

DeKalb County, Alabama

Natural Hazard Mitigation Plan

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2015~Final
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Prepared for:

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Funded by:

Federal Emergency Management Agency

**DeKalb County, Alabama
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Table of Contents

Part 1. The Planning Process.....3

Part 2. Area Profile.....7

Part 3. Risk Assessment.....25

Part 4. Mitigation Strategy.....55

Part 5. Implementation and Plan Maintenance..... 70

Appendices

Appendix A. Resolutions of Adoption

Appendix B. Steering Committee

Appendix C. Community and Public Involvement

Appendix D. Critical Facilities Inventory

Appendix E. Selected Resource

Appendix F. Update Summary

Appendix G. Review of Actions for Implementation

**DeKalb County, Alabama
Natural Hazard Mitigation Plan**

Part 1. The Planning Process

Introduction.....3
Development of the Plan.....3
Participation in the Process.....4
Plan Update.....5

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Introduction

This *Natural Hazard Mitigation Plan* for DeKalb County, Alabama, hereinafter referred to as the Plan, represents a point in an ongoing program of natural hazard mitigation in DeKalb County. It was prepared under the auspices of the DeKalb County Emergency Management Agency, a Department of the DeKalb County Commission. Funding was provided by Federal Emergency Management Agency. Each section was reviewed and updated with current information and goals.

This Plan was prepared pursuant to the Disaster Mitigation Act of 2000, Interim Final Rule 44 CFR Parts 201 and 206 that was published on February 26, 2002.

Development of the Plan

The process for developing this plan was guided by the federal regulations of hazard mitigation planning. Hazard mitigation planning is:

The process of determining how to reduce or eliminate the loss of life and property damage resulting from natural and human-caused hazards.

For purposes of this plan, only natural hazards are considered. Briefly, the process consists of the following four steps:

Step 1. Organize resources. Organizing resources includes establishing a process for identification of stakeholders and for the involvement and participation of stakeholders, the various governmental jurisdictions, and the general public. This also includes identification of publications and resources that can be of value in performing the research necessary to complete the Plan. A list of the more valuable publications resources are included in as an appendix to this Plan. Participation and involvement is described more fully below in this Part.

Step 2. Assess risks. Perform a risk assessment of DeKalb County and its communities with regard to natural hazards. This includes a determination of the natural hazards considered most likely to affect the people of DeKalb County and their property, an assessment of the vulnerability of property and lives to these hazards, and an estimate of the costs that would be incurred in the event a natural disaster takes place. Part 2 of this plan provides a description of DeKalb County and provides information about the county that is pertinent to the development of a risk assessment. Part 3 of this Plan includes the actual risk assessment.

Step 3. Develop a mitigation strategy. Develop a mitigation strategy customized for DeKalb County that includes goals and objectives for the community along with specific action items designed to achieve the objectives. Part 4 of this Plan details the mitigation strategy.

Step 4. Implement the plan and monitor progress. Procedures for implementation the mitigation strategy and for ongoing maintenance of the Plan are described in Part 5.

Participation in the Process

Participation and involvement by members of the community was sought in the preparation of this Plan. To assure significant and meaningful involvement, a three part strategy was pursued, each part with its focus on a particular segment of the community. These segments were: 1) the local governments; 2) a steering committee composed of representatives of selected direct stakeholders; and 3) the general public.

Local Governments. Significantly, this Plan is a multi-jurisdictional plan. Every local government in DeKalb County, including the County Commission and each municipality, was consulted and involved in the preparation of this plan. Questionnaires were provided to the chief elected official of each jurisdiction during the course of plan preparation explaining hazard mitigation and soliciting their input in to the various aspects of the Plan. In addition to questionnaires, a survey of critical facilities was conducted to determine the extent, nature and issues with regard to critical facilities in the various jurisdictions. The intent is for adoption of the Plan by each local jurisdiction. The previous version of this Plan, which was prepared and adopted in 2010, included participation by the County and all of the municipal jurisdictions in DeKalb County. This update, as well, includes the County and all municipalities within the County. There are no new jurisdictions and there are no jurisdictions that no longer participate. In addition to the County, the municipalities within DeKalb County are Collinsville, Crossville, Fort Payne, Fyffe, Geraldine, Hammondville, Henagar, Ider, Lakeview, Mentone, Pine Ridge, Powell, Rainsville, Shiloh, Sylvania, and Valley Head.

Steering Committee. In order to oversee, provide expertise and assist in the development of this plan, a steering committee was established. Membership of the steering committee and documentation of their activities is contained in Appendix B. The members of the steering committee were selected for their value as resources for the development of this plan and their status as stakeholders. The process included three meetings of the steering committee with the intent of the meetings being as follows:

Meeting #1. Introduction, orientation and direction along with preliminary review of community involvement methods.

Meeting #2. Discussion on recruiting new steering committee members, review of the risk assessment, discussion of problems and opportunities, and solicitation of project suggestions and requests.

Meeting #3. Final draft review by the committee prior to submittal for review and approval.

Public involvement. The primary purpose of the public involvement efforts was to attain public input regarding goals and strategies for the plan. Public involvement during the course of preparing this Plan involved two basic components:

1. Disbursement of an informational flyer for placement at city and town halls encouraging people to make their views known and informing them how and where to provide comment;
2. Provision to the local newspaper of two news releases in January and July of 2014 providing information regarding hazard mitigation and informing people how and where to provide comment;
3. A public open house meeting conducted on July 24, 2014 wherein the general public was invited and given an opportunity to comment on the need for hazard mitigation and the issues in their community as well as an opportunity to review the draft Plan.
4. A final public meeting wherein the public is provided an opportunity to review the final Plan prior to adoption. The date of this meeting is following a draft review and approval by the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

Through these efforts, the general public, including local businesses, community leaders, etc. were given an opportunity to comment of the need for hazard mitigation and on particular issues involving their community.

Plan Update

Five Year Update. An evaluation and update of this Plan is to be performed no later than five years following its initial publication. Upon initial publication of this Plan, it will be distributed to participating jurisdictions with instructions and advice regarding the incorporation of the provisions of this Plan into any comprehensive planning or capital improvements programming that may entail within the following five years until the completion of the Plan Update. The Hazard Mitigation Committee will be reconvened in year four of the five year planning period to begin the process of plan update. Within that year, an evaluation report will be prepared that will involve a thorough review of this Plan including 1) an update of the research and methodologies contained herein, 2) a review of the relationship of this Plan with any areawide comprehensive plan and capital improvement program or any comprehensive plan or capital improvement program of a participating jurisdiction that has been prepared since the initial publication of this Plan, 3) a review of the mitigation strategy and actions for implementation to ascertain those new activities that need to be included and those activities that are no longer relevant due inclusion, 4) a review of the administrative provisions of this Plan in order to determine their effectiveness and whether administrative changes are in order. The five-year evaluation effort will be subject to the same federal and state guidelines for hazard mitigation planning as were applicable to the original plan or as may be revised in the intervening years. The five-year evaluation will entail continuing public participation, and will result in the publication of a new *Natural Hazard Mitigation Plan for DeKalb County*.

Interim Update. In the interim period between Five Year Updates, this Plan may be updated to include projects and programs not foreseen at the time of preparation. A project or program determined to be in furtherance of the Vision and Goals contained in *Part IV Mitigation Strategy* may be appended to this Plan by agreement of the Director of the DeKalb County Emergency Management Agency and the chief elected official of the jurisdiction to be held responsible for the new project or program.



