they are important for maintaining the traditional character or quality of life of the community or region. Whenever possible, the natural terrain, drainage and vegetation of an area should be preserved.

**Housing Opportunities Objective:** Quality housing and a range of housing size, cost, and density should be provided in each community to make it possible for all who work in the community to also live in the community.

**Heritage Preservation Objective:** The traditional character of the community should be maintained through preserving and revitalizing historic areas of the community, encouraging new development that is compatible with the traditional features of the community, and protecting other scenic or natural features that are important to defining the community's character.

**Infill Development Objective:** Communities should maximize the use of existing infrastructure and minimize the conversion of undeveloped land at the urban periphery by encouraging development or redevelopment closer to the downtown or traditional urban core.

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

According to the GEMA GMIS maps, show floodplains exist throughout Greater Cook County. Only the Town of Sparks has critical facilities located within their floodplain areas. The GEMA maps graphically show the identified floodplain areas and the location of all critical facilities throughout the County.

#### **G. General Overall HRV Summary of Floods:**

The threat of a Flood has been chosen by the Cook County PDMPC as the 3<sup>rd</sup> most likely hazard to occur & cause damage in Cook County based on past experience, the FEMA described methodology and other factors. Historic data has been examined from various sources including the National Climatic Data Center (NCDC), as well as from local history and personal accounts, in order to determine frequency of events.

Flooding has been and costly and repetitive natural hazard to Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks. Floods have the potential to cause damage in any flood-prone area, at any time throughout the County. Damage caused by it can vary depending on amount of flooding and severity, among other factors. Localized flooding, which includes the overflow of streams and creeks designated as floodplains on the local FIRM maps, has caused the most damage to government infrastructure and to individual property. Considerable damage to roads with inadequate drainage is regularly experienced during periods of exceedingly heavy rain. River flooding has caused very little property damage because of the governments' restrictions to building in flood prone areas.

The Cook County PDMPC developed a comprehensive range of Mitigation Goals, Objectives and Action Steps to lessen Floods impact on Cook County, the Cities of Adel and Cecil and the

Towns of Lenox and Sparks. The goals, objectives, and action steps are listed in Chapter 4 of this plan.

Since the last update of the Cook County Hazard Mitigation Plan, there have not been any changes in land development patterns or mitigation strategies that would impact the community's vulnerability to flooding.

## **Section IV**

## **Windstorms/Hailstorms/Lightning**

### **A. Identification of Windstorms/Hailstorms/Lightning:**

Severe thunderstorms, which occur mostly in the summer months, many times will bring strong wind, hail, and lightning, in addition to heavy rain, into Cook County. Such wind, hail, and lightning may cause a large amount of property damage, and are also a risk to the general public. Lightning is particularly dangerous to people, since although the bolt normally travels directly from cloud to the ground, it can also occur at angles away from the storm, and at a great distance. A severe windstorm is defined by the National Weather Service as convective winds exceeding 58 miles per hour. A hailstorm is precipitation in the form of irregular pellets or balls of ice more than 5 mm in diameter, and lightning is the visible discharge of electricity between clouds, between the cloud and air, between a cloud and the ground or between the ground and a cloud.

### **B. Profile of Windstorms/Hailstorms/Lightning:**

Impacts from Windstorms, Hailstorms, and Lightning can affect any area within Greater Cook County. Since the location of these hazards cannot be predicted, all of the jurisdictions are vulnerable to the threats of these severe weather events.

National Climatic Data Center (NCDC) records show there have been 6 recorded hailstorms in the past 16 years,. The Hailstorms recorded events had magnitudes of 1.75 inches and 0.88 inches; both occurred in the unincorporated areas of the County.

Thunderstorm winds are prevalent for Greater Cook County during the late winter, spring and summer months. Most of the County falls under a wind zone hazard score of 2, meaning areas in Cook County are potentially exposed to winds of 90 to 99 mph. Over the past 16 years there have been 24 thunderstorm wind events that were significant enough to be reported to the NCDC. These 24 events documented by the NCDC, resulted in \$455,000 worth of property damage.

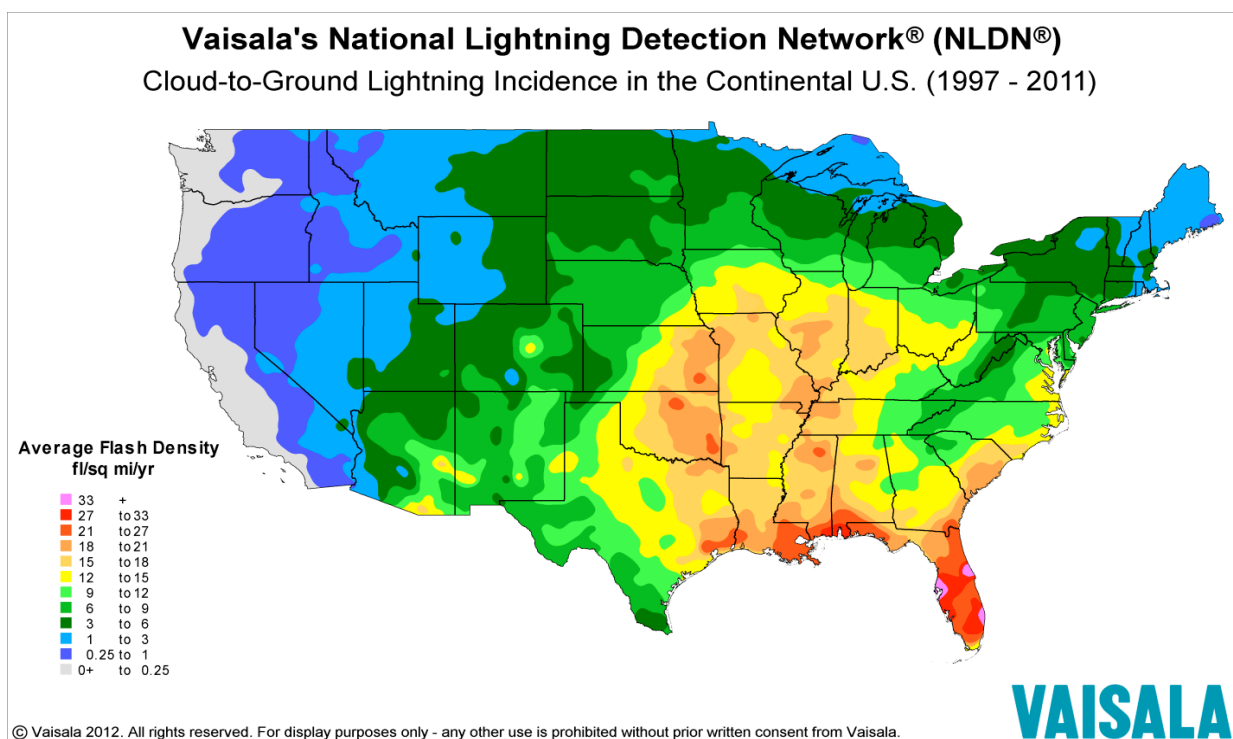
As far as Lightning, the official National Climatic Data Center record lists three (3) lightning event in Greater Cook County since 1950, however, a study by Texas A&M University in 1991 determined that there are about 7,000 lightning strikes per year in South Georgia. This frequency of occurrence of lightning in South Georgia makes the risk to individuals and to property high. According to news reports, one to two individuals in the area each year are struck



by lightning. The climate in Cook County supports year-around outdoor activities, exposing many individuals, sometimes in large numbers, to the threat of lightning. Though not always reported, lightning frequently damages electronic equipment and electrical power transmissions.

There is not a sufficient level of detail in the documented history, particularly with earlier events, to determine a specific probability of future lightning events for each jurisdiction. According to the Hazard Frequency Table located in the Appendix, South Georgia has a 100 % chance of at least 7000 lightning strikes annually.

The potential extent of Lightning is shown below on the VAISALA map. This map shows the average number of lightning flashes per square mile per year. Greater Cook County's average flash density ranges from 12 to 18 flashes per square mile per year. The NCDC list three (3) lightning events in a sixteen (16) year period, from 1996 to 2012. In probability terms, that represents a 18.75% chance of a lightning strike in Cook County each year.



Please see the National Climatic Data Center (NCDC) table in Appendix D for additional details regarding hazard events in Cook County from 1/1/2008 thru 12/31/2012.

Wind exposure in Cook County can best be defined by the FEMA Wind Zone for the area. Cook County is within Wind Zone III, which is rated for a Design Speed of a 3 second gust of wind at a speed of 200 mph. This exposure and extent is prevalent throughout the region, and can be expected to continue to be the Design Wind Speed throughout the planning period.

In the past 16 years, National Climatic Data Center records show that Cook County has experienced 6 reported hailstorms, and 24 thunderstorms with wind, which represents a 37.5% chance of a hailstorm each year, and a 150% chance of a thunderstorm with wind event each year. These probabilities are applicable to all communities as a hailstorms and thunderstorms with wind are random event, not limited to any specific geographic area or symptomatic of any particular topography or land characteristics.

As referenced above, within each community there is a 37.5% chance of a hailstorm event each year based upon the historic record of 6 event in the past 16 years. These six historic events that have occurred in the past 16 years have involved hailstones of the following sizes in inches: .75, .75, .88, 1.5, 1.75, .275. As is evident, the .75 inch in diameter size is the most common size hailstone to occur within the county based upon the historic record. Therefore, it can be expected that future events will most likely continue to involve hailstones of .75 inches in diameter.

### **C. Inventory of Assets Exposed to Windstorms/Hailstorms/Lightning:**

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to these occurrences.

The number of structures within the hazard area for each jurisdiction is as follows:

**Cook County:** 6,928 structures      **City of Adel:** 3,485 structures

**City of Cecil:** 236 structures      **Town of Lenox:** 566 structures

**Town of Sparks:** 924 structures

*\*\*Please see GEMA Worksheet 3A: Inventory of Assets in the Appendices for a breakdown by jurisdiction and structure type.*

### **D. Estimate of Potential Losses due to Windstorms/Hailstorms/Lightning:**

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed these occurrences.

The total value of structures for each jurisdiction is as follows:

**Cook County:** \$293,941,091      **City of Adel:** \$227,119,332

**City of Cecil:** \$7,354,379      **Town of Lenox:** \$23,303,924

**Town of Sparks:** \$42,329,454

*\*\*Worksheet 3A in the Appendices breaks down the tax assessor data by jurisdiction.*

It has been determined that a total of 100% of the 29 Critical Facilities located in Greater Cook County fall within the assets exposed to wind, hail, and lightning. These facilities total 634,129 square feet of space. The total replacement value on these Critical Facilities is \$190,238,700. The replacement values contained in this inventory are figured at a commercial building cost rate of \$300.00 per square foot.

Damage to crops is not taken into account in any of these figures. According to the most recent figures (2010) on The University of Georgia's Website [www.georgiastats.uga.edu](http://www.georgiastats.uga.edu) (Georgia County Guide), Cook County's Forestry & Forest Products Farm Gate Value is \$120,000. The Total Farm Gate Value in Cook County is approximately \$84,320,346. The total Livestock and Aquaculture Value is \$3,080,755. While we have these values listed, we recognize that natural disasters would not normally fully impact the value of these properties, or be big enough to wipe out all assets.

#### **E. Land Use and Development Trends Related to Windstorms/Hailstorms/Lightning:**

Building standards can offer only limited protection from wind, hail, and/or lightning damage. Lightning rod/grounding systems can improve the performance of a building during such an event. Fire codes in place result in fewer structure damages caused by lightning-sparked fires. As population grows and development increases, the vulnerability to lightning increases as well. The threat of a lightning strike has the potential to cause wildfires that can heavily damage the development located near wooded areas throughout the County.

The building code standards for Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks are intended to secure buildings for heavy winds; however, some winds are unpredictable and can cause disaster to structures no matter how they are constructed. Cook County design-wind for properly constructed and properly anchored manufactured homes is 80 mph sustained winds, while design-wind for stick-built homes is 100 mph. Because the threat of wind is countywide, existing land use patterns and development trends will result in future development in the county that may be affected by hurricanes/tropical storms. The mitigation strategy in Chapter 4 includes action steps intended to reduce the possible adverse effect on such development.

In an effort to develop a more sustainable community, the County, Towns and Cities have been working with the Southern Georgia Regional Commission on updating zoning ordinances and the County Comprehensive Plan. Furthermore, the Capital Improvements Plan is updated on an annual basis.

Furthermore, in an effort to improve infrastructure, fire services, and police protection to support future development, the local officials pursue Community Development Block Grants with the assistance of the Southern Georgia Regional Commission. Once approved, CDBGs can aid Greater Cook County can help complete projects that will mitigate the effects of natural hazard disasters.

## **F. Multi-Jurisdictional Windstorms/Hailstorms/Lightning Differences:**

Wind, hail, and lightning impact all jurisdictions equally in Cook County, but normally not simultaneously. The Appendix includes GEMA maps of Cook County, the Cities of Adel and Cecil, and the Towns of Lenox and Sparks with the location of their critical facilities, and report listing all critical facilities.

## **G. General Overall HRV Summary of Windstorms/Hailstorms/Lightning:**

Lightning can be life threatening and is very dangerous to those individuals outdoors near thunderstorms. The high frequency of thunderstorms in Cook County increases the risk of individuals being struck and of property being damaged. Lightning's unpredictability increases the risk to individuals and property. It often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.

In the GEMA Pre-Disaster Mitigation Critical Facility Inventory appearing on-line at <https://www.itos.uga.edu/gema> (password protected) and in the Appendices is an estimate of the potential losses that could occur to the Critical Facilities and Infrastructure. When available, we also estimate many values related to disaster losses including replacement costs, content loss, displacement costs and other values.

Since the completion of the previous Plan, Greater Cook County has completed the following action steps regarding windstorms/hailstorms/lightning; initiation of the Code Red system, the construction of a hardened Emergency Operations Center, and achievement of becoming a Storm Ready Community.

## **Section V**

## **Extreme Heat**

### **A. Identification of Extreme Heat:**

Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a dome of high atmospheric pressure traps hazy, damp air near the ground. Excessively dry and hot conditions can cause dust storms and low visibility. Droughts occur when a long period passes without substantial rainfall. A heat wave combined with a drought is a very dangerous situation.

Outside temperatures during the summer months in South Georgia will often exceed 100 degrees, and combined with 100% humidity levels, can be deadly, particularly for the elderly. On such days, weather forecasters often combine the temperature and humidity levels to forecast a “heat index” which can often reach as high as 110 degrees. Although statistical information regarding high heat and humidity is not readily available to determine the extent of the threat and to forecast conditions when individuals are at risk, a heat index greater than 100 is generally considered to be a health risk. In extreme heat and high humidity, evaporation is slowed and the human body must work extra hard to maintain a normal temperature. When the body is unable to maintain a normal temperature, heat-related illnesses can occur and, in extreme situations, may even result in death.

### **B. Profile of Extreme Heat:**

Utilizing archived data from the Georgia Forestry Commission’s Automated Weather Data from Adel, Georgia over the past five years (2007-2012) in Cook County, and the National Oceanic and Atmospheric Administration’s (NOAA) Heat Index, there have been 687 Extreme Heat events since the last update. This represents an average of 137 events per year, and a .01 historic recurrence interval per the GEMA Hazard Frequency Table contained in the Appendix. This average of 137 events per year is reasonable, and can be expected to continue throughout the next planning period.