DeKalb County, Alabama Natural Hazard Mitigation Plan

Part 2. Area Profile

Location and Area.....	7
Physical Features.....	7
Municipalities.....	10
Population and Population Growth.....	11
Housing.....	12
Economy.....	12

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Location and Area

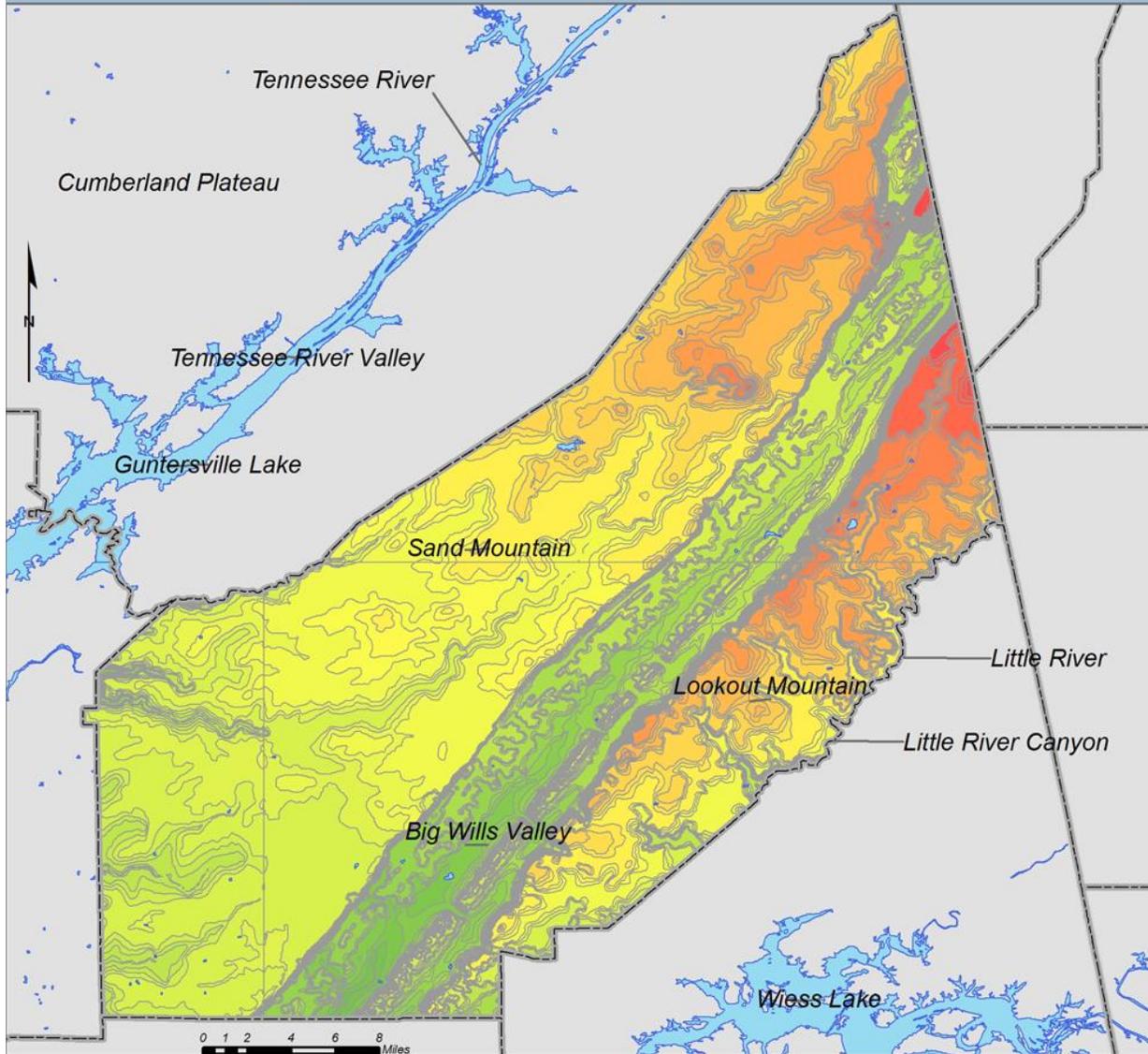
DeKalb County is located in the Northeast corner of the State of Alabama bordering the state of Georgia. DeKalb County is known as “Alabama Gateway to the Appalachian Mountains.” It is situated along Interstate Highway 59 and U.S. Highway 11 between the major cities of Birmingham and Chattanooga. It is bordered by, clockwise from the east, Dade, Walker and Chattooga counties in Georgia, and by Cherokee, Etowah, Marshall and Jackson counties in Alabama. DeKalb County has a total of 778.7 square miles consisting of 777.9 square miles of land area and 0.7 square miles of water. DeKalb County had a 2000 population of 64,452 and has a 2010 population of 71,109. It is projected that DeKalb County will have a population of 78,252 in 2020 and will grow to 84,853 by 2030.

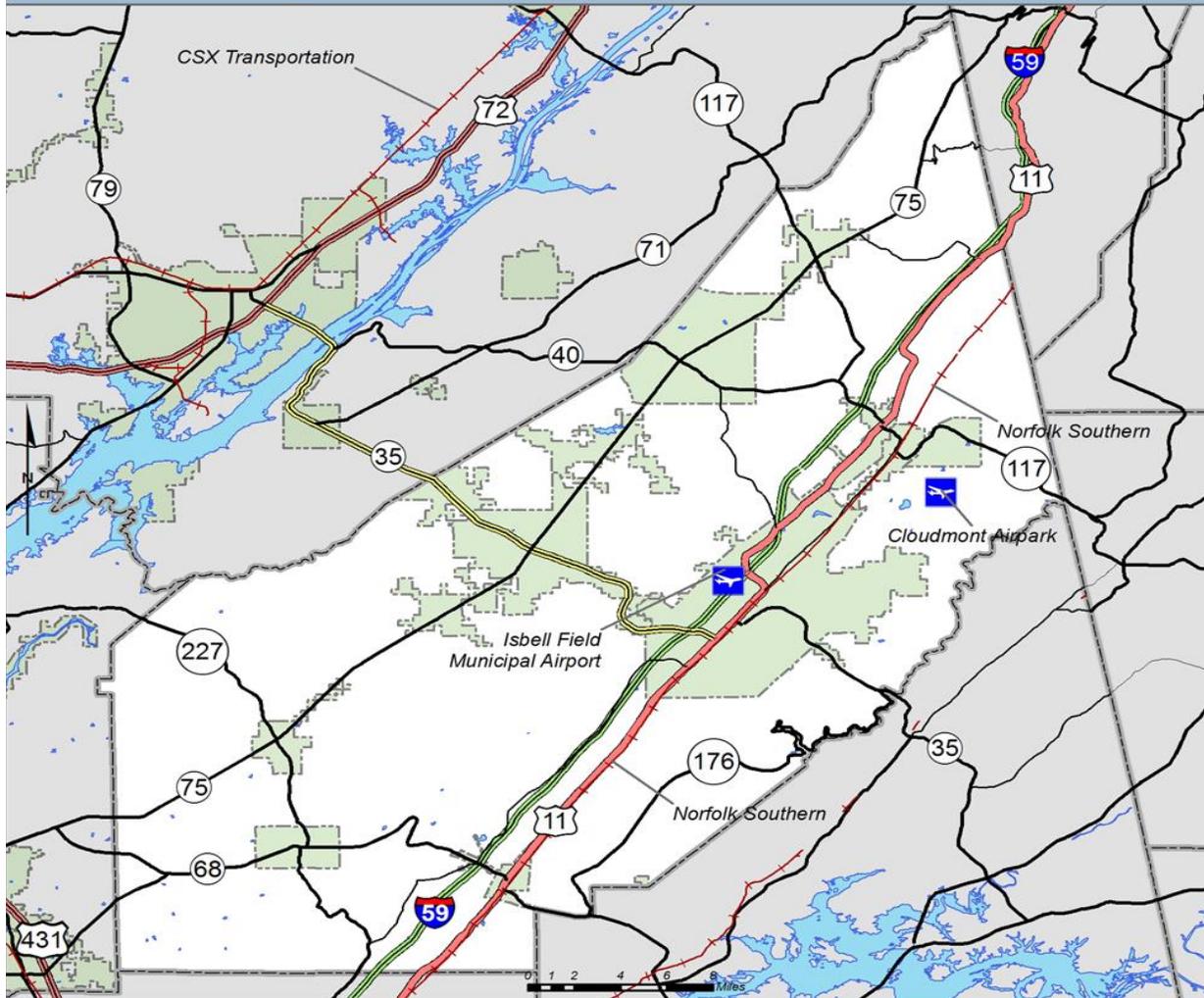
Physical Features

Land. The land in DeKalb County is characterized by extremes of topography. Landforms within the county generally trend northeast and southwest following the parallel mountains of Sand Mountain to the west and Lookout Mountain to the east with Big Wills Valley running between them. Sand Mountain is a sandstone plateau, while Lookout Mountain is characterized by high bluffs. Little River flows along the top of Lookout Mountain forming Little River Canyon before it empties into Weiss Lake that in an impoundment of the Coosa River in neighboring Cherokee County. Elevations rise to just over approximately 1,900 feet above sea level in the northern portions of the county on Lookout Mountain and Fox Mountain.