The following information is provided according to information provided by the NOAA:

**Excessive Heat Outlooks** : are issued when the potential exists for an excessive heat event in the next 3-7 days. An Outlook provides information to those who need considerable lead time to prepare for the event, such as public utilities, emergency management and public health officials. See the [mean heat index and probability forecasts](#) maps.

**Excessive Heat Watches:** are issued when conditions are favorable for an excessive heat event in the next 12 to 48 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 those who need to prepare can do so, such as cities who have excessive heat event mitigation plans.

**Excessive Heat Warnings/Advisories:** are issued when an excessive heat event is expected in the next 36 hours. These products are 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 or property. 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 and/or property.

### **C. Inventory of Assets Exposed to Extreme Heat:**

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to extreme heat.

The number of structures within the hazard area for each jurisdiction is as follows:

**Cook County:** 6,928 structures      **City of Adel:** 3,485 structures

**City of Cecil:** 236 structures      **Town of Lenox:** 566 structures

**Town of Sparks:** 924 structures

*\*\*Please see GEMA Worksheet 3A: Inventory of Assets in the Appendices for a breakdown by jurisdiction and structure type.*

Extreme heat is a countywide non-spatially defined hazard that affects people more than structures. While all residents of Greater Cook County are at risk, the elderly and very low income populations are the most likely to not have air conditioning, making them the most vulnerable to extreme heat and high humidity.

### **D. Estimate of Potential Losses to Extreme Heat:**

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to extreme heat. The total value of structures for each jurisdiction is as follows:

**Cook County:** \$293,941,091      **City of Adel:** \$227,119,332

**City of Cecil:** \$7,354,379      **Town of Lenox:** \$23,303,924

**Town of Sparks:** \$42,329,454

*\*\*Worksheet 3A in the Appendices breaks down the tax assessor data by jurisdiction.*

It has been determined that a total of 100% of the 29 Critical Facilities located in Greater Cook County fall within the assets exposed to wind, hail, and lightning. These facilities total 634,129 square feet of space. The total replacement value on these Critical Facilities is \$190,238,700. The replacement values contained in this inventory are figured at a commercial building cost rate of \$300.00 per square foot.

Unlike other natural hazard events extreme heat does not usually cause infrastructure damage and if any, there is little damage to buildings compared to the effects of other natural hazards. According to the most recent figures (2010) on The University of Georgia's Website [www.georgiastats.uga.edu](http://www.georgiastats.uga.edu) (Georgia County Guide), Cook County's Forestry & Forest Products Farm Gate Value is \$120,000. The Total Farm Gate Value in Cook County is approximately \$84,320,346. The total Livestock and Aquaculture Value is \$3,080,755.

## **E. Land Use and Development Trends Related to Extreme Heat:**

The land-use and development ordinances of Cook County and its incorporated cities/towns do not specifically address extreme heat. However, regulations such as, limiting concrete paving for parking spaces, reduces the amount of pavement throughout the community which aides in climate control. The hazard zone is countywide, existing land use patterns and development trends will result in future development in the county that may be affected by extreme heat. The mitigation strategy in Chapter 4 includes action steps intended to reduce the possible adverse effect on such development.

## **F. Multi-Jurisdictional Extreme Heat Differences:**

The Appendices includes GEMA maps of Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks with the location of their critical facilities, and report listing all critical facilities. Because extreme heat events cover extremely large geographic areas simultaneously, all of Cook County is equally at-risk of experiencing extreme heat events. Therefore, there are no differences in the historic trend or the probability of future occurrences between the jurisdictions.

## **G. General Overall HRV Summary of Extreme Heat:**

The extent to which urban areas can benefit from heat island reduction strategies depends on a number of factors—some within and some outside of a community's control. Although

prevailing weather patterns, climate, geography, and topography are beyond the influence of local policy, decision makers can select a range of energy-saving strategies that will generate multiple benefits, including vegetation, landscaping, and land use design projects, and improvements to building and road materials.

In an effort to mitigate the effects of extreme heat the following Action Steps have been completed since the completion of the previous Plan:

- Designate emergency shelters in consultation with appropriate organizations
- Installation of auxiliary generators for all designated evacuation and emergency shelters and community water systems

Extreme heat and high humidity occur regularly in Cook County during the summer months. The number of days is not readily available when vulnerable populations and those working outside should take precautions. Extreme heat and high humidity are particularly dangerous for elderly and low-income residents who are without air conditioning.

Since the last update of the Cook County Hazard Mitigation Plan, there have not been any changes in land development patterns or mitigation strategies that would impact the community's vulnerability to Extreme Heat events.



## **Section VI**

## **Wildfire**

### **A. Identification of Wildfire:**

The threat of Wildfire has been chosen by the Cook County PDMPC as the sixth most likely hazard to occur & cause damage in throughout the County based on past experience, the FEMA described methodology and other factors. Historic data has been examined from various sources including the National Climatic Data Center and local history and personal accounts in order to determine frequency of events.

There are hazard maps generated by The GEMA Pre-Disaster Mitigation Critical Facility Inventory for Wildfire (see Appendix A Section V) that were examined. Complete inventory information is contained at <https://www.itos.uga.edu/gema> (password protected) & in the Appendix of this Plan. These map values come from the predicted model of the GEMA GMIS database.

According to the document titled “Do You Know What To Do When A Disaster Strikes?” 80% of wildfires are caused by people. Smoking in forested areas and improperly extinguishing campfires are two common causes of wildfire. Lightning is also a major igniter of fires. Since 1960, over four million acres have been burned in Wildfires each year in the United States. 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 forest or brush fires. Dead fuel moisture, in combination with the above, also provides for the kindling and spread of forest or brush fires. Wildfires often begin unnoticed and spread quickly. They can change direction rapidly; igniting brush, trees and homes or the fire may smolder for weeks at a time in the underbrush and then ignite some distance away, resisting efforts to eradicate it, and spreading quickly throughout the area. Surface Fires are the most common type of Wildfires, moving slowly and burning along the forest floor, killing and damaging vegetation. Ground Fires, another type, usually start by lightning and burn on or below the forest floor through the root systems. The final type, Crown Fires, spread by wind moving quickly along the tops of trees.

### **B. Profile of Wildfire:**

According to the Cook Community Wildfire Protection Plan (CWPP), on a year-to-year basis, the leading cause (#1) of wildfires in Cook County is escaped debris fires (all types), followed by (#2) wildfires caused by machine use (example: combine in a wheatfield) and then (#3) escaped campfires and (#4) incendiary fires.

**Below is a listing of the cause of fire as presented by the Cook CWPP.**

<u>Cause</u>	<u>FY 2011</u>	<u>5 Year Avg.</u>
Debris Fires (All Types)	48/280.12 acres	32/155.08 acres
Machine Use	10/26.91 acres	10.60/14.01 acres
Campfires	3/6.83 acres	1.20/5.61 acres
Incendiary	3/2.50 acres	1.20/ 1.22 acres

Based upon the five year average for wildfires in Cook County, there were approximately 225 wildfires since the last plan update. Wildfires are, by nature, relatively random events, occurring throughout a community without regard to local boundaries. Therefore, it can be expected that the County and each of the cities will have the same probability of a wildfire event each year, 4,500% per the historic record. On average, wildfires within the County have burned between 1 and 5 acres of land. This amount of land burned per wildfire can be expected to continue.

#### COOK COUNTY COMMUNITIES AT RISK

<b>FIRE DEPT and Community</b>	<b>Score</b>	<b>Hazard Rating</b>
<b>1. LENOX Trailer Park / Old Union Road</b>	<b>45</b>	<b>Low Hazard</b>
<b>2. SE Wilkes Road</b>	<b>75</b>	<b>High Hazard</b>
<b>3. SE Oak Ridge Lane</b>	<b>86</b>	<b>High Hazard</b>
<b>4. LENOX 605/603/1007 Kinardbridge Road</b>	<b>94</b>	<b>High Hazard</b>
<b>5. SE Smokey Wood Lane</b>	<b>95</b>	<b>High Hazard</b>
<b>6. SE Shady Grove/Roberts Road</b>	<b>97</b>	<b>High Hazard</b>
<b>7. LENOX 1150-1360 Kinardbridge Road</b>	<b>98</b>	<b>High Hazard</b>
<b>8. SE Giddens Road</b>	<b>98</b>	<b>High Hazard</b>
<b>9. LENOX Colonial Park Apartments</b>	<b>99</b>	<b>High Hazard</b>
<b>10. SE Gallie Lizzimore</b>	<b>100</b>	<b>Very High Hazard</b>

<b>11. SE Browning Road</b>	<b>101</b>	<b>Very High Hazard</b>
<b>12. Trailer Park, Green St/Lydia St</b>	<b>105</b>	<b>Very High Hazard</b>
<b>12. CECIL Sunshine Acres Trailer Park</b>	<b>116</b>	<b>Very High Hazard</b>
<b>13. SPARKS Branch Trailer Park/Lauren Drive</b>	<b>118</b>	<b>Very High Hazard</b>
<b>14. CMV Chaserville Mall</b>	<b>127</b>	<b>Extreme Hazard</b>
<b>15. PV Felts Trailer Park</b>	<b>129</b>	<b>Extreme Hazard</b>
<b>16. SPARKS Gay Avenue</b>	<b>129</b>	<b>Extreme Hazard</b>
<b>FIRE DEPT and Community</b>	<b>Score</b>	<b>Hazard Rating</b>
<b>17. SPARKS Fox Run</b>	<b>131</b>	<b>Extreme Hazard</b>
<b>18. SPARKS MLK / Rhome Street</b>	<b>132</b>	<b>Extreme Hazard</b>
<b>19. SPARKS Gandy / Spires Lane</b>	<b>133</b>	<b>Extreme Hazard</b>
<b>21. PV Stripling Lane</b>	<b>137</b>	<b>Extreme Hazard</b>
<b>22. PV Reed Bingham State Park</b>	<b>148</b>	<b>Extreme Hazard</b>
<b>23. SPARKS Wood Subdivision</b>	<b>142</b>	<b>Extreme Hazard</b>
<b>24. CMV Tulip Lane</b>	<b>142</b>	<b>Extreme Hazard</b>
<b>25. CECIL County Line Road</b>	<b>146</b>	<b>Extreme Hazard</b>
<b>26. PV Harrell Lane</b>	<b>149</b>	<b>Extreme Hazard</b>
<b>27. PV Elk Lane / Guthrie Trailer Park</b>	<b>153</b>	<b>Extreme Hazard</b>
<b>28. SPARKS Gibbs Lane / Brandy Lane</b>	<b>154</b>	<b>Extreme Hazard</b>
<b>29. PV Hemspring Circle</b>	<b>163</b>	<b>Extreme Hazard</b>
<b>29. SPARKS Willis Lane</b>	<b>164</b>	<b>Extreme Hazard</b>

These hazard ratings were completed by Cook County Volunteer Fire Department personnel and Georgia Forestry Commission Rangers during the months of May and June, 2011. The Georgia Forestry Commission Hazard and Wildfire Risk Assessment Score sheet was used. This document evaluates

communities (groups of homes) based upon six criteria: community access, surrounding vegetation, building construction, fire protection, utilities and additional rating factors. The cumulative wildfire hazard rating scores range from a low rating of 0 to 50 points to an extreme hazard rating with over 120 points. The cumulative wildfire hazard rating scores help establish priorities for mitigation activities in the CWPP Action Plan on page 19.

### **C. Inventory of Assets Exposed to Wildfire:**

Approximately 4% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to wildfire.

The number of structures within the hazard area for each jurisdiction is as follows:

**Cook County:** 277 structures      **City of Adel:** 139 structures

**City of Cecil:** 9 structures      **Town of Lenox:** 23 structures

**Town of Sparks:** 37 structures

*\*\*Please see GEMA Worksheet 3A: Inventory of Assets in the Appendices for a breakdown by jurisdiction and structure type.*

### **D. Estimate of Potential Losses to Wildfire:**

Approximately 4% of the 29 Critical Facilities located in Greater Cook County fall within the assets exposed to Wildfire. These facilities equal 5,790 square feet of space and have a replacement value of \$1,737,000. The replacement values contained in this inventory are figured at a commercial building cost rate of \$300.00 per square foot.

In GEMA Worksheet 3A: Inventory of Assets, we estimate that 4% of Cook County is vulnerable to Wildfire based on the correlation to the number of Critical Facilities with Wildfire Hazard scores greater than zero (0). Therefore, approximately 4% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to wildfire.

The total value of structures for each jurisdiction is as follows:

**Cook County:** \$11,757,643      **City of Adel:** \$9,084,774

**City of Cecil:** \$294,176      **Town of Lenox:** \$932,157

**Town of Sparks:** \$1,693,177

*\*\*Worksheet 3A in the Appendices breaks down the tax assessor data by jurisdiction.*

Damage to crops is not taken into account in any of these figures. According to the most recent figures (2010) on The University of Georgia's Website [www.georgiastats.uga.edu](http://www.georgiastats.uga.edu) (Georgia County Guide), Cook County's Forestry & Forest Products Farm Gate Value is \$120,000. The Total Farm Gate Value in Cook County is approximately \$84,320,346. The total Livestock and Aquaculture Value is \$3,080,755. While we have these values listed, we recognize that natural disasters would not normally fully impact the value of these properties, or be big enough to wipe out all assets.

## **E. Land Use and Development Trends Related to Wildfire:**

Growth pressure is expected to increase new home starts in Cook County over the next 20 years. If farm and ranch land is conserved as a mainstay of the County's rural economy, new development will, by necessity, occur more frequently on forest and wildland areas. The County Planning and Zoning Board will have an opportunity to significantly influence the wildland fire safety of new developments. New development will be planned and constructed to provide for public safety in the event of a wildland fire emergency with assistance from the Community Wildfire Protection Plan.

Georgia law requires that a permit be issued for most types of outdoor burning. To request a permit, citizens must contact the local Georgia Forestry Commission or visit [www.gatrees.org](http://www.gatrees.org) to apply online. If conditions are favorable for burning, a permit will be granted. According to Georgia law, burning without a permit is a misdemeanor with fines up to \$1,000.00. Permitting will protect against possible Wildfire damages.

## **F. Multi-Jurisdictional Wildfire differences:**

Cook County has six Volunteer Fire Departments with 9 stations that are strategically located throughout the county. While the primary responsibility of these firefighters is structural protection, the firefighters regularly provide support to the Georgia Forestry Commission or find themselves the first units on the scene fighting brush fires (wildfires) that threaten homes and businesses. **The capability of each volunteer fire department is listed below.**

<u>Volunteer FD</u> <u>Firefighters</u>	<u># Engines</u>	<u># Water Tenders</u>	<u># Brush Trucks</u>	<u>#</u>
Cecil	1	0	1	6
Pine Valley	2	1 (2,000 gal.)	0	16
Sparks	2	0	1*	15
Chaserville/Massee	1	1 (1,500 gal.)	0	11
SE Cook	2	1 (2,000 gal.)	1	14

## **G. General Overall HRV Summary of Wildfire:**

In Cook County, there are many individual (isolated) homes and outbuildings on farms and small properties that could be damaged or destroyed in the event of a disastrous wildfire. On these properties, the owners must assume a greater responsibility for wildfire protection by making improvements to the landscape and structures that will provide some degree of wildfire protection until the fire department can arrive. This can only be accomplished if rural residents know how to make their homes and properties “Firewise”. The Cook County PDMPC recognized Wildfire as the 6<sup>th</sup> most likely natural hazard to occur and cause damages. They developed a comprehensive range of Mitigation Goals, Objectives and Action Steps to lessen Wildfire impact are contained in Chapter 4.