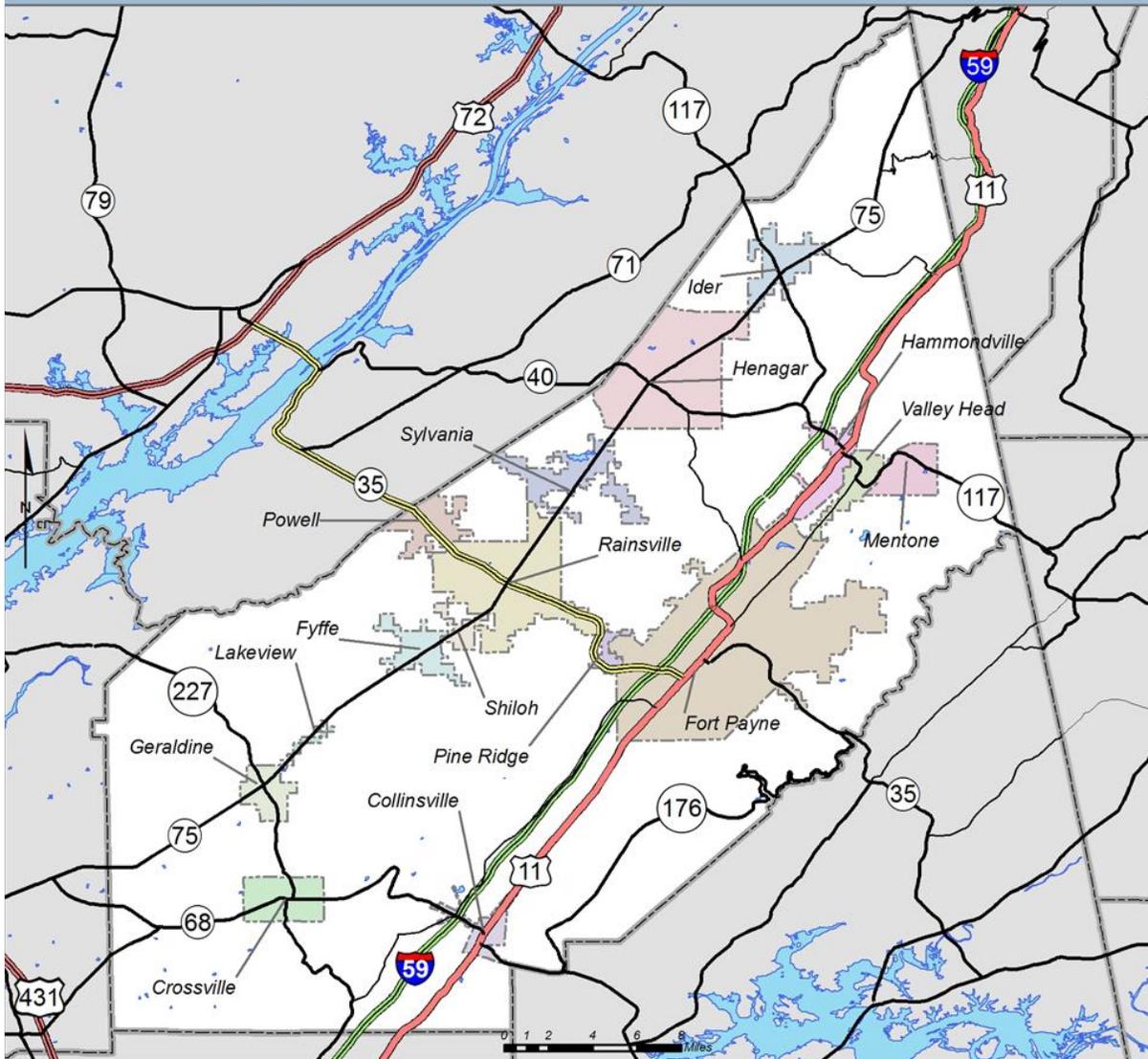
Rivers. There are no major rivers that flow through DeKalb County. A smaller river, Little River flows along a portion of the eastern boundary of the county near its border with neighboring Cherokee County. Additionally, Big Wills Creek flows from northeast to southwest through the middle of the county through Big Wills Valley. This Valley, which lies between Sand Mountain on the west and Lookout Mountain on the east, also contains the primary transportation routes through the county.

Transportation. The major highways in DeKalb County are Interstate Highway 59 and U.S. Highway 11 that run parallel northeast and southwest through the middle of the county and connect the area to Birmingham to the southwest and to Chattanooga to the northeast. Alabama Highway 35 connects the County to the Scottsboro area and west to Huntsville. Highway mileage in DeKalb County consists of 255 state miles, 1,317 county miles and 42.5 interstate miles of highways. The primary railroad in DeKalb County is the Norfolk Southern RR that runs through Big Wills Valley area of the county, paralleling I-59, from Birmingham to Chattanooga.





There is one airport and an airstrip in DeKalb County. Isbell Field Airport at Fort Payne is located in the northwest section of Fort Payne in the central area of the County near Interstate 59. It is a general aviation airport used regularly for corporate and business use, recreational flying and as a gateway for resort tourists. It is also used occasionally for agricultural spraying, aerial photography and law enforcement. It has one 5,013 foot runway and has 43 based aircraft. Cloudmont Airpark is a recreational airstrip near the town of Mentone.



There are sixteen incorporated municipalities in DeKalb County. They are Collinsville, Crossville, Fort Payne, Fyffe, Geraldine, Hammondville, Henagar, Ider, Lakeview, Mentone, Pine Ridge, Powell, Rainsville, Shiloh, Sylvania, and Valley Head. All but three of these communities are towns of less than 2,000 in population.

Population of places in DeKalb County in 2000 and 2012

Place	Population	
	2000	2012
Collinsville town (part)	1,636	1,979
Crossville town	1,431	1,853
Fort Payne city	12,938	14,104
Fyffe town	971	1,018
Geraldine town	786	896
Hammondville town	486	488
Henagar city	2,400	2,344
Ider town	664	723
Lakeview town	163	143
Mentone town	451	360
Pine Ridge town	243	282
Powell town	926	955
Rainsville city	4,499	4,948
Shiloh town	289	274
Sylvania town	1,186	1,837
Valley Head town	611	558
Balance of DeKalb County	34,740	32,762
DeKalb County	64,452	71,080

Population and Population Growth

Population growth. The population of DeKalb County was reported by the Census to be 71,109 in the year 2010. This is an increase of almost 30,000 people since 1960 when the population was 41,417. According to the Center for Business and Economic Research at the University of Alabama, the countywide population is expected to increase further to about 84,853 in the year 2030 and 91,271 in the year 2040. The population is dispersed among a number of communities with a concentration in and around the city of Fort Payne, which is the county seat. Future population growth is expected to concentrate in the Fort Payne/Rainsville area and in the southern portion of the county in the Collinsville/Crossville area.

Historical and projected population of DeKalb County

Year	Population	Percent Change
1960	41,417	---
1970	41,981	1.4%
1980	53,658	27.8%
1990	54,651	1.9%
2000	64,452	17.9%
2010	71,109	10.3%
2020	78,252	10%
2030	84,853	8.4%
2040	91,271	7.6%

Sources:

- U.S. Department of Commerce, Bureau of the Census
- U.A. Center for Business and Economic Research

Land use pattern. The general land use pattern in DeKalb County consists of largely rural and rural residential area among a number of towns with a concentration of urban development in the Fort Payne area. Population growth trends southwestward and northeastward from Fort Payne along the Big Wills Valley and on Sand Mountain in the Rainsville area. In particular, there is increasing commercial development in the vicinity of the Interstate 59 exit at Fort Payne.

Housing

Housing growth in DeKalb County, of course, parallels the population growth of recent years. According to the 2010 Census, there were a total of 31,109 housing units in the County. Of these, 4,298 units (about 13.7%) were vacant. The number of occupied housing units is estimated to have increased to 1,190 (4.6%) between 2005 and 2011.

Manufactured homes and recreational vehicles. Manufactured homes are widely dispersed throughout DeKalb County with only the central Fort Payne area not having a significant number. There are a few instances of recreational vehicles being used for housing with the only concentration being in the Lookout Mountain area near Little River Canyon. Manufactured homes and recreational vehicles are specifically considered in this Plan due to their specific vulnerability to windstorms.

Age of housing. About half of the housing in DeKalb County was built before 1979 and about 2,755 housing units were built before 1940. As DeKalb County has quite a number of older communities, older housing is also dispersed throughout the county. Much of the newer housing in the county is in the northern Fort Payne area. Over half of the housing in this area has been built since 1984.

Housing value. The median value of housing in DeKalb County in 2011 was \$87,400. That is to say, about half the houses in the county have a value less than \$87,400. By far, the highest values of housing in the county are in the Mentone area. The housing in this area has the highest median value in the county with a value of \$126,300. Comparatively, the median value of housing in the Pine Ridge in the extreme southern portion of the county is \$64,600 that is the lowest in the county.

Economy

An economic profile of DeKalb County, as well as other counties within the State of Alabama, is available at “choosealabama.net” which is collaboration between Auburn University at Montgomery, the University of Alabama and the Alabama Department of Finance. The following pages and tables are taken from that profile.

* * * * *

DeKalb County Profile

PROFILE SUMMARY

DeKalb County's civilian labor force averaged 27,998 workers in 2012, down 3.4 percent from 2011 (Table 1). Employment fell more slowly as the county's economy is struggling, declining 0.8 percent to 25,625. The unemployment rate decreased from 10.9 percent in 2011 to 8.5 percent for 2012. A recent survey found that around 25.9 percent of working DeKalb County residents was underemployed in 2012. These workers – in jobs that underutilize their experience, training, and skills – are more likely to respond to new opportunities. Applying the underemployment rate to 2012 labor force data indicates that an estimated 6,627 DeKalb County workers were underemployed. The underemployed, together with 2,373 unemployed residents, constituted an available labor pool of 9,000 persons.

The county's economy is modestly service oriented; service providing industries accounted for 59.8 percent of all jobs in the first quarter of 2012, while goods producing industries contributed 35.0 percent. Average wage per job of \$30,434 in 2011, 75.2 percent of the state wage average. Wages rose more slowly in the county than in the state between 2005 and 2011.

DeKalb County's economy showed moderate contraction between 2005 and 2011, with current dollar earnings down 8.8 percent to \$995.0 million. Total employment fell 8.7 percent over the same period, with a net loss of 3,082 full- and part-time jobs. Proprietors employment increased to 10,349 in 2011; the addition of 217 self-employed sole proprietors and partners since 2005 is a 2.1 percent gain. Proprietors accounted for 31.9 percent of all jobs in 2011. Wage and salary employment in the county fell 10.7 percent to 19,880 from 2005 to 2011. The number of jobs declined by 394 during the first half of 2012, a loss of 2.0 percent.

The number of business establishments in DeKalb County totaled 1,095 in 2011. Manufacturing accounted for the largest share of the county's total wage and salary employment at 30.7 percent in the first half of 2012. However, the industry has lost 939 jobs since 2009. Wholesale and retail trade lost 27 jobs during this time period, a decline of 0.9 percent. Employment of 2,192 workers in health care and social assistance amounted to 11.2 percent of the county's employment during the first half of 2012, with an addition of 129 jobs from 2009 to 2012. The construction sector added 27 jobs during this interval, a gain of 4.4 percent. Public administration added 27 jobs, while financial services employment declined by 114 between 2009 and 2012.

The population of DeKalb County rose 4.8 percent between 2005 and 2012 with 3,286 more residents. The 2011 population was 92.2 percent white and 2.2 percent black.

Per capita income of \$25,586 in 2011 was 73.4 percent of the Alabama average and ranked 64th among the state's 67 counties. 2011 estimates indicated that 20.3 percent of the county's population living in poverty; which is higher than 2005 poverty estimates of 19.4 percent.

Housing units totaled 31,336 in 2011, of which an estimated 13.7 percent, or 4,298 units, were vacant. The number of occupied housing units rose by 1,190 (4.6 percent) between 2005 and 2011.

Looking at educational attainment, 70.3 percent of DeKalb County's 25 and over population had at least a high school education compared to the state's 81.9 percent, according to the 2011 estimates. Among county residents aged 25 and over, 10.7 percent held a bachelor's or higher degree, below the 22.0 percent statewide average.

Table 1. DeKalb County - Selected Socioeconomic Data

	2005	2006	2007	2008	2009	2010	2011	2012
Civilian labor force	31,021	31,572	31,040	30,458	29,482	29,922	28,976	27,998
Change	-686	551	-532	-582	-976	440	-946	-978
Percent change	-2.2	1.8	-1.7	-1.9	-3.2	1.5	-3.2	-3.4
Employment	29,678	30,440	29,903	28,900	25,720	26,508	25,829	25,625
Change	-398	762	-537	-1,003	-3,180	788	-679	-204
Percent change	-1.3	2.6	-1.8	-3.4	-11.0	3.1	-2.6	-0.8
Unemployment	1,343	1,132	1,137	1,558	3,762	3,414	3,147	2,373
Unemployment rate (%)	4.3	3.6	3.7	5.1	12.8	11.4	10.9	8.5
Underemployment	7,924	8,127	7,984	6,820	4,593	7,316	6,457	6,627
Underemployment rate (%)	26.7	26.7	26.7	23.6	17.9	27.6	25.0	25.9
Population	67,794	68,495	69,450	70,228	70,864	71,108	71,463	71,080
Change	534	701	955	778	636	244	355	-383
Percent change	0.8	1.0	1.4	1.1	0.9	0.3	0.5	-0.5
White	63,902	64,363	65,054	65,520	65,879	65,919	65,898	
Black	1,219	1,217	1,278	1,311	1,290	1,273	1,540	
Total housing units	29,957	30,237	30,514	30,750	30,973	31,154	31,336	
Occupied	25,848	26,090	26,329	26,532	26,725	26,881	27,038	
Change	211	242	239	204	192	156	157	
Percent change	0.8	0.9	0.9	0.8	0.7	0.6	0.6	
Vacant	4,109	4,147	4,185	4,218	4,248	4,273	4,298	
Per capita income (\$)	23,880	24,097	25,403	26,343	25,446	26,340	25,586	
Change	-139	217	1,306	940	-897	894	-754	
Percent change	-0.6	0.9	5.4	3.7	-3.4	3.5	-2.9	
Average wage per job (\$)	27,136	28,003	28,876	29,627	30,932	31,223	30,434	
Change	464	867	873	751	1,305	291	-789	
Percent change	1.7	3.2	3.1	2.6	4.4	0.9	-2.5	
Individuals in poverty (%)	19.4	17.1	18.4	18.7	21.7	20.8	20.3	
Educational attainment (percent of population 25 years and over)								
High school or more					66.7	68.1	70.3	
Bachelor's or more					10.2	10.9	10.7	
	2005	2006	2007	2008	2009	2010	2011	2012
Total earnings (\$ thousands)	1,091,421	1,083,460	1,108,670	1,134,019	1,082,071	1,092,108	995,005	
Total employment	35,499	36,408	36,926	36,525	33,662	33,223	32,417	
Proprietors employment	10,132	10,416	11,180	10,740	10,583	10,305	10,349	
Wage & salary employment	22,269	23,061	23,271	22,919	20,150	20,212	19,880	19,487
Ag., forestry, fishing, hunting	225	257	198	246	230	237	234	220
Natural resources	n.a.							
Utilities	266	252	256	266	265	259	260	261
Construction	717	779	831	761	617	619	739	645
Manufacturing	8,866	9,165	8,835	8,703	6,921	6,505	5,941	5,982
Wholesale trade	886	936	907	711	700	626	655	640
Retail trade	2,348	2,353	2,390	2,376	2,230	2,234	2,273	2,263
Transport. & warehousing	577	622	647	692	791	1,046	1,140	1,003
Information	253	235	226	231	214	190	178	179
Finance & insurance	469	454	522	525	529	520	535	449
Real estate rental & leasing	134	137	158	164	155	148	130	121
Prof., sci., technical services	322	342	369	391	402	451	449	473
Management of companies	61	42	31	33	24	22	19	25
Admin. support, waste mgt.	875	966	1,073	946	265	465	361	223
Educational services	1,745	1,798	1,883	1,943	1,923	1,931	1,908	1,939
Health care & social assist.	1,717	1,876	2,053	2,102	2,063	2,107	2,121	2,192
Arts, entertainment, rec.	79	96	96	105	83	72	72	61
Accommodation & food serv.	1,460	1,496	1,558	1,461	1,482	1,519	1,570	1,525
Other services	250	242	243	239	240	241	264	243
Public administration	983	980	990	1,018	1,008	1,016	1,026	1,035
Number of establishments	1,219	1,204	1,216	1,190	1,127	1,119	1,095	