Since the last update of the Cook County Hazard Mitigation Plan, there have not been any changes in land development patterns or mitigation strategies that would impact the community’s vulnerability to wildfires.

## **Section VII**

## **Drought**

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

A drought is a prolonged period without rain, particularly during the planting and growing season in agricultural areas. It can range from two weeks to six months or more and affects water availability and quality. In Georgia, droughts affect municipal and industrial water supplies, stream-water quality, recreation at reservoirs, hydropower generation, navigation, agricultural and forest resources. Farmland irrigation is a means of mitigation and preparedness. Additional sources of water may be identified to assist with individual and family consumption during time of response and recovery. The primary source of domestic water in Cook County comes from underground sources. The Floridian Aquifer provides a significant amount of domestic water to the public in Cook County. Water levels in the aquifer vary depending on the amount of recharge. Thus, during long periods of drought, water levels may drop below the levels of the wells, causing disruption in the water supply.

### **B. Profile of Drought:**

The extent of drought for the area Cook County is located in was measured by the NCDC utilizing the “U.S. Palmer Drought Indices. This index consist of several indices developed by Wayne Palmer, as well as the Standardized Precipitation Index, are useful for describing the many scales of drought.

The ***Palmer Z Index*** measures short-term drought on a monthly scale. The Palmer ***Crop Moisture Index (CMI)*** measures short-term drought on a weekly scale and is used to quantify drought's impacts on agriculture during the growing season.

The ***Palmer Drought Severity Index (PDSI)*** (known operationally as the *Palmer Drought Index (PDI)*) attempts to measure the duration and intensity of the long-term drought-inducing circulation patterns. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns plus the cumulative patterns of previous months. Since weather patterns can change almost literally overnight from a long-term drought pattern to a long-term wet pattern, the PDSI (PDI) can respond fairly rapidly.

The hydrological impacts of drought (e.g., reservoir levels, groundwater levels, etc.) take longer to develop and it takes longer to recover from them. The ***Palmer Hydrological***

***Drought Index (PHDI)***, another long-term drought index, was developed to quantify these hydrological effects. The PHDI responds more slowly to changing conditions than the PDSI (PDI).

As is evidenced in the tables for 2011 below, the Severe Drought category is common to Cook County, and can be expected to be representative of the majority of future drought events.

The following table shows respectively the severity for each index from September 2011 thru December 2011.

Cook County Georgia U.S. Palmer Drought Indices Table	Palmer Z Index (Short Term)	Palmer Drought Severity Index (Meteorological Long Term)	Palmer Hydrological Drought Index (Hydrological Long Term)
September 2011	MID RANGE	EXTREME	EXTREME
October 2011	VERY MOIST	SEVERE	SEVERE
November 2011	MID RANGE	SEVERE	SEVERE
December 2011	MODERATE	SEVERE	SEVERE

Extreme Drought	Severe Drought	Moderate Drought	MID RANGE	Moderately Moist	Very Moist	Extremely Moist
-2.75 and below	-2.00 to -2.74	-1.25 to -1.99	-1.24 to +0.99	+1.00 to +2.49	+2.50 to +3.49	+3.50 and above

In relation to the table shown above, the following maps show the severity for each index from September 2011 thru December 2011.

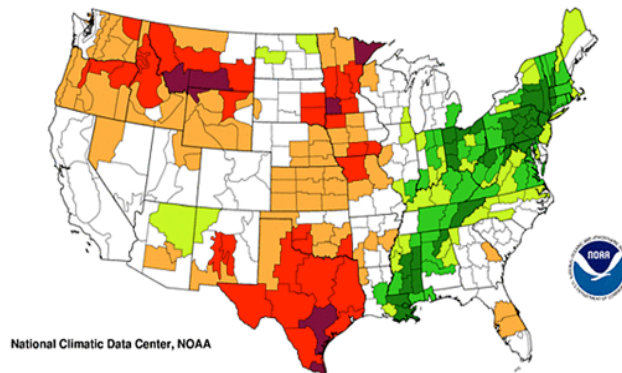


# Palmer Z Index (Short Term)

## Mid Range

Palmer Z Index  
Short-Term Conditions

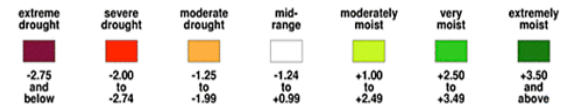
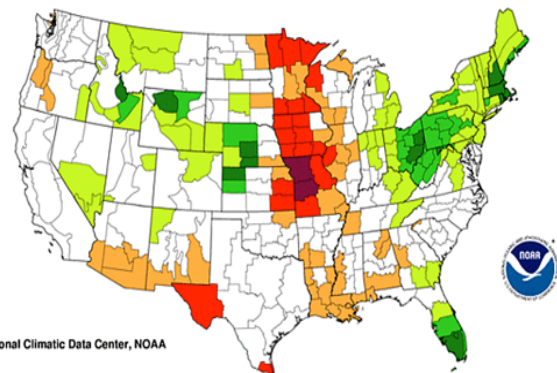
September 2011



## Very Moist

Palmer Z Index  
Short-Term Conditions

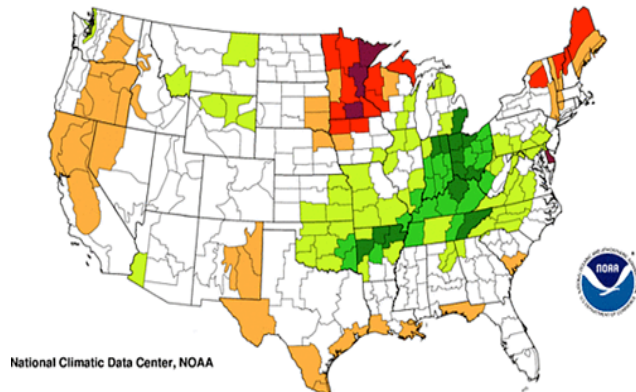
October 2011



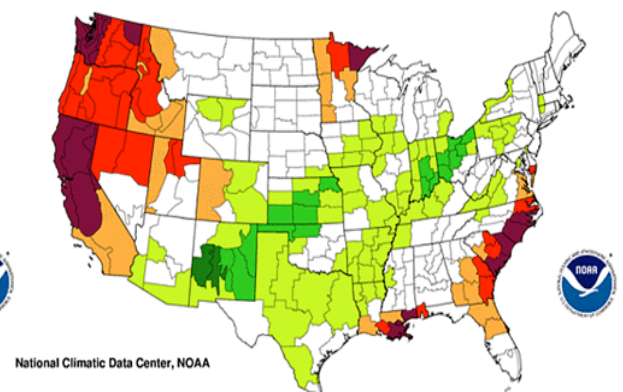
## Mid Range

## Moderate

Palmer Z Index  
Short-Term Conditions  
November 2011



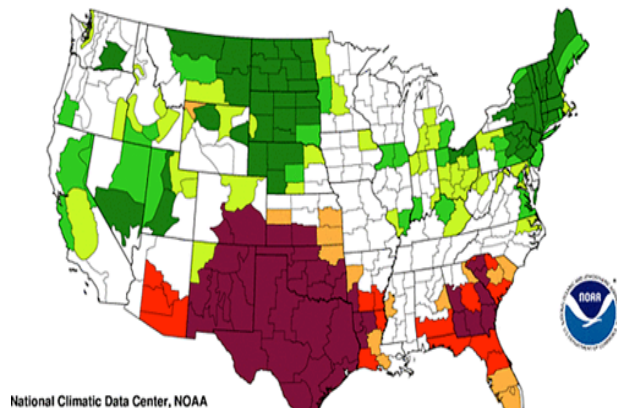
Palmer Z Index  
Short-Term Conditions  
December 2011



## Palmer Drought Severity Index (Meteorological Long Term)

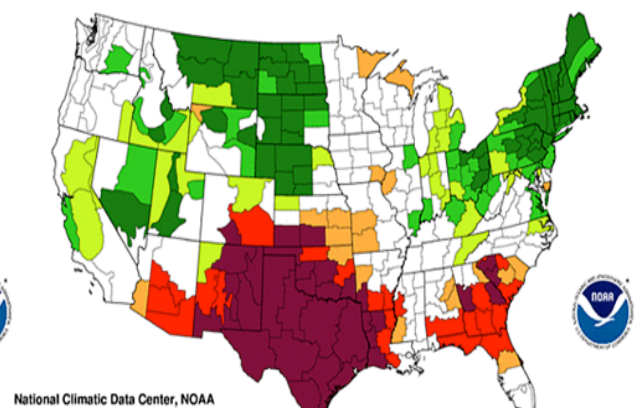
### Extreme

Palmer Drought Index  
Long-Term (Meteorological) Conditions  
September 2011

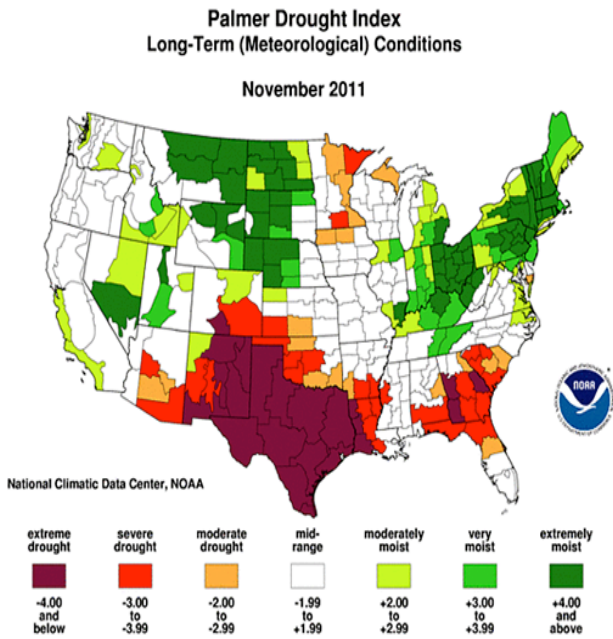


### Severe

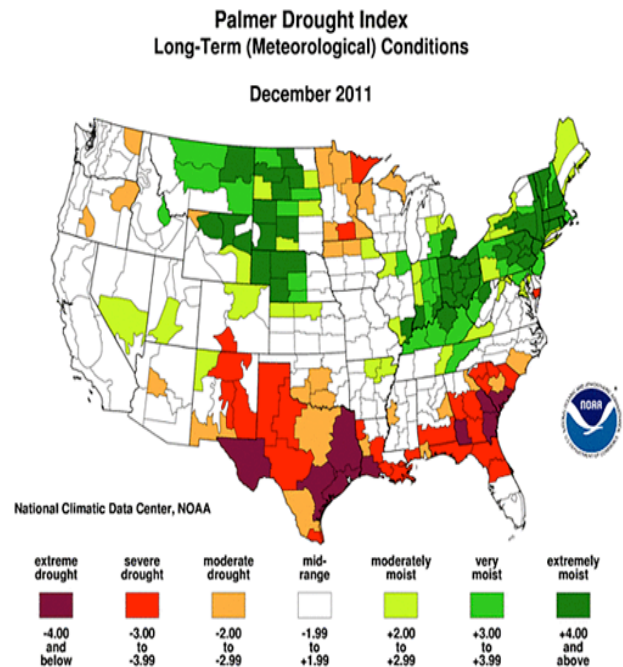
Palmer Drought Index  
Long-Term (Meteorological) Conditions  
October 2011



Severe



Severe



# Palmer Hydrological Drought Index

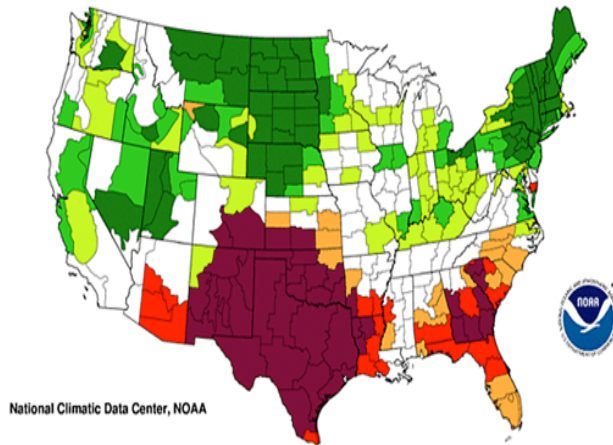
## (Hydrological Long Term)

Extreme

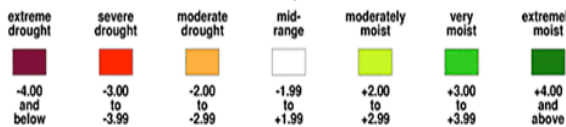
Severe

Palmer Hydrological Drought Index  
Long-Term (Hydrological) Conditions

September 2011

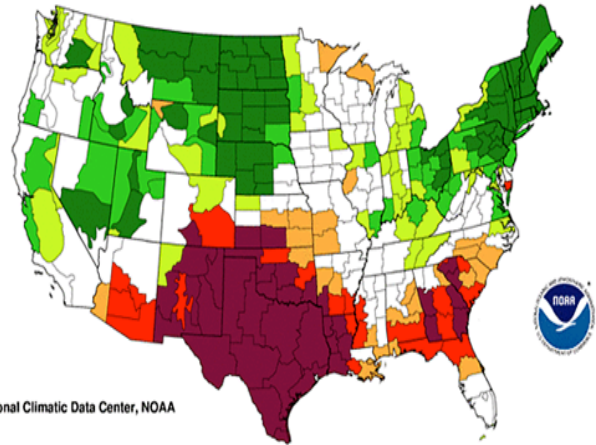


National Climatic Data Center, NOAA



Palmer Hydrological Drought Index  
Long-Term (Hydrological) Conditions

October 2011



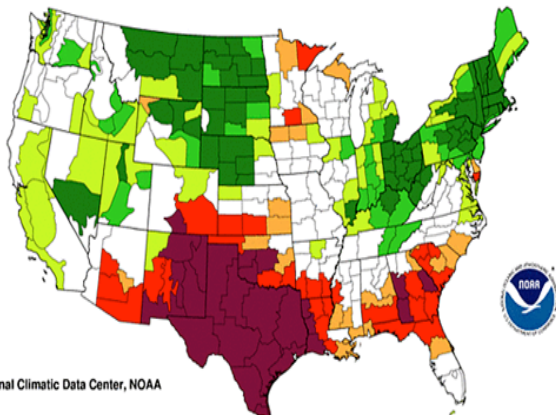
National Climatic Data Center, NOAA



## Severe

Palmer Hydrological Drought Index  
Long-Term (Hydrological) Conditions

November 2011



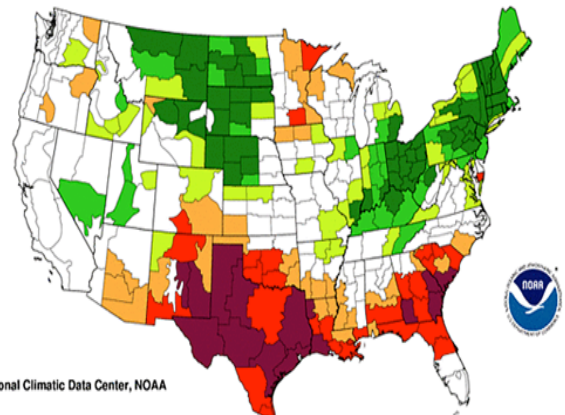
National Climatic Data Center, NOAA



## Severe

Palmer Hydrological Drought Index  
Long-Term (Hydrological) Conditions

December 2011



National Climatic Data Center, NOAA



According to the NCDC Cook County and the Cities of Adel, Cecil, Lenox, and Sparks experienced 21 Drought events in a 17 year span from 1/1/1996 through 4/30/2013 which is 123.53% chance of a Drought event each year based upon the historic record of 21 events in 17 years.