Note: Data suppression is indicated by n.a. BEA earnings and employment and LED wage and salary employment are by place of work.
 Source: Alabama Department of Labor; U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics; U.S. Census Bureau, Population and Local Employment Dynamics (LED) programs; and Center for Business and Economic Research, The University of Alabama.

DEMOGRAPHICS

Population

The county population estimate of 71,080 is for 2012 is just 29 fewer than was recorded in the 2010 census (Table 2). DeKalb County's population is projected to grow 10.0 percent in this decade to 78,252 by 2020.

Table 2. DeKalb County Population

	2000 Census	2010 Census	2012 Estimate	2010-2012 Change	2020 Projection	2010-2020 Change
DeKalb County	64,452	71,109	71,080	0.0%	78,252	10.0%
Alabama	4,447,100	4,779,736	4,822,023	0.9%	5,101,172	6.7%
United States	281,424,600	308,745,538	313,914,040	1.7%	333,896,000	8.1%

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau

Housing

Housing units in DeKalb County totaled 31,336 in 2011, of which 13.7 percent, or 4,298 units, were vacant. Home ownership in the county was 78.0 percent and the median value of owner-occupied housing units was \$87,400, according to the 2007-2011 estimates (Table 3).

Table 3. DeKalb County Selected Housing Data

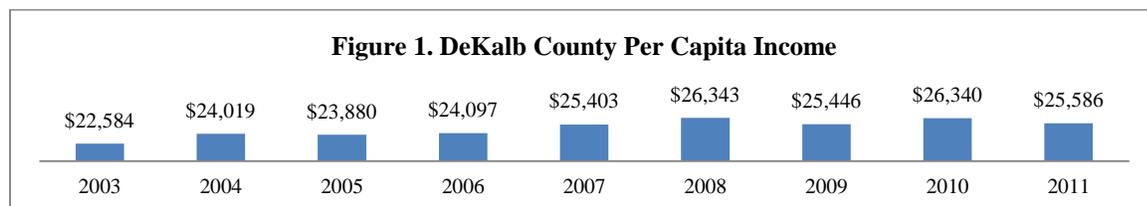
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total housing units	29,393	29,713	29,957	30,237	30,514	30,750	30,973	31,154	31,336
Occupied	25,361	25,637	25,848	26,090	26,329	26,532	26,725	26,881	27,038
Change	267	276	211	242	239	204	192	156	157
Percent change	1.1%	1.1%	0.8%	0.9%	0.9%	0.8%	0.7%	0.6%	0.6%
Vacant	4,032	4,076	4,109	4,147	4,185	4,218	4,248	4,273	4,298
Units in multi-unit structures*									6.2%
Home ownership rate*									78.0%
Owner-occupied, median value*									\$87,400

*2007-2011 American Community Survey 5-year estimates

Source: U.S. Census Bureau and Center for Business and Economic Research, The University of Alabama

Per Capita Income

DeKalb County per capita income (PCI) was \$25,586 in 2011, up about 13.3 percent from 2003 (Figure 1). This PCI was \$9,294 less than Alabama's average PCI of \$34,880, or 26.6 percent lower.



Source: U.S. Bureau of Economic Analysis and Center for Business and Economic Research, The University of Alabama

Educational Attainment

In 2011, about 70 percent of DeKalb County residents who were 25 years old and over had graduated from high school and 10.7 percent held a bachelor's or higher degree (Table 4).

Table 4. DeKalb County Educational Attainment for the Population 25 Years and Over

Total	46,602		
High school graduate or higher	32,748	Bachelor's degree or higher	4,990
High school graduate or higher, rate	70.3%	Bachelor's degree or higher, rate	10.7%
No schooling completed	1,011	High school graduate/equivalent	16,095
Nursery to 4 th grade	755	Some college, less than 1 year	2,498
5 th grade and 6 th grade	1,519	Some college, 1+ years, no degree	6,023
7 th grade and 8 th grade	2,395	Associate degree	3,142
9 th grade	2,578	Bachelor's degree	2,788
10 th grade	2,551	Master's degree	1,740
11 th grade	2,230	Professional school degree	335
12 th grade, no diploma	815	Doctorate degree	127

Source: Center for Business and Economic Research, The University of Alabama, and U.S. Census Bureau, American Community Survey, 2007-2011 5-year estimates.

EDUCATION

School Enrollment

About 25 percent of the population 3 years of age and over was enrolled in school in 2011, including 2,824 in college for undergraduate and graduate or professional schooling. There were 13,145 residents enrolled in K-12 and 615 in nursery school or preschool. Around 1.4 percent of those enrolled in school were seeking graduate or professional degrees.

Table 5. DeKalb County School Enrollment

2007-2011	Number	Percent
Persons 3 years and over	67,580	100.0%
Enrolled in school	16,584	24.5%
Enrolled in nursery school, preschool	615	0.9%
Enrolled in kindergarten	1,078	1.6%
Enrolled in grade 1 to grade 4	4,259	6.3%
Enrolled in grade 5 to grade 8	4,131	6.1%
Enrolled in grade 9 to grade 12	3,677	5.4%
Enrolled in college, undergraduate years	2,594	3.8%
Graduate or professional school	230	0.3%
Not enrolled in school	50,996	75.5%

Note: Covers population 3 years of age and over and limited to the household population (i.e., people living in institutions and other group quarters are excluded).

Source: U.S. Census Bureau, American Community Survey, 2007-2011 5-year estimates.

Colleges and Universities

DeKalb County has one community college.

Table 6. DeKalb County Colleges and Universities

Four-year public institutions
None approved or recognized by ACHE

Community colleges
Northeast Alabama Community College

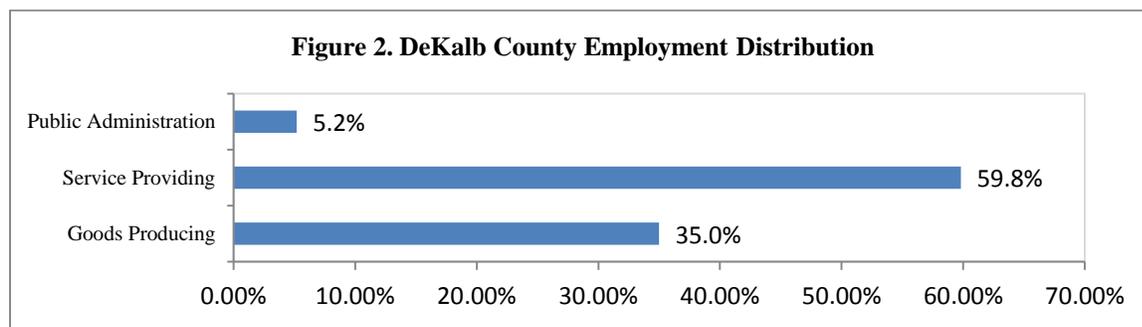
Private colleges and universities
None approved or recognized by ACHE

Source: Alabama Commission on Higher Education (ACHE).
<http://www.ache.state.al.us/Colleges&Universities/InstitutionalMap.htm>

INDUSTRY

Employment by Industry

Based on broad industry classification, service providing industries accounted for 59.8 percent of all jobs in DeKalb County in the first quarter of 2012. Goods producing industries contributed 35.0 percent and 5.2 percent of all jobs were in public administration (Figure 2).



Source: Alabama Department of Labor and U.S. Census Bureau

Employment and Wages

The Manufacturing industry sector was the leading employer in DeKalb County with 5,839 jobs in the first quarter of 2012, followed by Retail Trade with 2,253 jobs (Table 7). Rounding out the top five industries by employment were Health Care and Social Assistance; Educational Services; and Accommodation and Food Services. These five industries provided 13,683 jobs, 71 percent of the county total employment.

The average monthly wage across all industries in the county was \$2,624. Two of the top five industries – Manufacturing and Health Care and Social Assistance – paid more than this average. Overall, the highest average monthly wages were in Mining (\$4,958); and Management of Companies and Enterprises (\$3,893). Accommodation and Food Services paid the least at \$1,225 per month.

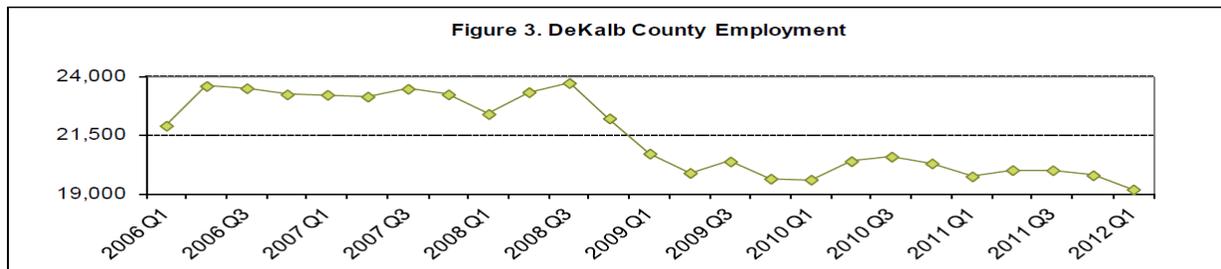
Table 7. DeKalb County Employment and Wages (1st Quarter 2012)

Industry by 2-digit NAICS Code	Total Employment	Share	Rank	Average Monthly Wage	Average Monthly New Hire Wages
11 Agriculture, Forestry, Fishing and Hunting	210	1.10%	14	\$2,374	\$2,162
21 Mining	n.a.	n.a.	n.a.	\$4,958	n.a.
22 Utilities	262	1.37%	12	\$4,368	\$2,294
23 Construction	659	3.44%	8	\$3,018	\$2,317
31-33 Manufacturing	5,839	30.46%	1	\$3,011	\$1,793
42 Wholesale Trade	616	3.21%	9	\$3,240	\$1,701
44-45 Retail Trade	2,253	11.75%	2	\$2,066	\$1,307
48-49 Transportation and Warehousing	984	5.13%	7	\$2,438	\$2,761
51 Information	179	0.93%	16	\$2,878	\$797
52 Finance and Insurance	445	2.32%	11	\$2,822	\$1,978
53 Real Estate and Rental and Leasing	120	0.63%	17	\$2,317	\$2,313
54 Professional, Scientific, and Technical Services	479	2.50%	10	\$3,045	\$2,328
55 Management of Companies and Enterprises	24	0.13%	19	\$3,893	\$1,112
56 Administrative and Support and Waste Management and Remediation Services	200	1.04%	15	\$2,138	\$1,309
61 Educational Services	1,919	10.01%	4	\$2,489	\$513
62 Health Care and Social Assistance	2,172	11.33%	3	\$2,661	\$1,678
71 Arts, Entertainment, and Recreation	63	0.33%	18	\$2,054	\$2,361
72 Accommodation and Food Services	1,500	7.83%	5	\$1,225	\$866
81 Other Services (except Public Administration)	242	1.26%	13	\$2,228	\$1,539
92 Public Administration	1,001	5.22%	6	\$2,578	\$1,838
ALL INDUSTRIES	19,177	100%		\$2,624	\$1,595

Note: Employment and wage data include both full-time and part-time employees. Average monthly new hire earnings could include earnings for less than a full month of employment. n.a. – data not available.

Source: Alabama Department of Labor and U.S. Census Bureau.

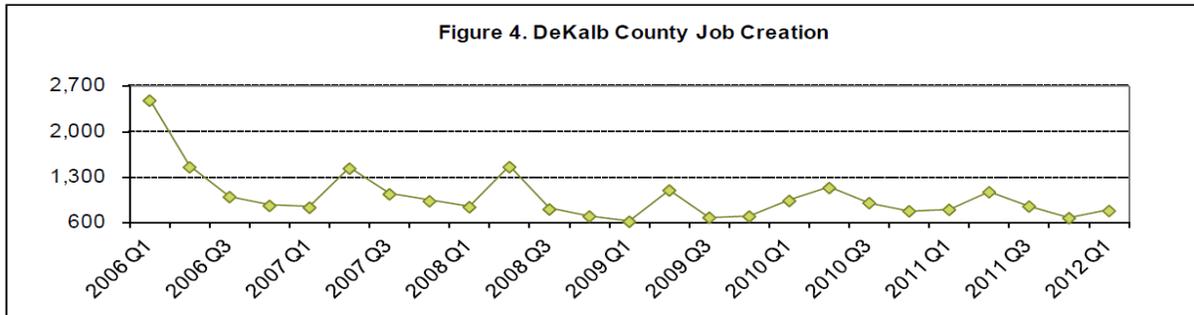
Employment in DeKalb County averaged 21,486 quarterly from the first quarter of 2006 through the first quarter of 2012 (Figure 3). Over the past six years, the number of quarterly jobs varied from a high of 23,725 in the third quarter of 2008 to a low of 19,177 in the first quarter of 2012.



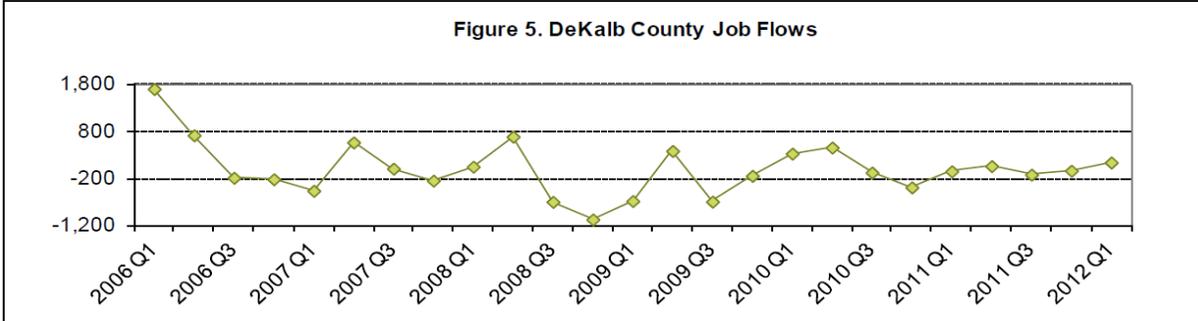
Source: Alabama Department of Labor and U.S. Census Bureau.

Job Creation and Net Job Flows

On average, 989 new jobs were created per quarter in DeKalb County from the first quarter of 2006 to the first quarter of 2012. The number of new jobs reported were created either by new area businesses or through the expansion of existing firms. Figure 4 shows that job creation has slowed during this time period, reaching 777 jobs in the first quarter of 2012. Quarterly net job flows, or the difference between employment in the current and prior quarter at all businesses, averaged zero over the last six years (Figure 5). During this time period, net job flows in DeKalb County have ranged from a quarterly loss of 1,077 in the fourth quarter of 2008 to a quarterly gain of 1,706 in the first quarter of 2006.



Source: Alabama Department of Labor and U.S. Census Bureau.



Source: Alabama Department of Labor and U.S. Census Bureau.