### **C. Inventory of Assets Exposed to Drought:**

As a countywide non-spatially defined hazard, drought affects people and crops more than structures; however, severe drought can cause the soil to dry out under the edges of buildings and can force tree root systems to reach further under buildings, causing damage as clay soils shrink. Extreme temperatures can produce additional stresses to roofs, causing them to expand even further than normal, possibly tearing the roof membrane. Sometimes when it finally rains after a drought, buildings may experience leaks when they hadn't leaked previously.

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to drought.

The number of structures within the hazard area for each jurisdiction is as follows:

**Cook County:** 6,928 structures      **City of Adel:** 3,485 structures

**City of Cecil:** 236 structures      **Town of Lenox:** 566 structures

**Town of Sparks:** 924 structures

*\*\*Please see GEMA Worksheet 3A: Inventory of Assets in the Appendices for a breakdown by jurisdiction and structure type.*

### **D. Estimate of Potential Loses to Drought:**

The threat of a Drought is a constant in Greater Cook County due to the unpredictability and widespread coverage of the hazard. When and where it will occur and the potential damage that it will cause is not easy to figure due to the hazard and the various levels of Drought conditions that may occur.

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Drought. The total value of structures for each jurisdiction is as follows:

**Cook County:** \$293,941,091      **City of Adel:** \$227,119,332

**City of Cecil:** \$7,354,379      **Town of Lenox:** \$23,303,924

**Town of Sparks:** \$42,329,454

*\*\*Worksheet 3A in the Appendices breaks down the tax assessor data by jurisdiction.*

It has been determined that a total of 100% of the 29 Critical Facilities located in Greater Cook County fall within the assets exposed to wind, hail, and lightning. These facilities total 634,129



square feet of space. The total replacement value on these Critical Facilities is \$190,238,700. The replacement values contained in this inventory are figured at a commercial building cost rate of \$300.00 per square foot.

Damage to crops is a significant concern in the event of a drought. According to the most recent figures (2010) on The University of Georgia's Website [www.georgiastats.uga.edu](http://www.georgiastats.uga.edu) (Georgia County Guide), Cook County's Forestry & Forest Products Farm Gate Value is \$120,000. The Total Farm Gate Value in Cook County is approximately \$84,320,346. The total Livestock and Aquaculture Value is \$3,080,755. While we have these values listed, we recognize that natural disasters would not normally fully impact the value of these properties, or be big enough to wipe out all assets.

### **E. Land Use and Development Trends Related to Drought:**

In an effort to improve infrastructure, fire services, and police protection to support future development, the local officials pursue Community Development Block Grants with the assistance of the Southern Georgia Regional Commission.

Regional land use trends are for the construction of subdivisions, businesses, etc., within wetland zones, purchasing wetland credits when necessary. This, however, increases the likelihood of Drought by removing natural water storage areas. Increased residential pressure from new construction outside of areas serviced by water systems may also affect the likelihood of Drought by the increased use of deep wells.

The Georgia Water Stewardship Act went into effect statewide on June 2, 2010. It allows daily outdoor watering for purposes of planting, growing, managing, or maintaining ground cover, trees, shrubs, or other plants only between the hours of 4 p.m. and 10 a.m. by anyone whose water is supplied by a water system permitted by the Environmental Protection Division.

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

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

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

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

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

All of Greater Cook County may be affected by Drought. There is an equal chance of Drought occurring in any jurisdiction. Water recharge areas are currently protected. Wetland areas are protected by COE permits. Soil and Sedimentation Control Ordinances are in effect throughout Cook County. These measures will protect against possible Drought damages.

## **G. General Overall HRV Summary of Drought:**

Drought is not spatially defined and can affect the entire County or only certain areas depending on weather conditions. The cost of the damage may be higher if the Drought were to occur in populated areas and municipalities, as opposed to if it were to occur in more agricultural based sections of Cook County.

The Cook County PDMPC recognizes Drought as the 7<sup>th</sup> most likely natural hazard to occur and cause damage. They developed a comprehensive range of Mitigation Goals, Objectives and Action Steps to lessen Drought impact on Greater Cook County.

Since the last update of the Cook County Hazard Mitigation Plan, there have not been any changes in land development patterns or mitigation strategies that would impact the community's vulnerability to drought.

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

### Summary

<b>Chapter 2 Section</b>	<b>Updates to Section</b>
<b>I. Technological Hazard</b>	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.

### **Section I Technological Hazard – Hazardous Materials Release (fixed/in-transit)**

#### **A. Identification of Hazardous Materials:**

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. Hazards are classified in many different ways.

#### **B. Profile of Hazardous Materials:**

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 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 sorts hazardous materials into six categories:

1. Toxic Agents (irritants, asphyxiates, narcotics)
2. Other Toxic Agents (hepatotoxic, nephrotoxic)
3. Hazardous Wastes
4. Hazardous Substances
5. Toxic Pollutants
6. Extremely Hazardous Substances



Historical records for hazardous material releases and technological hazards are not readily available, and could not be obtained for this report. However, the Cooke County EMA Director was contacted regarding any local knowledge or records of hazardous materials releases and technological hazards. The Director indicated there were no local records available, but that during his 30 years with the County he could not recall any such incidents.

The potential extent, or strength, of this type hazard can vary and depends on the operations of companies travelling through Cook County. Also, due to the wide range of potential strengths, dangers, impacts it is not be possible to reasonably predict an extent for future events nor is it possible to give a jurisdictional breakdown of possible future occurrences.

### **C. Inventory of Assets Exposed to Hazardous Materials:**

The entire County can potentially be affected by hazardous materials depending on the type of hazardous release, therefore approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Hurricanes/Tropical Storms. The number of structures within the hazard area for each jurisdiction is as follows:

**Cook County:** 6,928 structures      **City of Adel:** 3,485 structures

**City of Cecil:** 236 structures      **Town of Lenox:** 566 structures

**Town of Sparks:** 924 structures

*\*\*Please see GEMA Worksheet 3A: Inventory of Assets in the Appendices for a breakdown by jurisdiction and structure type.*

All 29 of the Critical Facilities and Infrastructure are located in this hazard area have a total of 634,129 square feet.

### **D. Estimate of Potential Losses due to Hazardous Materials:**

Approximately 100% of the building inventory in Cook County, the Cities of Adel and Cecil and the Towns of Lenox and Sparks fall within the assets exposed to Hurricanes/Tropical Storms.

The total value of structures for each jurisdiction is as follows:

**Cook County:** \$293,941,091      **City of Adel:** \$227,119,332

**City of Cecil:** \$7,354,379      **Town of Lenox:** \$23,303,924

**Town of Sparks:** \$42,329,454

*\*\*Worksheet 3A in the Appendices breaks down the tax assessor data by jurisdiction.*

These Residential values are based on the values assigned by the Cook County Tax Assessor.

It has been determined that a total of 100% of the 29 Critical Facilities located in Greater Cook County fall within the assets exposed to hazardous materials. These facilities total 634,129 square feet of space. The total replacement value on these Critical Facilities is \$190,238,700. The replacement values contained in this inventory are figured at a commercial building cost rate of \$300.00 per square foot.

Cook County's forest and agriculture can be destroyed by hazardous materials; therefore the Cook County PDMPC includes them as potential losses. According to the most recent figures (2010) on The University of Georgia's Website [www.georgiastats.uga.edu](http://www.georgiastats.uga.edu) (Georgia County Guide), Cook County's Forestry & Forest Products Farm Gate Value is \$120,000. The Total Farm Gate Value in Cook County is approximately \$84,320,346. The total Livestock and Aquaculture Value is \$3,080,755.

#### **E. Land Use and Development Trends Related to Hazardous Materials:**

In an effort to properly develop, the County and its Cities have been working with the Southern Georgia Regional Commission on updating zoning ordinances and the County Comprehensive Plan. Future development in the county may be affected by hazardous materials release; therefore the mitigation strategy in Chapter 5 includes action steps intended to reduce the possible adverse effect on such development.

In an effort to improve infrastructure, fire services, and police protection to support future development, the local officials pursue Community Development Block Grants with the assistance of the Southern Georgia Regional Commission.

#### **F. Multi-Jurisdictional Differences for Hazardous Materials:**

Due to their denser populations and location on I-75 and on the busy north-south route of Norfolk Southern trains, Adel, Sparks, Lenox and Cecil are much more vulnerable to a hazardous materials release due to a transportation accident than the unincorporated areas of Cook County.

#### **G. General Overall HRV Summary of Hazardous Materials:**

Preparing Cook County for a hazardous materials release requires community teamwork. In result staff training can be improved and residents of the County can be better educated. Responders to an incident must be working in a framework that clearly specifies their respective responsibilities. Therefore, training responders to fulfill their responsibilities, and conducting periodic tests to be sure the response plan is realistic and responders are ready to carry it out is a key priority.

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 several major truck and transportation routes, the potential exists for a catastrophic hazardous material release event due to a transportation accident.

Since the previous plan was approved the following mitigation action steps have been completed:

- Construction of a hardened emergency operations center/911 building
- "Storm Ready Community" designation has been achieved
- Code Red warning system installed
- Review and update of the Standard Operating Procedures for responding to a hazardous material spill event.

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

<b>Chapter 2 Sections</b>	<b>Updates to Section</b>
<b>I. Hurricane and Tropical Storm</b>	Added new goals and new multijurisdictional concerns Goals, Objective, and Actions Steps were updated to new format.
<b>II. Tornado</b>	Added new goals and new multijurisdictional concerns Goals, Objective, and Actions Steps were updated to new format.
<b>III. Flood</b>	Added new goals and new multijurisdictional concerns Goals, Objective, and Actions Steps were updated to new format.
<b>IV. Windstorms/Hailstorms/Lightning</b>	Added new goals and new multijurisdictional concerns Goals, Objective, and Actions Steps were updated to new format.
<b>V. Extreme Heat</b>	Added new goals and new multijurisdictional concerns Goals, Objective, and Actions Steps were updated to new format.
<b>VI. Wildfire</b>	Added new goals and new multijurisdictional concerns Goals, Objective, and Actions Steps were updated to new format.
<b>VII. Drought</b>	Added new goals and new multijurisdictional concerns Goals, Objective, and Actions Steps were updated to new format.

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There were no changes in the overall mitigation priorities since the last plan was completed.

Cook County and its communities updated the Greater Cook County Comprehensive Plan in 2010, and included goals and policies addressing quality housing, groundwater recharge and river corridor protection, the preservation of farmlands, updating the local zoning ordinances, and improving water, sewer and fire protection services throughout the county. In addition to the County's EMA Director, Cook County has staff resources in the areas of police protection, health services, and planning and community development. The City of Adel provides police, fire, public works and utility services to its residents. The other communities of Cecil, Lenox and Sparks also provide fire services. The Cook County Building and Zoning Department provides inspection and planning and zoning services to each of the local jurisdictions, and the Greater Cook County Building and Zoning Board has representation from each jurisdiction, and hears cases from throughout the county. These policies, staff and resources are available to all of Cook County and the Cities of Adel, Cecil, Lenox and Sparks for the implementation of the goals, objectives, tasks and action steps of this Hazard Mitigation Plan.

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

The purpose of the Cook County Pre-Disaster 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 as a result of these hazards. To guide 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 Cook County Pre-Disaster Mitigation Planning Team has developed the following overall community hazard 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 respond promptly and effectively in the event of a hazard event.**

With these overall community mitigation goals in place, the following Goals, Objectives, Tasks and Action Steps have been developed to specifically address the natural hazards identified in Chapter 2. The Goals, Objectives, Tasks and Action Steps were designed to meet the specific natural hazards and to help mitigate past repetitive damages from natural hazards in Greater Cook County. In addition, the following methodology was utilized in ranking the priority of each action step:

**Prioritize:**

**High Priority – H      Medium Priority – M      Low Priority – L**

**High Priority – H** – is considered to be an action step that needs to be taken first due to the most harmful threat posed to Cook County and its municipalities and/or due to the greatest repetitive damages caused by natural hazards in Cook County and its municipalities.

**Medium Priority – M** – is considered to be an action step that needs to be accomplished after the High Priority Action Steps are met or when additional funding is available.

**Low Priority – L** – is considered to be an Action Step that is important but is the lowest priority in meeting the needs of Cook County and its municipalities.

In projecting a timetable for implementation of the action steps, all jurisdictions throughout Greater Cook County will strive to meet the following schedule: High priority action steps will be implemented in the first eighteen months following adoption of this plan; Medium priority action steps will be implemented in eighteen to thirty-six months; and Low priority action steps will be implemented in thirty-six to sixty months. Action steps will be implemented utilizing a combination of resources from agencies such as GEMA, FEMA, NOAA, and others. Following each action step in the mitigation strategy, the plan identifies the Office of Primary Responsibility (OPR), estimated cost, anticipated funding source(s), anticipated benefit, and projected timeline.

With the overall community mitigation goals in place, the following Goals, Objectives, Tasks, and Action Steps have been developed to specifically address the natural hazards identified in Chapter 2. There were no changes in the overall priorities since the last plan was completed.

Below, is a description of the Mitigation Goals, Objectives, Tasks and Action Steps that were developed by the Cook County PDMPC to reduce damages and improve safety by Hazard

Mitigation in Cook County, the City of Adel, City of Cecil, Town of Lenox, and Town of Sparks. These have been arranged by the natural hazards contained in Chapter Two Sections I-VII. In this Chapter, in Sections I-VII, there is an analysis and description of a comprehensive range of specific Mitigation Goals, Objectives, Tasks and Action Steps and projects being considered to reduce the effects of each hazard. There is particular emphasis on new and existing buildings and infrastructure.

The Cook County PDMPC discussed and identified the Mitigation Goals, Objectives, Tasks and Action Steps contained in Chapter 4 Sections I-VII of this Plan after identifying the hazards noted in Chapter 2 Sections I-VII of this Plan. All areas of Greater Cook County were taken into account in the development of these Mitigation Goals, Objectives, Tasks and Action Steps. Identification of these has been developed over a long process 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 Mitigation Goals, Objectives, Tasks and Action Steps was compiled from the input of the Cook County PDMPC, as well as from others within the community. Members of the Cook County PDMPC prioritized the identified Mitigation Goals, Objectives, Tasks and Action Steps based on what would be perceived as most beneficial to the community. The benefits were all determined to be greater than the costs involved (if any). Several criteria were established to assist the Cook County PDMPC members in the prioritization of these suggested Mitigation Goals, Objectives, Tasks and Action Steps. Criteria included perceived cost benefit or cost effectiveness, availability of potential funding sources, overall feasibility, measurable milestones, multiple objectives, both public and political support for the proposed actions and the STAPLEE criteria.

Through this prioritization process, several projects emerged as being a greater priority than others. Some of the projects involved expending considerable amounts of funds to initiate the required actions. 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.