OCCUPATIONS

High-Demand Occupations

Table 8 shows the top 40 occupations ranked by projected demand for jobs. The top five high-demand occupations are Registered Nurses; Home Health Aides; Licensed Practical and Licensed Vocational Nurses; Software Developers, Systems Software; and Computer Systems Analysts. Twelve of the high-demand occupations are also fast-growing.

Table 8. Region 2¹ Selected High-Demand Occupations (Base 2010 and Projected 2020)

Occupation	Average Annual Job Openings		
	Total	Due to Growth	Due to Separations
Registered Nurses	380	260	120
Home Health Aides*	215	190	30
Licensed Practical and Licensed Vocational Nurses	125	65	60
Software Developers, Systems Software	125	100	25
Computer Systems Analysts	115	70	45
Management Analysts	90	50	40
Medical Assistants*	75	60	20
Computer Programmers	65	35	30
Software Developers, Applications	65	50	15
Civil Engineers	60	30	25
Network and computer systems architects and administrators	55	40	15
Electrical Engineers	50	25	25
Construction and Building Inspectors	40	20	20
Dental Assistants*	40	30	10
Dental Hygienists*	40	30	10
Medical Secretaries*	40	35	10
Architects, Except Landscape and Naval	35	20	15
Surveyors	35	20	15
Pharmacists	30	15	15
Radiologic Technologists and Technicians	30	20	10
Computer and Information Systems Managers	25	15	10
Medical and Health Services Managers	25	15	10
Physical Therapists*	25	20	5
Training and Development Specialists	25	15	10
Cardiovascular Technologists and Technicians*	20	15	5
Cost Estimators	20	15	10
Database Administrators	20	15	5
Dentists, General	20	10	10
Medical and Public Health Social Workers*	20	15	5
Physical Therapist Assistants*	20	15	5
Anesthesiologists	15	10	5
Diagnostic Medical Sonographers*	15	10	5
Personal Finance Advisors	15	10	5
Chiropractors	10	5	5
Clinical, Counseling, and School Psychologists	10	5	5
Commercial Pilots*	10	5	5
Family and General Practitioners*	10	10	5
Optometrists	10	5	5
Social and Community Service Managers	10	10	5
Surgeons	10	5	5

Note: Occupations are growth- and wages-weighted and data are rounded to the nearest 5. Occupations in bold are also high-earning.

* Qualify as both high-demand and fast-growing occupations.

Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

¹ Workforce Development Region 2 consists of Cullman, DeKalb, Jackson, Limestone, Madison, Marshall, and Morgan counties.

Fast-Growing Occupations

The 25 fastest growing occupations ranked by projected growth of employment are listed in Table 9. The top five fast-growing occupations are Home Health Aides; Physical Therapist Assistants; Personal and Home Care Aides; Physical Therapist Aides; and Commercial Pilots.

Table 9. Region 2¹ Selected Fast-Growing Occupations (Base 2010 and Projected 2020)

Occupation	Employment		Percent Change	Annual Growth (Percent)	Average Annual Job Openings
	2010	2020			
Home Health Aides*	2,220	4,100	85	6.33	215
Physical Therapist Assistants*	210	360	71	5.54	20
Personal and Home Care Aides	480	810	69	5.37	40
Physical Therapist Aides	90	150	67	5.24	5
Commercial Pilots*	80	130	63	4.97	10
Diagnostic Medical Sonographers*	180	290	61	4.88	15
Health Educators	50	80	60	4.81	5
Athletes and Sports Competitors	50	80	60	4.81	5
Occupational Therapist Assistants	50	80	60	4.81	5
Physical Therapists*	360	570	58	4.70	25
Medical Secretaries*	570	900	58	4.67	40
Marriage and Family Therapists	70	110	57	4.62	5
Dental Hygienists*	560	870	55	4.50	40
Cargo and Freight Agents	60	90	50	4.14	5
Medical Assistants*	1,200	1,790	49	4.08	75
Dental Assistants*	590	880	49	4.08	40
Environmental Engineering Technicians	210	310	48	3.97	15
Cardiovascular Technologists and Technicians*	300	440	47	3.90	20
Mental Health Counselors	130	190	46	3.87	10
Helpers—Carpenters	240	350	46	3.85	15
Atmospheric and Space Scientists	110	160	45	3.82	5
Medical and Public Health Social Workers*	310	450	45	3.8	20
Family and General Practitioners*	180	260	44	3.75	10
Residential Advisors	430	620	44	3.73	35
Physician Assistants	70	100	43	3.63	5

Note: Employment data are rounded to the nearest 10 and job openings are rounded to the nearest 5. Occupations in bold are also high-earning.

* Qualify as both high-demand and fast-growing occupations.

Source: Alabama Department of Labor and Center for Business and Economic Research, The University of Alabama.

¹ Workforce Development Region 2 consists of Cullman, DeKalb, Jackson, Limestone, Madison, Marshall, and Morgan counties.

High-Earning Occupations

Table 10 shows the 50 selected highest earning occupations in the region. These occupations are mainly in health, management, architecture, engineering, computer, and science fields. Eight of the top 10 listed are health occupations. The selected high-earning occupations are generally not fast-growing or in high demand.

Table 10. Region 2¹ Selected High-Earning Occupations (Base 2010 and Projected 2020)

Occupation	Mean Annual Salary (\$)
Obstetricians and Gynecologists	247,182
Internists, General	233,385
Surgeons*	228,280
Physicians and Surgeons, All Other	226,705
Chief Executives	192,463
Psychiatrists	188,625
Dentists, General*	181,073
Family and General Practitioners*	156,510
Pharmacists*	132,520
Lawyers	128,823
Engineering Managers	125,627
Marketing Managers	118,608
Computer and Information Systems Managers*	117,890
Aerospace Engineers	117,299
Natural Sciences Managers	117,199
General and Operations Managers	114,891
Physicists	111,517
Engineers, All Other	109,736
Training and Development Managers	108,383
Purchasing Managers	107,386
Financial Managers	106,613
Computer and Information Research Scientists	105,804
Nuclear Engineers	103,847
Public Relations Managers	101,441
Electrical Engineers*	101,022
Sales Managers	100,909
Managers, All Other	100,621
Electronics Engineers, Except Computer	100,498
Computer Hardware Engineers	99,920
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	97,124
Human Resources Managers	97,045
Software Developers, Systems Software*	95,195
Materials Engineers	95,192
Management Analysts*	94,891
Chemical Engineers	93,675
Operations Research Analysts	93,667
Administrative Services Managers	93,177
Podiatrists	92,393
Software Developers, Applications*	90,814
Industrial Production Managers	90,687
Chiropractors	89,371
Mechanical Engineers	89,251
Computer Systems Analysts*	87,345
Computer Occupations, All Other	85,775
Veterinarians	85,681
Physician Assistants	85,668
Business Operations Specialists, All Other	85,635
Industrial Engineers	85,608
Construction Managers	85,450
Logisticians	84,773

Note: The salary data are based on the May 2012 release of the Occupational Employment Statistics (OES) combined employment and wage file. Estimates for specific occupations may include imputed data. Occupations in bold are also fast-growing.

* Qualify as both high-earning and high demand occupations.

Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

¹ Workforce Development Region 2 consists of Cullman, DeKalb, Jackson, Limestone, Madison, Marshall, and Morgan counties.

WORKFORCE

Labor Force Activity

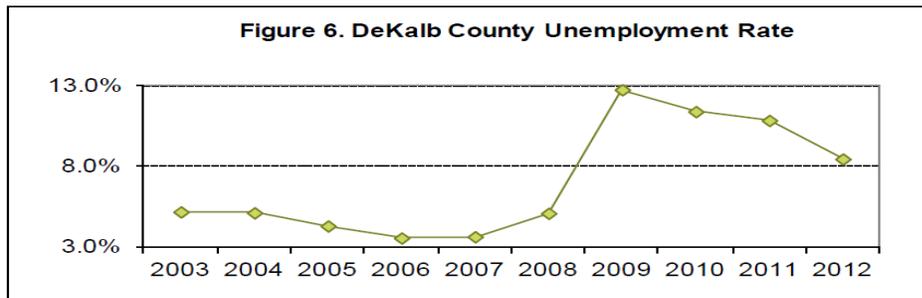
From 2011 to 2012, DeKalb County's unemployment rate declined from 10.9 percent to 8.5 percent, as the number of employed residents fell more slowly than the labor force. The county's unemployment rate was higher than the average unemployment rate across the state and the nation during the last year.