Relevant Mitigation Goals, Objectives, Tasks and Action Steps are listed below in Sections throughout the chapter. The Cook County EMA Director has been chosen by Cook County, the



cities of Adel and Cecil, and the Towns of Lenox and Sparks to oversee the projects. The Cook County EMA has been designated to be the coordinating agency for implementation and administration of these projects Cook County and all of its jurisdictions. An action step that is intended to be undertaken countywide by all five jurisdictions is identified by the notation **(All)**. Otherwise, individual jurisdictions to which an action step applies are identified as follows: **(A)** for Adel, **(L)** for Lenox, **(C)** for Cecil, **(S)** for Sparks, and **(CC)** for Cook County. Action steps intended to be undertaken countywide will be accomplished either through the individual efforts of all five jurisdictions, or jointly through the Cook County Emergency Management Agency. Following each action step in the mitigation strategy, the plan identifies the Office(s) of Primary Responsibility **(OPR)** for coordinating the implementation of the action step, estimated cost, anticipated funding source(s), anticipated benefit, and projected timeline.

## Section I

### HURRICANES/TROPICAL STORMS

**A. Community Mitigation Goals:** Hurricanes/Tropical Storms may cause substantial damage to life and property in Greater Cook County. These hazards are usually accompanied by some advanced notice, which gives the community time to prepare. The Cook County PDMPC believes that, due to the fact that these Hurricanes/Tropical Storms have the potential to be extremely violent and cause great damage, a comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) should be implemented to reduce the threat of Hurricane/Tropical Storm damage in Brooks County.

**B. Identification and Analysis of Comprehensive Range of Mitigation Options:** The Cook County PDMPC has identified the comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) in order to reduce or eliminate the damage caused by Hurricanes/Tropical Storms in the community.

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

The comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) includes both structural solutions (such as rehabilitation & construction of physical structures) and non-structural mitigation solutions (such as public awareness & information campaigns) that the Cook County PDMPC has taken into account.

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

Existing policies, regulations, ordinances and land use - As required by Georgia law, Cook County, the Cities of Adel and Cecil, and the Towns of Lenox and Sparks have each adopted comprehensive plans in accordance with the Minimum Planning Standards promulgated by the Georgia Department of Community Affairs. In addition, other measures to guide development,

including flood plain management ordinances, zoning ordinances and building codes are utilized.

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

Greater Cook County has several buildings and cemeteries that are listed as historic. Please see the Appendices for an excerpt taken from the 2030 Cook County Comprehensive Plan which contains a listing of historic properties. There are three properties listed on the National Register of Historic Places, which include the Cook County Courthouse, the SOWEGA Building, and the United States Post Office. All three of these properties are located in the City of Adel.

### **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 hurricanes. See the action steps under Goal 2, Objective 1, Task B.

### **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 hurricanes. See the action steps under Goal 2, Objective 1, Task B.

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

**Mitigation Goal #1 – Enhance the community’s ability to issue early warning of hurricanes in an effective, dependable, and rapid manner.**

**Objective #1.** Ensure that a comprehensive early warning notification system is in place.

**Task A.** Upgrade the existing early warning systems.

### **Action Step**

- Seek funding for a county-wide Early Warning Communication/Notification System (CC) **H COMPLETED**

**Objective #2.** Enhance the ability of the Cook County Emergency Management Agency to respond effectively and efficiently to emergency needs during and after a hurricane event.

**Task A.** Ensure that community facilities and programs are in place to facilitate EMA's emergency response.

### **Action Steps**

- Seek funding for construction of a hardened Emergency Operations Center, including necessary communications and operational equipment. (CC) **H COMPLETED**
- Become a designated "StormReady Community." (CC) **M COMPLETED**
- Implement the "Community Emergency Response Team" (CERT) program. (CC) **M COMPLETED**

### **Mitigation Goal #2.**

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

**Objective #1.** Protect life, health and property of residents from force of hurricanes.

**Task A.** Advise the public about hurricane safety precautions.

**Action Steps**

- Educate homeowners and builders on individual safe rooms. (All) **M**

OPR: EMA

Est. Cost: Existing Staff

Funding Source: Local Operating Funds

Timeline: 2013 - 2016

- Distribute programs on personal emergency preparedness, i.e., emergency survival kits. (All) **M**

OPR: EMA

Est. Cost: \$5000

Funding Source: Local Operating Funds

Timeline: 2013 - 2018

- Encourage the American Red Cross to teach the Citizen's Disaster Course on a frequent basis. (CC) **M**

OPR: EMA, ARC

Est. Cost: \$2,000

Funding Source: OHS-GEMA/FEMA

Timeline: 2013 - 2018

- Encourage businesses to develop emergency plans (All) **H**

OPR: EMA

Est. Cost: Existing Staff

Funding Source: Local Operating Funds

Timeline: 2013 - 2018

- 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. (All) **H**

OPR: EMA

Est. Cost: Existing Staff

Funding Source: Local Operating Funds

Timeline: 2013 – 2018

**Task B.** Reduce the potential impact of hurricanes on new and existing facilities and infrastructure.

### **Action Steps**

- Install auxiliary generators for all designated evacuation and emergency shelters and community water systems. **COMPLETED**

- Trim tree lines around roads, homes, utilities and businesses. (All) **M**

OPR: EMA, Cook PW, Municipalities PW, Georgia Power, Colquitt EMC, Adel

Est. Cost: \$20,000

Funding Source: Local operating funds and business funding

Timeline: 2013 - 2018

- Seek funding to retrofit government buildings and schools to reinforce windows, roofs and doors (All) **H**

OPR: EMA, Building Inspections/Code Enforcement, Board of Education

Est. Cost: Existing staff

Funding Source: Local funds, OHS-GEMA/FEMA

Benefit: Better protect 3200 school children and 180 school and government buildings

Timeline: 2013 - 2018

- Initiate an inspection program at critical facilities to identify construction weaknesses subject to high wind damage. (All) M

OPR: Building Inspections/Code Enforcement

Est. Cost: Existing staff

Funding Source: Local funds, OHS-GEMA/FEMA

Timeline: 2013 - 2018

- Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations (All) H

OPR: Building Inspections/Code Enforcement

Est. Cost: Existing Staff

Funding Source: Local Operating Funds

Timeline: 2013 - 2018

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

There is an equal chance of Hurricanes/Tropical Storms occurring in any jurisdiction. All of Cook County may be significantly affected by Hurricane/Tropical Storm events. <https://www.itos.uga.edu/gema> 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 Hurricane/Tropical Storm hazard events. Above are the items that prove there are related comprehensive ranges of Mitigation Goals, Objectives and Action Steps for each jurisdiction requesting FEMA approval and credit of the Plan. The majority of the Action Steps are to be implemented county-wide and there is no difference in strategy between jurisdictions except related to Brooks County being responsible for a county wide notification system.

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

Incremental accomplishments of the comprehensive range of Mitigation Goals Objectives and Action Steps will be reported to the public through appropriate means (TV, Web Site, Local Newspaper, City Council Meetings, County Commission Meetings, etc.).

## **F. Completed and Deleted Action Steps from the Original Plan**

### **Completed**

- Seek funding for a county-wide Early Warning Communication/Notification System
- Seek funding for construction of a hardened Emergency Operations Center, including necessary communications and operational equipment.
- Become a designated “Storm Ready Community.”
- Implement the “Community Emergency Response Team” (CERT) program.
- Install auxiliary generators for all designated evacuation and emergency shelters and community water systems.

## **G. Unchanged Action Steps**

- Educate homeowners and builders on individual safe rooms.
- Distribute programs on personal emergency preparedness, i.e., emergency survival kits.
- Encourage the American Red Cross to teach the Citizen’s Disaster Course on a frequent basis.
- Encourage businesses to develop emergency plans
- 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.

- Trim tree lines around roads, homes, utilities and businesses.
- Seek funding to retrofit government buildings and schools to reinforce windows, roofs and doors
- Initiate an inspection program at critical facilities to identify construction weaknesses subject to high wind damage.
- Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations

## Section II

# **TORNADO**

**A. Brief Narrative of Community Mitigation Goals:** As previously indicated in Chapter 2, Tornadoes may cause substantial damage to life, property and the economy in Cook County. Tornadoes are unpredictable and could happen at any place and at any time throughout the County. The Cook County PDMPC believes that, due to the fact that these Tornadoes may be extremely violent and cause great damage, a comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) should be implemented to reduce the threat of Tornado damage in Cook County, the Cities of Adel and Cecil, and the Towns of Lenox and Sparks.

**B. Identification and Analysis of the Comprehensive Range of Mitigation Options:** The Cook County PDMPC has identified the comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) in order to reduce or eliminate the damage caused by Tornadoes.

1. **Structural and non-structural** - See Section I, “Hurricanes/Tropical Storms”
2. **Existing policies, regulations, ordinances and land use** - See Section I, “Hurricanes/Tropical Storms”
3. **Community values, historic, and special considerations** – See Section I, “Hurricanes/Tropical Storms”
4. **New buildings and Infrastructure** – See Section I, “Hurricanes/Tropical Storms”
5. **Existing Buildings and Infrastructure** - See Section I, “Hurricanes/Tropical Storms”

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

See Section I “Hurricanes/Tropical Storms”

**D. Special Multi-Jurisdictional Strategy and Considerations:** All of Cook County may be significantly affected by Tornado events. <https://www.itos.uga.edu/gema> 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 Tornado hazard events. Since Tornadoes can strike anywhere, it is important, particularly in the populated areas of Cook County, to have and use an outdoor warning system. Above are the items that prove there are related comprehensive ranges of Mitigation Goals, Objectives and Action Steps for each jurisdiction requesting FEMA approval and credit of the Plan.

An action step that is intended to be undertaken countywide by all five jurisdictions is identified by the notation **(All)**. Otherwise, individual jurisdictions to which an action step applies are identified as follows: **(A)** for Adel, **(L)** for Lenox, **(C)** for Cecil, **(S)** for Sparks, and **(CC)** for Cook County. Action steps intended to be undertaken countywide will be accomplished either through the individual efforts of all five jurisdictions, or jointly through the Cook County Emergency Management Agency

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

Incremental accomplishments of the comprehensive range of Mitigation Goals Objectives and Action Steps will be reported to the public through appropriate means (TV, Web Site, Local Newspaper, City Council Meetings, County Commission Meetings, etc.).

#### **F. Completed and Deleted Action Steps from the Original Plan**

##### **Completed**

See Section I “Hurricanes/Tropical Storms”

#### **G. Unchanged Action Steps**

See Section I “Hurricanes/Tropical Storms”

### Section III

## **FLOOD**

### **A. Brief Narrative of Community Mitigation Goals:**

Floods and flooding may cause substantial damage to life, property and the economy in Greater Cook County. Floods are unpredictable and could happen at any time in any flood prone area. The greatest risk of flooding throughout the County occurs during periods of heavy rainfall, as a result of thunderstorms, hurricanes or tropical storms. During these events, storm water runoff causes rivers, creeks and tributaries to overflow and roadways are overtopped. The goal of this plan is to minimize the flood damage by identifying flood prone areas and developing an interactive model to better project levels of flooding at various water levels of the major rivers in the county.

**B. Identification and Analysis of the Comprehensive Range of Mitigation Options:** The Cook County PDMPC has identified the comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) in order to reduce or eliminate the damage caused by Floods in Cook County, the Cities of Adel and Cecil, and the Towns of Lenox and Sparks.

1. **Structural and non-structural** – Structural options included in this plan include upgrading drainage facilities and acquisition of potential flood containment areas and properties in flood prone areas. Non-structural options include the development of an interactive flood model, and updating local FIRM maps.
2. **Existing policies, regulations, ordinances and land use** – As required by Georgia law, Cook County, the Cities of Adel and Cecil, and the Towns of Lenox and Sparks have each adopted a comprehensive plan in accordance with the Minimum Planning Standards promulgated by the Georgia Department of Community Affairs. In addition, other measures to guide development, including flood plain management ordinances, zoning ordinances and building codes are utilized. Any project involving the disturbance of more than one acre such as single-family attached units, churches, multi-family developments, commercial developments, industrial developments, and planned developments are required to have approved storm water management plans. Also the enforcement of land use restrictions through their respective zoning ordinances restricts development within flood prone areas.

**3. Community values, historic & special considerations**

Greater Cook County has several buildings and cemeteries that are listed as historic. Please see the Appendices for an excerpt taken from the 2030 Cook County Comprehensive Plan which contains a listing of historic properties. There are three properties listed on the National Register of Historic Places, which include the Cook County Courthouse, the SOWEGA Building, and the United States Post Office. All three of these properties are located in the City of Adel.

**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 flooding. See the action steps under Objective 1, Tasks A and B, and Objective 3, Task A.

**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 flooding. See the action steps under Objective 1, Tasks A, B and D, and Objective 3, Task A.

**C. Flood-Mitigation Strategy and Recommendation:**

**Mitigation 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.

**Task A.** Assess the present drainage infrastructure system.

**Action Steps**

- Seek funding to develop a countywide Master Drainage Plan. (All) **H**

OPR: County Manager

Est. Cost: Existing Staff

Funding Sources: Local funds

Timeline: 2013 - 2016

**Task B.** Begin phased implementation of the Master Drainage Plan.

**Action Steps**

- Determine, in consultation with engineers, schedule for phased implementation (All) **H**

OPR: County Manager

Est. Cost: Existing Staff

Funding Sources: Local funds

Timeline: 2013 - 2016

- Seek funding for phased implementation (All) **H**

OPR: County Manager

Est. Cost: Existing Staff

Funding Sources: Local Funds

Timeline: 2013 - 2016

- Continue to review and update storm water run-off, watershed plans and effectiveness of present drainage ditching, culverts, storm water and sanitation network. (All) **M**

OPR: County Engineer

Est. Cost: Existing Staff

Funding Sources: Local funds

Timeline: 2013 - 2016

**Task C.** Reduce exposure to flood hazards countywide.

## **Action Steps**

- Review existing regulations to ensure adequacy in reducing the amount of future development in identified flood hazard areas. (All) **H**

OPR: Building Inspections/Code Enforcement

Est. Cost: Existing staff

Funding Sources: Local funds

Timeline: 2013 – 2016

- Update and improve floodplain maps. (All) **M**

OPR: EMA, FEMA

Est. Cost: \$50,000

Funding Sources: Local Budget, FEMA

Timeline: 2013 - 2016

- Distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the Community Rating System (CRS). (All) **M**

OPR: EMA

Est. Cost: Existing staff

Funding Sources: Local funds

Timeline: 2013 – 2016

- Review all capital improvements plans to ensure that infrastructure improvements are not directed towards flood hazard areas. (All) **M**

OPR: County/City Managers, Clerks

Est. Cost: Existing Staff

Funding Sources: Local Budget

Timeline: 2013 - 2016

- Work with Georgia Department of Transportation to identify areas of frequent roadway flooding and develop mitigation strategies. (All) M

OPR: EMA

Est. Cost: Existing Staff

Funding Sources: Local Funds

Timeline: 2013 - 2016

#### **Task D. Enforce floodplain management.**

##### **Action Steps**

- Continue to enforce floodplain ordinances. (All) H

OPR: EMA

Est. Cost: Existing staff

Funding Sources: Local Funds

Timeline: 2013 - 2016

- Review and amend the Adel, Lenox, Cecil, and Sparks/Cook County Building Codes as required due to mandatory changes in the National Flood Insurance Program. (All) H

OPR: Building Inspections

Est. Cost: Existing staff

Funding Source: Local Funds

Timeline: 2013 - 2016

#### **Task E. Determine feasibility**



### **Action Steps**

- Collect updated information of the number and location of all repetitive loss structures throughout the county. (All) H

OPR: EMA

Est. Cost: Existing staff

Funding Sources: Local funds

Timeline: 2013 - 2016

- Seek funding to buyout all structures located in highest flood prone areas. (All) H

OPR: EMA

Est. Cost: Existing staff

Funding Sources: Local funds

Timeline: 2013 - 2016

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

#### **Task A. Develop a county wide Greenspace Program**

### **Action Steps**

Monitor comprehensive land use plans to ensure consistency with the green space program, including mapping of lands to be permanently protected. (All) M

OPR: Building Inspections

Est. Cost: \$15,000

Funding Sources: Local Budget, State and Federal Grant Funding

Timeline: 2013 – 2016

- Monitor existing subdivision regulations to promote conservation of floodplains, wetlands, and groundwater recharge areas. (All) H

OPR: Building Inspections/Code Enforcement

Est. Cost: \$20,000

Funding Sources: Local Budget, State and Federal Grant Funding

Timeline: 2013 - 2016

- Seek funding from private foundations, individuals, federal and state grants, and local communities to leverage green space grant funds. (All) **H**

OPR: County Manager

Est. Cost: Existing Staff

Funding Sources: Local Budget

Benefit: Eliminate future development in known flood hazard areas.

Timeline: 2013 - 2016

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

**Task A.** Provide early warning to citizens, businesses, schools, and other vulnerable populations

#### **Action Steps**

- Seek funding to implement an Early Warning Communication/Notification System (CC) **H**

**COMPLETED**

**Task B. Reduce the threat of water contamination caused by flooding.**

#### **Action Steps**

- Cap wells not in use and increase wellhead waterproofing (All) **L**
- OPR: Cook County Public Health

Est. Cost: \$100,000

Funding Sources: Local Budget, State Funding

Timeline: 2013 - 2016

- Investigate methods to reduce Non-Point Source pollution, such as increasing grass growth along waterways (All) **L**

OPR: County/Cities PW

Est. Cost: \$100,000

Funding Sources: Local Budget, State and Federal Funds

Timeline: 2013 - 2016

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

Above are the items that prove there are related comprehensive ranges of Mitigation Goals, Objectives and Action Steps for each jurisdiction requesting FEMA approval and credit of the Plan. The majority of the Action Steps are to be implemented county-wide and there is no difference in strategy between jurisdictions except related to individual drainage problems that need to be corrected.

An action step that is intended to be undertaken countywide by all five jurisdictions is identified by the notation **(All)**. Otherwise, individual jurisdictions to which an action step applies are identified as follows: **(A)** for Adel, **(L)** for Lenox, **(C)** for Cecil, **(S)** for Sparks, and **(CC)** for Cook County. Action steps intended to be undertaken countywide will be accomplished either through the individual efforts of all five jurisdictions, or jointly through the Cook County Emergency Management Agency.

**E. Local Public Information and Awareness Strategy.** Incremental accomplishments of the comprehensive range of Mitigation Goals Objectives and Action Steps will be reported to the public through appropriate means (TV, Web Site, Local Newspaper, City Council Meetings, County Commission Meetings, etc.).

#### **F. Completed and Deleted Action Steps from the Original Plan**

- Seek funding to implement an Early Warning Communication/Notification System

## **G. Unchanged Action Steps**

The following mitigation steps remain in the plan because, based on their relevance after meeting with the planning committee and after analyzing them with the STAPLEE Criteria. These unchanged action steps were found to be relevant in limiting the damage to people and property from a natural hazard.

- Seek funding to develop a countywide Master Drainage Plan.
- Determine, in consultation with engineers, schedule for phased implementation
- Seek funding for phased implementation
- Continue to review and update storm water run-off, watershed plans and effectiveness of present drainage ditching, culverts, storm water and sanitation network.
- Review existing regulations to ensure adequacy in reducing the amount of future development in identified flood hazard areas
- Update and improve floodplain maps.
- Distribute letters to all property owners in the county regarding potential flood hazards as required for participation in the Community Rating System (CRS).
- Review all capital improvements plans to ensure that infrastructure improvements are not directed towards flood hazard areas.
- Work with Georgia Department of Transportation to identify areas of frequent roadway flooding and develop mitigation strategies.
- Continue to enforce floodplain ordinances.
- Review and amend the Adel, Lenox, Cecil, and Sparks/Cook County Building Codes as required due to mandatory changes in the National Flood Insurance Program.

- Collect updated information of the number and location of all repetitive loss structures throughout the county.
- Seek funding to buyout all structures located in highest flood prone areas.
- Monitor comprehensive land use plans to ensure consistency with the green space program, including mapping of lands to be permanently protected.
- Monitor existing subdivision regulations to promote conservation of floodplains, wetlands, and groundwater recharge areas.
- Seek funding from private foundations, individuals, federal and state grants, and local communities to leverage green space grant funds.
- Cap wells not in use and increase wellhead waterproofing.
- Investigate methods to reduce Non-Point Source pollution, such as increasing grass growth along waterways.

## **Section IV**

### **WINDSTORMS / HAILSTORMS / LIGHTNING**

#### **A. Brief Narrative of Community Mitigation Goals:**

While these hazards can cause significant property damage, the potential for personal injury is also high for an unprepared public. Ensuring that the citizenry is aware of these dangers and the community is able to quickly issue warnings of possible events is a very important component of the community's emergency preparedness.

**B. Identification and Analysis of the Comprehensive Range of Mitigation Options:** The Cook County PDMPC has identified the comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) in order to reduce or eliminate the damage caused by Windstorms/Hailstorms/Lightning throughout Cook County.

1. Structural and non-structural – The non-structural mitigation options for mitigating this hazard include improving educational and awareness activities to increase the public's knowledge of the danger and actions to take when they occur. The installation of lightning detection devices at recreational facilities is a structural option that could save lives due to the improved early warning capability.
2. Existing policies, regulations, ordinances and land use - As required by Georgia law, Cook County and the Cities of Adel, Lenox, Cecil, and Sparks have each adopted comprehensive plans in accordance with the Minimum Planning Standards promulgated by the Georgia Department of Community Affairs. In addition, other measures to guide development, including flood plain management ordinances, capital improvement planning, zoning ordinances and building codes are utilized.
3. Community values, historic, and special considerations Greater Cook County has several buildings and cemeteries that are listed as historic. Please see the

Appendices for an excerpt taken from the 2030 Cook County Comprehensive Plan which contains a listing of historic properties. There are three properties listed on the National Register of Historic Places, which include the Cook County Courthouse, the SOWEGA Building, and the United States Post Office. All three of these properties are located in the City of Adel.

4. New buildings and Infrastructure – The mitigation strategy and recommendations that follow include action steps designed to protect the health and safety of the general public, as well as new buildings and infrastructure from effects of windstorms, hail, and lightning. See Goal 2, Objective 1, Task B.
5. Existing Buildings and Infrastructure - The mitigation strategy and recommendations that follow include action steps designed to protect the health and safety of the general public, as well as new buildings and infrastructure from effects of windstorms, hail, and lightning. See Goal 2, Objective 1, Task B.

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

See Section I, “Hurricanes/Tropical Storms” and add the following step:

- Install lightning warning and protection equipment at outdoor recreational facilities countywide. (All) **H**

OPR: EMA

Est. Cost: \$50,000

Funding Sources: Local Budgets, OHS-GEMA, FEMA

Timeline: 2013 - 2016

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

An action step that is intended to be undertaken countywide by all five jurisdictions is identified by the notation **(All)**. Otherwise, individual jurisdictions to which an action step applies are

identified as follows: **(A)** for Adel, **(L)** for Lenox, **(C)** for Cecil, **(S)** for Sparks, and **(CC)** for Cook County. Action steps intended to be undertaken countywide will be accomplished either through the individual efforts of all five jurisdictions, or jointly through the Cook County Emergency Management Agency.

**E. Local Public Information and Awareness Strategy.** Incremental accomplishments of the comprehensive range of Mitigation Goals Objectives and Action Steps will be reported to the public through appropriate means (TV, Web Site, Local Newspaper, City Council Meetings, County Commission Meetings, etc.).

#### **F. Completed and Deleted Action Steps from the Original Plan**

See Section I “Hurricanes/Tropical Storms”

#### **G. Unchanged Action Steps**

The following mitigation steps remain in the plan because, based on their relevance after meeting with the planning committee and after analyzing them with the STAPLEE Criteria. These unchanged action steps were found to be relevant in limiting the damage to people and property from a natural hazard.

- See Section I “Hurricanes/Tropical Storms”
- Install lightning warning and protection equipment at outdoor recreational facilities countywide.



## Section V

# **EXTREME HEAT**

### **A. Brief Narrative of Community Mitigation Goals:**

The South Georgia area is subject to extreme high temperatures and humidity during the summer months, and heat-induced illness can be very serious and even fatal for many population groups in the community. The goal of the community is to prevent such injuries and deaths by providing those at risk with timely warnings of danger to ensure their ability to take precautions, such as accessing air conditioned shelter when needed.

**B. Identification and Analysis of the Comprehensive Range of Mitigation Options:** The Cook County PDMPC has identified the comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) in order to reduce or eliminate the damage caused by Extreme Heat throughout Cook County.

1. Structural and non-structural – There are no structural options considered, since there are appropriate facilities available throughout the county to serve as shelters when needed. Non-structural options include developing a methodology to predict heat stress days and properly disseminating warnings to the public.
2. Existing policies, regulations, ordinances and land use - State regulations apply to the operations of emergency shelters. There are currently no local ordinances or regulations affecting emergency shelters.
3. Community values, historic & special considerations -  
  
Greater Cook County has several buildings and cemeteries that are listed as historic. Please see the Appendices for an excerpt taken from the 2030 Cook County Comprehensive Plan which contains a listing of historic properties.

There are three properties listed on the National Register of Historic Places, which include the Cook County Courthouse, the SOWEGA Building, and the United States Post Office. All three of these properties are located in the City of Adel.

4. New buildings and Infrastructure – As noted in Chapter 2, the risk of extreme heat is mainly to the citizens of Cook County. Therefore, the mitigation strategy and recommendations that follow include action steps designed to protect the health and safety of the general public from the effects of extreme heat, rather than new buildings and infrastructure. .
5. Existing Buildings and Infrastructure - As noted above, the risk of extreme heat is mainly to the citizens of Cook County. Therefore, the mitigation strategy and recommendations that follow include action steps designed to protect the health and safety of the general public from the effects of extreme heat, rather than existing buildings and infrastructure.

### **C. Extreme Heat-Mitigation Strategy and Recommendation:**

**Mitigation Goal #1.** Prevent heat related injuries and deaths.

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

**Task A.** Maintain a network of equipped emergency shelters throughout Cook County.

#### **Action Steps**

- Designate emergency shelters in consultation with appropriate organizations (Red Cross, Senior Citizen Centers, hospital, churches, health department, etc.) **COMPLETED**
- Install auxiliary generators for all designated evacuation and emergency shelters and community water systems. **COMPLETED**
- Establish operating policies and procedures, identify managing entity, and determine needed equipment and supplies. (All) M

OPR: Local Emergency Operations Planning Committee

Est. Cost: Existing Staff

Funding Sources: Local Budget

Timeline: 2013 – 2016

- 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. (CC)

OPR: EMA, NWS

Est. Cost: \$2,000

Funding Source: National Weather Service

Timeline: 2013 – 2017 **NEW**

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

Above are the items that prove there are related comprehensive ranges of Mitigation Goals, Objectives and Action Steps for each jurisdiction requesting FEMA approval and credit of the Plan. The majority of the Action Steps are to be implemented county-wide and there is no difference in strategy between jurisdictions except related to individual drainage problems that need to be corrected.

**E. Local Public Information and Awareness Strategy.** Incremental accomplishments of the comprehensive range of Mitigation Goals Objectives and Action Steps will be reported to the public through appropriate means (TV, Web Site, Local Newspaper, City Council Meetings, County Commission Meetings, etc.).

#### **F. Completed and Deleted Action Steps from the Original Plan**

- Designate emergency shelters in consultation with appropriate organizations (Red Cross, Senior Citizen Centers, hospital, churches, health department, etc.) **COMPLETED**
- Install auxiliary generators for all designated evacuation and emergency shelters and community water systems. **COMPLETED**

#### **G. Unchanged Action Steps**

The following mitigation steps remain in the plan because, based on their relevance after meeting with the planning committee and after analyzing them with the STAPLEE Criteria. These unchanged action steps were found to be relevant in limiting the damage to people and property from a natural hazard.

- Establish operating policies and procedures, identify managing entity, and determine needed equipment and supplies.

## Section VI

### WILDFIRE

**A. Brief Narrative of Community Mitigation Goals:** Wildfire may cause substantial damage to life, property and the economy in Cook County. Wildfire is unpredictable and could happen at any place and at any time. The Cook County PDMPC believes that, due to the fact that Wildfire may cause great damage, a comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) should be implemented to reduce the threat of Wildfire damage.

**B. Identification and Analysis of the Comprehensive Range of Mitigation Options:** The Cook County PDMPC has identified the comprehensive range of Mitigation Goals, Objectives and Action Steps below in order to reduce or eliminate the damage caused by Wildfire throughout Cook County.

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

The comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) includes both structural solutions (such as rehabilitation & construction of physical structures) and non-structural mitigation solutions (such as public awareness & information campaigns) that the Cook County PDMPC has taken into account.

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

As required by Georgia law, Cook County and Adel, Lenox, Cecil, and Sparks have each adopted comprehensive plans in accordance with the Minimum Planning Standards promulgated by the Georgia Department of Community Affairs. In addition, other measures to guide development, including flood plain management ordinances, capital improvement planning, zoning ordinances and building codes are utilized.

Georgia law requires that a permit be issued for most types of outdoor burning. To request a permit all that is needed to be done is to contact the local Georgia Forestry Commission or visit [www.gatrees.org](http://www.gatrees.org) to apply online. If conditions are favorable for burning, a permit will be granted. According to Georgia law, burning without a permit is a misdemeanor with fines up to \$1,000.00. Permitting will protect against possible Wildfire damages.

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

Greater Cook County has several buildings and cemeteries that are listed as historic. Please see the Appendices for an excerpt taken from the 2030 Cook County Comprehensive Plan which contains a listing of historic properties. There are three properties listed on the National Register of Historic Places, which include the Cook County Courthouse, the SOWEGA Building, and the United States Post Office. All three of these properties are located in the City of Adel.

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

All of the action steps under Objectives 1 and 2 are designed to protect new buildings and infrastructure from the effects of wildfire.

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

All of the action steps under Objectives 1 and 2 are designed to protect existing buildings and infrastructure from the effects of wildfire.

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

**Mitigation 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.**

**Task A.** Increase wildland fire fighting capacity.

**Action Steps**

- Improve access to airborne fire protection (CC) **M**

OPR: EMA, Georgia Forestry Commission, County/Cities Fire Departments

Est. Cost: \$500,000.00

Funding Sources: State of Georgia Forestry Commission

Timeline: 2013 - 2016

Acquire all terrain vehicles (CC) **M**

OPR: EMA, Georgia Forestry Commission, County/Cities Fire Departments

Est. Cost: \$200,000.00

Funding Sources: State of Georgia Forestry Commission, State and Federal Grant Programs

Timeline: 2013 - 2016

- Seek state and federal grants to acquire better fire equipment. (All) **M**

OPR: EMA, County/Cities Fire Departments

Est. Cost: Existing Staff

Funding Sources: Budgeted Expense

Timeline: 2013 - 2016

- Improve wildland fire training at the local fire department level. (All) **M**

OPR: Georgia Forestry Commission, County/Cities Fire Departments

Est. Cost: Training provided by Forestry Commission

Funding Sources: Georgia Forestry, GPSTC

Timeline: 2013 - 2016

- 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 (All) **M**

OPR: EMA, Georgia Forestry Commission, County/Cities Fire Departments

Est. Cost: \$15,000.00

Funding Sources: State of Georgia Forestry Commission, State and Federal Grant Programs

Timeline: 2013 - 2016

- Support Georgia Forestry Public Outreach efforts (All) **M**

OPR: EMA, Georgia Forestry Commission, County/Cities Fire Departments

Est. Cost: \$10,000.00

Funding Sources: State of Georgia Forestry Commission, State and Federal Grant Programs

Timeline: 2013 - 2016

- Enforce building, fire and safety codes. (ALL) **M**

OPR: Building Inspections, County/Cities Fire Departments

Est. Cost: Existing staff

Funding Sources: Local Budget

Timeline: 2009 - 2010

- Develop an ordinance to enforce burn permits at the local level. (CC) **M**

OPR: Cook County Code Enforcement



Est. Cost: Existing Staff

Funding Sources: Local Budget

Timeline: 2013 - 2016

- Investigate methods to provide landowners an incentive to prescribe burn timberland thereby minimizing heavy fuel loads. (CC) **M**

OPR: Georgia Forestry Commission, County/Cities Fire Departments

Estimated Cost: \$25,000.00

Funding Sources: State of Georgia Forestry Commission, State and Federal Grant Programs

Timeline: 2013 - 2016

- Create more fire breaks (CC) **M**

OPR: Georgia Forestry Commission, County/Cities Fire Departments

Est. Cost: \$100,000.00

Funding Sources: State of Georgia Forestry Commission, State and Federal Grant Programs

Timeline: 2013 - 2016

- Build roads into areas that have no other access (CC) **M**

OPR: Georgia Forestry Commission

Est. Cost: \$200,000.00

Funding Sources: Georgia Forestry Commission, State and Federal Grant Programs

Timeline: 2013 - 2016

- Educate public and provide information on nighttime burning and smoke management (All) **M**

OPR: EMA, Georgia Forestry Commission, County/Cities Fire Departments

Est. Cost: \$25,000.00

Funding Sources: Georgia Forestry Commission, State and Federal Grant Programs

Timeline: 2013 – 2016

- Improve communication with Georgia Environmental Protection Division in regard to illegal burning issues (CC) **M**

OPR: EMA, Georgia Forestry

Est. Cost: Existing staff

Funding Sources: Existing budget and state funds

Timeline: 2013 - 2016

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

**Task A.** Ensure adequate water supplies and raise public awareness of fire danger during drought.

### **Action Steps**

Become a designated “Firewise Community” (All) **H**

OPR: EMA, County/Cities Fire Departments

Estimated Cost: Existing staff

Funding Sources: Local Budget

Timeline: 2013 – 2016

- Install more dry hydrants (All) **H**

OPR: County/Cities Fire Departments

Est. Cost: \$300,000

Funding Sources: State and Federal Grant programs

Timeline: 2013 - 2016

- Seek funding to acquire more fire tankers (2000 to 3000 gallons) for local fire departments. (All) **H**

OPR: EMA, County/Cities Fire Departments

Est. Cost: \$500,000

Funding Sources: Local Budget, SPOLST OHS-GEMA, FEMA, Assistance to Fire Fighters Grants, Safer Grants

Timeline: 2013 – 2016

- 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 (ALL) **H**

OPR: EMA, Georgia Forestry Commission, County/Cities Fire Departments

Est. Cost: \$25,000.00

Funding Sources: State of Georgia Forestry Commission, State and Federal Grant Programs

Timeline: 2013 – 2016

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

There is an equal chance of Wildfire occurring in any jurisdiction. <https://www.itos.uga.edu/gema>  
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 Wildfire hazard events.

Above are the items that prove there are related comprehensive ranges of Mitigation Goals, Objectives and Action Steps for each jurisdiction requesting FEMA approval and credit of the Plan. The majority of the Action Steps are to be implemented county-wide and there is no difference in strategy between jurisdictions except related to individual water related problems and individual fire department needs that should to be corrected in the particular jurisdictions.

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

All sections of the Plan shall be monitored and evaluated annually by the Cook County EMA. Incremental accomplishments of the comprehensive range of Mitigation Goals Objectives and Action Steps will be reported to the public through appropriate means (TV, Web Site, Local Newspaper, City Council Meetings, County Commission Meetings, etc.).

**F. Completed and Deleted Action Steps from the Original Plan**

None

**G. Unchanged Action Steps**

All of the Action Steps will remain the same but will be extended until 2016.

## **Section VII**

# **DROUGHT**

**A. Brief Narrative of Community Mitigation Goals:** Drought may cause damage to life, property and the economy in Cook County particularly in regards to crop damage. Its effects can be long term and the damage increases as time goes by. In addition, Drought conditions contribute to Wildfires in the community. The Cook County PDMPC believes that, due to the fact that Drought can cause such damage, a comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) should be implemented to reduce the impact of Drought on the community.

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

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

The comprehensive range of Mitigation Goals, Objectives and Action Steps (contained in Section C below) includes both structural solutions (such as rehabilitation & construction of physical structures) and non-structural mitigation solutions (such as public awareness & information campaigns) that the Cook County PDMPC has taken into account.

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

The Georgia Water Stewardship Act went into effect statewide on June 2nd 2010. It allows daily outdoor watering for purposes of planting, growing, managing, or maintaining ground cover, trees, shrubs, or other plants only between the hours of 4 p.m. and 10 a.m. by anyone whose water is supplied by a water system permitted by the Environmental Protection Division.

As required by Georgia law, Cook County and the Cities of Adel, Lenox, Cecil, and Sparks have each adopted comprehensive plans in accordance with the Minimum Planning Standards promulgated by the Georgia Department of Community Affairs. In addition, other measures to guide development, including flood plain management ordinances, capital improvement planning, zoning ordinances and building codes are utilized. Currently, the Georgia Department of Natural Resources issues water use restrictions when conservation procedures are deemed necessary. Cook County and Adel, Lenox, Cecil, and Sparks observe the DNR mandatory restrictions.

Regional land use trends are for the construction of subdivisions, businesses, etc., within wetland zones, purchasing wetland credits when necessary. This, however, increases the likelihood of Drought by removing natural water storage areas. Increased residential pressure from new construction outside of areas serviced by water systems may also affect the likelihood of Drought by the increased use of deep wells.

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

Greater Cook County has several buildings and cemeteries that are listed as historic. Please see the Appendices for an excerpt taken from the 2030 Cook County Comprehensive Plan which contains a listing of historic properties. There are three properties listed on the National Register of Historic Places, which include the Cook County Courthouse, the SOWEGA Building, and the United States Post Office. All three of these properties are located in the City of Adel.

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

As noted in Chapter 2, the risk of drought is mainly to the citizens of Cook County. Therefore, the mitigation strategy and recommendations that follow include action steps designed to protect the health and safety of the general public from the effects of drought, rather than new buildings and infrastructure.

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

As noted above, the risk of drought is mainly to the citizens of Cook County. Therefore, the mitigation strategy and recommendations that follow include action steps designed to protect the health and safety of the general public from the effects of drought, rather than existing buildings and infrastructure.

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

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

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

**Task A.** Assist Cook County agricultural entities in reducing drought related losses.

#### **Action Steps**

- Promote more efficient use of surface irrigation (CC) M

OPR: Local Extension Services, County government

Est. Cost: Existing staff

Funding Sources: Local funds, state funds

Timeline: 2013 - 2016

- Promote construction of farm ponds for irrigation (CC) L

OPR: Local Extension Services, County government

Est. Cost: Existing staff

Funding Sources: Local funds, state funds

Timeline: 2013 - 2016

- Identify funds to repair existing ponds (CC) L

OPR: Local Extension Services, County government

Est. Cost: Existing staff

Funding Sources: Local funds, state funds

Timeline: 2013 - 2016

- Promote the drilling of 4 inch wells to recharge farm ponds (CC) M

OPR: Local Extension Services, County government

Est. Cost: Existing staff

Funding Sources: Local funds, state funds

Timeline: 2013 - 2016

- Implement a support system through FFA and USDA (CC) L

OPR: Local Extension Services, County government

Est. Cost: Existing staff

Funding Sources: Local funds, state funds

Timeline: 2013 - 2014

**Mitigation 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.

**Task A.** Sustain the community's water supplies.



### **Action Steps**

- Heighten public awareness on actions citizens can take to conserve water. (All) **H**

OPR: Local Extension Services, County/City governments

Est. Cost: Existing staff

Funding Sources: Local funds, state funds

Benefit: Preserve water supplies for population of 16,500 during drought conditions

Timeline: 2013 - 2015

- Utilize the media for the distribution and publication of drought information. (All) **M**

OPR: Local Extension Services, County/City governments

Est. Cost: Existing staff

Funding Sources: Local funds, state funds

Benefit: Preserve water supplies for population of 16,500 during drought conditions

Timeline: 2013 - 2015

- Update community websites to provide drought related information that is readily accessible. (All) **H**

OPR: Local Extension Services, County/City Governments

Est. Cost: Existing Staff

Funding Sources: Local funds, state funds

Timeline: 2013 – 2015

- Target conservation alerts to individual households through an Early Warning Communication/Notification bulletin board. (All) **H**

OPR: EMA

Est. Cost: \$10,000 annual expense

Funding Sources: Local budget, OHS-GEMA and FEMA grant funding

Timeline: 2013 -2017

- Ensure the reasonable allocation of supply during drought events through a coordinated and cooperative inter-agency response. (All) H

OPR: EMA, OHS-GEMA, FEMA

Est. Cost: Existing Staff

Funding Sources: Local budget, OHS-GEMA, FEMA

Timeline: 2013 -2017

- Enforce policies for conservation of water during times of water shortage and drought. (All) H

OPR: All local governments

Est. Cost: Existing Staff

Funding Sources: Local budgets

Benefit: Ensure source of safe water for population of 16,500

Timeline: 2013 -2017

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

An action step that is intended to be undertaken countywide by all five jurisdictions is identified by the notation **(All)**. Otherwise, individual jurisdictions to which an action step applies are identified as follows: **(A)** for Adel, **(L)** for Lenox, **(C)** for Cecil, **(S)** for Sparks, and **(CC)** for Cook County. Action steps intended to be undertaken countywide will be accomplished either through the individual efforts of all five jurisdictions, or jointly through the Cook County EMA.

**E. Local Public Information and Awareness Strategy:** All sections of the Plan shall be monitored and evaluated annually by the Cook County EMA. Incremental accomplishments of comprehensive range of Mitigation Goals Objectives and Action Steps will be reported to the

public through appropriate means (TV, Web Site, Local Newspaper, City Council Meetings, County Commission Meetings, etc.).

#### **F. Completed and Deleted Action Steps from the Original Plan**

None

#### **G. Unchanged Action Steps**

All action steps will be continued from the previous plan for this hazard.

### **Chapter 5**

#### **Local Technological Hazard Mitigation Goals and Objectives**

The purpose of the Greater Cook County Pre-Disaster 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. Cook County and the Cities of Adel, Cecil, Lenox and Sparks, have not made any changes in their community's overall priorities as they relate to mitigation since the previous plan was completed. 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 Cook County Pre-Disaster Mitigation Planning Team 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 respond promptly and effectively in the event of 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 hazard identified in Chapter 3. In addition, the same methodology was utilized in ranking the priority of each action step as in Chapter 4.

**I. Hazardous Materials Release**

**A. Community Mitigation Goals**

Although addressing technological hazards is not required by the Disaster Mitigation Act of 2000, the Cook County Mitigation Planning Team elected to address the possibility of a hazardous materials release resulting from a transportation accident in this plan. Several major trucking routes run through Cook County: I-75, U.S. Highway 41, and Georgia Highways 37 and 76. Norfolk Southern Railroad Company trains also make several daily runs through the county. The plan's goal is to promote awareness of the importance of being prepared in the event of a transportation accident that results in the release of hazardous materials. There has not been any changes in Cook County and its Cities overall priorities since the previous plan was completed that would affect mitigation.

Cook County and its communities updated the Greater Cook County Comprehensive Plan in 2010, and included goals and policies addressing quality housing, groundwater recharge and river corridor protection, the preservation of farmlands, updating the local zoning ordinances, and improving water, sewer and fire protection services throughout the county. In addition to the County's EMA Director, Cook County has staff resources in the areas of police protection, health services, and planning and community development. The City of Adel provides police, fire, public works and utility services to its residents. The other communities of Cecil, Lenox and Sparks also provide fire services. The Cook County Building and Zoning Department provides inspection and planning and zoning services to each of the local jurisdictions, and the Greater Cook County Building and Zoning Board has representation from each jurisdiction, and hears cases from throughout the county. These policies, staff and resources are available to all of Cook County and the Cities of Adel, Cecil, Lenox and Sparks for the implementation of the goals, objectives, tasks and action steps of this Hazard Mitigation Plan.

**B. Identification & Analysis of Range of Mitigation Options.**

1. Structural and non-structural mitigation – The options offered in this plan are both structural and non-structural. The possibility of disaster occurring as a result of an accidental hazardous materials release further strengthens the need for an emergency county-wide notification system to quickly warn residents who are in danger. The non-structural options are designed to promote awareness of the importance of being prepared for such an event.
2. Existing policies, regulations, ordinances and land use – As required by Georgia law, Cook County and Adel, Lenox, Cecil, and Sparks have each adopted comprehensive plans in accordance with the Minimum Planning Standards promulgated by the Georgia Department of Community Affairs. In addition, other measures to guide development, including flood plain management ordinances, capital improvement planning, zoning ordinances and building codes are utilized. In the case of hazardous materials handling, existing federal and state policies and regulations and local land use restrictions and ordinances apply and are strictly enforced throughout Cook County.
3. Community values, historic, and special considerations - The possibility of a hazardous materials release while being transported through the Cook County community would be devastating to the quality of life that the community offers its citizens.
4. New buildings and Infrastructure – As noted in Chapter 3, the risk of a hazardous materials release is mainly to the citizens of Cook County. Therefore, the mitigation strategy and recommendations that follow include action steps designed to protect the health and safety of the general public from the effects of a hazardous materials release, rather than new buildings and infrastructure.
5. Existing Buildings and Infrastructure - As noted above, the risk of a hazardous release is mainly to the citizens of Cook County. Therefore, the mitigation strategy and recommendations that follow include action steps designed to protect the health and safety of the general public from the effects of a hazardous materials release, rather than existing buildings and infrastructure.

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

**Mitigation Goal #1 – Protect the health and safety of residents of Cook County.**

**Objective #1. Enhance the community's ability to issue early warning of a hazardous materials release in an effective, dependable, and rapid manner.**

**Task A.** Ensure that a comprehensive early warning notification system is in place.

### **Action Step**

- Seek funding for a county-wide Early Warning Communication/Notification

System (CC) H

OPR: EMA

Est. Cost: Existing Staff

Funding Source: Local Operating Funds and Grants

Timeline: **Completed**

**Objective #2. Enhance the ability of the Cook County Emergency Management Agency to coordinate effectively and efficiently the emergency response during and after a hazardous materials release.**

**Task A.** Ensure that community facilities and programs are in place to facilitate EMA's emergency response.

### **Action Steps**

- Seek funding for construction of a hardened Emergency Operations Center, including necessary communications and operational equipment. (CC) H

OPR: EMA

Est. Cost: \$300,000

Funding Source: OHS-GEMA, FEMA

Timeline: **Completed**

- Become a designated "StormReady Community." (CC) M

OPR: EMA

Est. Cost: Existing Staff

Funding Source: Local Operating Funds

Timeline: **Completed**

- Implement the “Community Emergency Response Team” (CERT) program. (CC) M

OPR: EMA

Est. Cost: \$5,000

Funding Source: GEMA

Timeline: 2013 - 2014

### **Objective #3. Minimize the effect of hazardous material spills.**

**Task A.** Facilitate training in response policies and procedures for hazardous material spills.

#### **Action Steps**

- Maintain HazMat response training (All) H

OPR: EMA, City/County Fire Depts.

Est. Cost: Existing staff

Funding Sources: Local Operating Funds

Timeline: 2013 - 2018

- Seek funding to expand HazMat training to first responders (All) H

OPR: EMA, City/County Fire Depts.

Est. Cost: Existing staff

Funding Sources: FEMA, OHS-GEMA, DHS and local budget

Timeline: 2013 - 2018

- 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 (All) **H**

OPR: EMA

Est. Cost: Existing Staff

Funding Sources: Local budget, OHS-GEMA/FEMA

Timeline: 2013 - 2018

- Train local government officials on proper response procedures for hazardous material spill events (All) **H**

OPR: Local Emergency Operations Planning Committee, EMA, Fire Departments

Est. Cost: Existing staff

Funding Sources: Local budget

Timeline: 2013 - 2018

- Review and update Standard Operating Procedures (SOP) for responding to a hazardous material spill event (All) **H**

OPR: Local Emergency Operations Planning Committee, EMA, Fire Departments

Est. Cost: Existing staff

Funding Sources: Local budget

Timeline: 2013 - 2018

- Investigate, implement and train in methods to relocate residents if event occurs (All) **H**



OPR: Local Emergency Operations Planning Committee, EMA, Fire Departments

Est. Cost: Existing staff

Funding Sources: Local budget

Timeline: 2013 - 2018

- Provide workplace training on decontamination steps (All) **H**

OPR: Local Emergency Operations Planning Committee, EMA, Fire Departments

Est. Cost: Existing staff

Funding Sources: Local budget

Timeline: 2013 - 2018

- Review annually all hazardous material transportation routes (relocate routes if necessary) (All) **M**

OPR: State DOT, Local Emergency Operations Planning Committee, EMA

Est. Cost: Existing staff

Funding Sources: Local budget

Timeline: 2013 - 2018

#### **D. Special Multi-Jurisdictional Strategy**

An action step that is intended to be undertaken countywide by all five jurisdictions is identified by the notation **(All)**. Otherwise, individual jurisdictions to which an action step applies are identified as follows: **(A)** for Adel, **(L)** for Lenox, **(C)** for Cecil, **(S)** for Sparks, and **(CC)** for Cook County. Action steps intended to be undertaken countywide will be accomplished either through the individual efforts of all five jurisdictions, or jointly through the Cook County Emergency Management Agency.

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

As noted in Chapter 6, Cook County and its municipalities will ensure continued public participation in the plan maintenance and update process.

## **F. Completed and Deleted Action Steps from the Original Plan**

- Seek funding for a county-wide Early Warning Communication/Notification System
- Seek funding for construction of a hardened Emergency Operations Center, including necessary communications and operational equipment.
- Become a designated “StormReady Community.”

## **G. Unchanged Action Steps**

- Implement the “Community Emergency Response Team” (CERT) program.
- Maintain HazMat response training
- Seek funding to expand HazMat training to first responders
- 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
- Train local government officials on proper response procedures for hazardous material spill events

- Review and update Standard Operating Procedures (SOP) for responding to a hazardous material spill event
- Investigate, implement and train in methods to relocate residents if event occurs
- Provide workplace training on decontamination steps
- Review annually all hazardous material transportation routes (relocate routes if necessary)

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

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

### **Section I**

## **Implementation of the Action Plan**

**A. Administrative Actions:** The meetings, planning process, prioritizing, etc. of the Cook County PDMPC 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 have adopted the Plan by the resolution(s) contained in the Appendices.

**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 Cook County Commission and the Cities of Adel, Cecil, Lenox and Sparks and the Cook County PDMPC, the Cook County EMA Director will be responsible for this Plan and its continued usage as a planning document. All sections of the Plan shall be monitored and evaluated annually by the Cook County EMA. Incremental accomplishments of comprehensive range of Mitigation Goals Objectives and Action Steps will be reported to the public through appropriate means (TV, Web Site, Local Newspaper, City Council Meetings, County Commission Meetings, etc.).

The Plan shall be updated by the Cook County EMA Director and chosen representatives of all of the local governments every five years (or less), as required by FEMA. All Sections of this Plan will be updated at that time. Specific attention included in the monitoring, evaluation and updating process will be paid to a review of the comprehensive range of Mitigation Goals, Objectives, and Action Steps in order to list items completed and to list new comprehensive Mitigation Goals, Objectives, and Action Steps as warranted.

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

The Plan updating described above will be presented at the fourth (4<sup>th</sup>) Cook County Commission meeting of every fifth year. This updating process will be publicly advertised and public comment solicited and incorporated as necessary and as appropriate.

### **C. Prioritization:**

**1. Methodology for prioritization** To assist with the prioritization of mitigation actions, the STAPLEE prioritization, criteria recommended by FEMA, was used. STAPLEE is a tool used to assess the costs and benefits and overall feasibility of mitigation actions.

STAPLEE stands for the following:

- i. **Social:** Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?
- ii. **Technical:** is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?
- iii. **Administrative:** Are there adequate staffing, funding and maintenance capabilities to implement the project?
- iv. **Political:** Will there be adequate political and public support for the project?
- v. **Legal:** Does your jurisdiction have the legal authority to implement the action?
- vi. **Economic:** is the action cost-beneficial? Is there funding available: Will the action contribute to the local economy?
- vii. **Environmental:** Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

### **2. Use of cost benefit – refer to Worksheet #4**

Several criteria were established to assist the Cook County PDMPC members in the prioritization of the suggested comprehensive range of Mitigation Goals, Objectives and Action Steps. Criteria included perceived cost benefit or cost effectiveness, availability of potential funding sources, overall feasibility, measurable milestones, multiple objectives, both public and political support for the proposed actions and the STAPLEE criteria.

Through this prioritization process, several projects emerged as being a greater priority than others. Some of the projects involved expending considerable amounts of funds to initiate the required actions. 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 existing budgets. Still others required no significant financial commitment by the communities.

### **3. Use of other calculations**

The Cook County PDMPC discussed and identified comprehensive range of Mitigation Goals, Objectives and Action Steps contained in Chapter 4 of this Plan after identifying the hazards noted in Chapter 2 Sections I-VIII of this Plan. All areas of Cook County, as well as the Cities of Adel, Cecil, Lenox and Sparks, were taken into account in the development of the comprehensive range of Mitigation Goals, Objectives and Action Steps. Identification of these has been developed over a long process after the weighing of many factors discovered during the planning process including storm history, past damage, community resources and other factors.

### **4. Use of other review structure**

A list of the comprehensive range of Mitigation Goals, Objectives and Action Steps was compiled from the input of the Cook County PDMPC, as well as from others within the community. Members of the Cook County PDMPC prioritized the identified comprehensive range of Mitigation Goals, Objectives and Action Steps based on what would be perceived as most beneficial to the community.

## **D. Incorporation of Local PDM 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 Pre-Disaster 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, the Community Wildfire Protection Plan and all other such Plans as appropriate during the next plan updates. 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.

Over the past five (5) years an evaluation of mitigation actions identified in the PDM Plan were conducted to determine what should be included in the Comprehensive Plan and Short Term Work Program (STWP). Special attention was given to ensure that language was included in the Comprehensive plan to address development in known floodplains and wetlands. As the jurisdictions complete partial updates to their Comprehensive Plan it will again be reviewed to determine if any of the mitigation activities need to be added to the STWP.

## Section II **Evaluation - Monitoring – Updating**

### **A. Method**

This Plan update will be reviewed by Cook County and the Cities of Adel, Cecil, Lenox and Sparks. The requirements of this Pre-Disaster Mitigation Plan will be taken into consideration and incorporated into Comprehensive Plans, Five Year Short Term Work Programs, Capital Improvement Plans, Local Emergency Operations Plans, and all other such Plans as appropriate. The revision process will be consistent with the FEMA planning requirements as stipulated in the 44 CFR 201.6.

### **B. Criteria to be used to monitor and evaluate the plan**

1. Each hazard will be reviewed. Any new information pertaining to new and/or previous events will be added to the plan.
2. Any new critical facilities will be added to the plan.
3. Critical facilities information will be update as needed.
4. All mitigation goals, objectives and action steps will be reviewed for relevance and completion status. All mitigation goals, objectives and action steps that have been completed or are no longer relevant will be documented.
5. New mitigation activities will be added if necessary.
6. Public participation will be monitored and documented.

### **C. Responsibility**

The Plan shall be updated by the Cook County EMA Director and chosen representatives of all of the local governments as they are appointed or elected.

### **D. Timeframe**

The Plan updating described above will be presented at the fourth (4<sup>th</sup>) Cook County Commission meeting of every year.

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

### **A. Public Involvement**

This updating process will be publicly advertised and public comment solicited and incorporated as necessary and as appropriate. This method was used for the previous Plan. In the future the public will be invited to any update, monitoring and/or evaluation meetings that are scheduled.

### **B. Timeframe**

The Plan updating described above will be presented at the fourth (4<sup>th</sup>) Cook County Commission meeting of every fifth year.

## **Chapter #7: Conclusion**

### **Section I** **Conclusion Summary**

The Cook County EMA, Cook County Commission, and the Cities of Adel, Cecil, Lenox, and Sparks have learned a great deal in the planning process regarding Pre-Disaster Mitigation and the potential effects, and potential occurrences, of hazards, on Greater Cook County.

The process began with an evaluation of the natural hazards that have affected Cook County and the Cities of Adel, Cecil, Lenox, and Sparks in the past. These were then rated as the most likely to occur and cause damage. GEMA Worksheet #1: *Identify the Hazard* was used throughout this process to aid the Cook County PDMPC in their decisions. These chosen natural hazards were then profiled with the aid of GEMA Worksheet #2: *Profile the Hazard*. Afterwards attention was focused on present value of buildings and potential losses should a natural hazard occur. This was done by using 2010 U.S. Census data for Residential values and talking to the Cook County Tax Assessor for all other values. GEMA Worksheet #3A: *Inventory the Assets* was used to estimate values and losses to the community.

The Cook County PDMPC identified Critical Facilities and Critical Infrastructure in the GEMA Pre-Disaster Mitigation Critical Facility Inventory. They estimated the potential losses that could occur to the Critical Facilities and Infrastructure based on the GEMA predicted models. When available, they also estimate many values related to disaster losses including replacement costs, content loss, displacement costs and other values. They also used the Cook County Hazard Frequency Table provided by GEMA to rate the frequency of natural hazards.

Hazard specific comprehensive ranges of Mitigation Goals, Objectives and Action Steps created during the creation of this Plan. Several planning processes and several revisions were completed before those were decided upon; including two separate public hearings were held during the planning process to solicit comments from the public.

The Cook County PDMPC's mission is to make Cook County and the Cities of Adel, Cecil, Lenox, and Sparks, its citizens, local governments, communities, residences and businesses less vulnerable to the effects resulting from natural hazards. This will be accomplished through the effective administration of Pre-Disaster Mitigation Grant Programs, hazard risk assessments, wise floodplain management and a coordinated approach to mitigation policy through state, regional and local planning activities.

The Cook County PDMPCs vision is to institutionalize a local Pre-Disaster Mitigation ethic through leadership, professionalism and excellence, thus leading the way to ensuring the safety and sustainability of the whole community. Also the Committee feels that when this Plan is implemented it will help to make all of Cook County safer and less vulnerable to natural hazards. They feel that they have accomplished their Mission Statement and their Vision Statement through the creation and submittal of this Plan for approval.



## Section II **References**

### **A. Publications:**

- Adel News Tribune
- Cook County Local Emergency Operation Plan
- FEMA State and Local Mitigation Planning how-to guides
- OHS-GEMA Supplements to FEMA how-to guides
- Cook County Comprehensive Plan
- U.S. Census Bureau
- South Georgia Regional Plan
- Georgia State Hazard Mitigation Plan
- Georgia Department of Natural Resources
- Georgia Forestry Commission
- Georgia Tornado Database
- National Climatic Data Base
- National Weather Service
- USDA Farm Services Agency
- FEMA: Are You Ready? An In-depth Guide to Citizen Preparedness

### **B. Web Sites:**

- [www.aoml.noaa.gov/hrd/tcfaq/G12.html](http://www.aoml.noaa.gov/hrd/tcfaq/G12.html) (Hurricanes)
- [www.census.gov](http://www.census.gov) (2000 and 2010 U.S. Census)
- [www.drought.unl.edu/monitor](http://www.drought.unl.edu/monitor) (Drought Information & Maps)
- [www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/sbfinal.gif](http://www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/sbfinal.gif)
- [www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/lbfinal.gif](http://www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/lbfinal.gif)
- [www.fema.gov](http://www.fema.gov) (General)
- [www.fs.fed.us/land/wfas/fd\\_class.gif](http://www.fs.fed.us/land/wfas/fd_class.gif) (Observed Fire Danger Class)
- [www.georgia-navigator.com/hurricane\\_2/atlanticmap.html](http://www.georgia-navigator.com/hurricane_2/atlanticmap.html) (Evacuation Routes)
- [www.gema.state.ga.us](http://www.gema.state.ga.us) (General)
- [www.gismaps.fema.gov](http://www.gismaps.fema.gov) (Disaster Maps, etc.)
- [www.griffin.peachnet.edu/bae/images/rd.jpg](http://www.griffin.peachnet.edu/bae/images/rd.jpg) (Rainfall Totals 1961-1990)
- [www.hazardmaps.gov](http://www.hazardmaps.gov) (Hazard Maps)
- <http://hurricane.csc.noaa.gov/hurricanes/index.htm> (Hurricanes)
- [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov) (General, Disaster Events)
- <http://www.aoml.noaa.gov/hrd/tcfaq/A5.html> (Tropical Depression info).
- <http://www.srh.noaa.gov/lub/safety/safety.htm> (Hail Information)
- <http://www.fema.gov/areyouready/> (Hazard Maps)
- U.S. Department of Transportation ([www.hazmat.dot.gov](http://www.hazmat.dot.gov))
- Georgia Department of Transportation ([www.dot.state.ga.us](http://www.dot.state.ga.us))
- National Oceanic and Atmospheric Administration (NOAA) ([www.noaa.gov](http://www.noaa.gov))

- [www.fema.gov](http://www.fema.gov) FEMA
- GEMA ([www.gema.state.ga.us](http://www.gema.state.ga.us)) OHS-
- an Red Cross ([www.redcross.org](http://www.redcross.org)) Americ