Table 11. DeKalb County Labor Force Information

	2011			
	Labor Force	Employed	Unemployed	Rate
DeKalb County	28,976	25,829	3,147	10.9%
Alabama	2,181,859	1,992,522	189,337	8.7%
United States	153,617,000	139,869,000	13,747,000	8.9%
	2012			
	Labor Force	Employed	Unemployed	Rate
DeKalb County	27,998	25,625	2,373	8.5%
Alabama	2,156,301	1,999,182	157,119	7.3%
United States	154,975,000	142,469,000	12,506,000	8.1%

Source: Alabama Department of Labor and U.S. Bureau of Labor Statistics

The 2012 average unemployment rate in DeKalb County was still much higher than the levels seen 10 years ago in 2003. The lowest level of the county's unemployment rate for the past decade was 3.6 percent in 2006. The unemployment rate increased sharply due to the recession, reaching a peak of 12.8 percent in 2009, but started to decline afterwards.



Source: Alabama Department of Labor and U.S. Bureau of Labor Statistics.

Underemployment and Available Labor

DeKalb County had an underemployment rate of 25.9 percent in 2012. Applying this rate to February 2013 labor force data means that 6,471 employed residents were underemployed (Table 12). Adding the unemployed gives a total available labor pool of 8,952 for the county. This pool is 3.6 times the number of unemployed.

Table 12. DeKalb County Available Labor

Labor force	27,503
Employed	25,022
Underemployment rate	25.9%
Underemployed workers	6,471
Unemployed	2,481
Available labor pool	8,952

Note: Rounding errors may be present. Based on February 2013 labor force data and 2012 underemployment rates.

Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

Commuting Patterns

In 2010, there were 3,629 fewer in-commuters than out-commuters (Table 13). The one-way commute in 2012 took less than 20 minutes for 60.3 percent of workers, but more than 40 minutes for 5.2 percent. About 31.0 percent of all workers spent 20 to 60 minutes, down from 34.0 percent in 2011. The 2012 commute was less than 10 miles for 42.9 percent of workers and 44.6 percent traveled 10 to 25 miles. About 12.5 percent of workers traveled more than 25 miles one-way, with 1.8 percent exceeding 45 miles. The 57.1 percent traveling at least 10 miles one-way in 2012 was up from 46.2 percent in 2011.

Table 13. DeKalb County Commuting Patterns

	Inflow, 2010		Outflow, 2010						
	Number	Percent	Number	Percent					
	7,210	100.0	10,839	100.0					
Average commute time (one-way)					Percent of workers				
			2008	2009	2010	2011	2012		
Less than 20 minutes			61.8	69.6	60.3	60.4	60.3		
20 to 40 minutes			27.3	16.1	27.6	24.5	27.6		
40 minutes to an hour			9.1	7.1	8.6	9.4	3.5		
More than an hour			1.8	0.0	1.7	3.8	1.7		
Average commute distance (one-way)					Percent of workers				
			2008	2009	2010	2011	2012		
Less than 10 miles			49.1	59.6	49.1	53.9	42.9		
10 to 25 miles			27.3	21.2	35.1	23.1	44.6		
25 to 45 miles			16.4	15.4	8.8	19.2	10.7		
More than 45 miles			5.5	3.9	5.3	3.9	1.8		

Note: Rounding errors may be present.

Source: U.S. Census Bureau and Center for Business and Economic Research, The University of Alabama.

Workforce Report

The workforce report for the county is available at <http://www2.dir.state.al.us/workforcedev/Default.aspx>.

DeKalb County, Alabama
Natural Hazard Mitigation Plan

Part 3. Risk Assessment

Generally.....25

Profile and Assessment.....28

Climatic Hazards

Drought.....28

Flooding.....31

Hailstorm.....35

Hurricane/Tropical Storm.....37

Lightning.....38

Temperature Extreme.....40

Thunderstorms and High Winds.....41

Tornadoes.....43

Winter Storms.....46

Geologic Hazards

Earthquake.....48

Landslides.....51

Land Subsidence.....53

* * * * *

Generally

Introduction. This Part attempts to assess the risks to the DeKalb County area from natural hazards. A number of hazards were profiled first to determine if they posed a significant potential threat to the area. If it was determined that the hazard posed a potential threat, then, further examination was attempted to determine the extent of the threat. In some cases, extensive information was readily available, but in many cases, additional research is needed.

In this section is a summary of the hazards to be profiled including federal disaster declarations that have affected the area. A summary of buildings and structures is presented and the methodology used to determine their extent, and the methodology used to determine potential loss.

In the following section, each hazard will be presented. The discussion will contain:

- 1) a brief description of the hazard;
- 2) a hazard profile including previous occurrences;
- 3) the general location of occurrences and where they might be expected;
- 4) the extent or intensity of occurrences including damages where known;
- 5) the probability of future events and damages; and
- 6) the vulnerability of the community and, where possible, a loss estimate based on the best available information.

Hazards Examined. A wide variety of natural hazards can and have affected the DeKalb County area. These include instances of earthquakes, flooding, hailstorms, land subsidence, severe winter storms, and tornadoes. The hazards examined in the preparation of this plan are the following.

Climatic Hazards

- Drought
- Flooding
- Hailstorm
- Hurricane/Tropical Storm
- Lightning
- Temperature Extreme
- Thunderstorms and High Winds
- Tornadoes
- Winter Storms

Geologic Hazards

- Earthquake
- Landslides
- Land Subsidence

Disaster Declarations. There have been 10 disaster declarations in DeKalb County since 1999. The following table summarizes the Federal disaster declarations for DeKalb County since 1999.

Federal disaster declarations in DeKalb County since 1999 – Table.

Number	Date	Type	Type of Assistance	
			Individual	Public
1317	02/18/00	Winter Storm		Yes
1399	12/07/01	Severe Storms & Tornadoes	Yes	
1442	11/14/02	Severe Storms & Tornadoes	Yes	
1466	05/12/03	Severe Storms & Tornadoes and Flooding	Yes	Yes
1549	09/15/04	Hurricane Ivan	Yes	Yes
1835	04/28/09	Severe Storms, Flooding, Tornadoes, and Straight Line Winds		Yes
1836	05/08/09	Severe Storms, Flooding, Tornadoes, and Straight Line Winds		Yes
1908	05/03/10	Severe Storms, Tornadoes, Straight Line Winds, Flooding	Yes	Yes
1971	04/28/11	Severe Storms, Tornadoes, Straight Line Winds, and Flooding	Yes	Yes
4176	04/29/14	Severe Storms, Tornadoes, Straight Line Winds, and Flooding	Yes	Yes

Source: Federal Emergency Management Agency

Repetitive Loss. There are very few known instances of repetitive loss in DeKalb County. According to the State NFIP Coordinator in the Bureau Net there are not current Repetitive Loss Properties. In discussions with Emergency Management Officials, one particular area has been identified as repetitive loss by the county. This is the case of the Valley Head Town Hall in downtown Valley Head. A portion of the building that was once a jail actually lies over a creek and frequently floods. Records have been moved from the building and meetings are now regularly held in another building. Valley Head Town Hall is currently mitigating flood problems by lifting the building.

Previous Occurrences. In the sections that follow, a profile and analysis is presented for the various types of hazards that may impact DeKalb County. These profiles indicate previous occurrences of hazards and include a summary of previous occurrences by jurisdiction in DeKalb County where that information is known. When listed under “county” the hazard was considered to be countywide in its nature. When listed under a particular jurisdiction, the hazard was reported to have occurred specifically within that jurisdiction. When listed under “uninc” the event is presumed to have occurred in an unincorporated area of the County.

Location. The general location of past or anticipated occurrences is discussed from the standpoint of countywide impact and summarized by jurisdiction. The location may be indicated as *areawide* if an occurrence has or is expected to affect the entire community, *partial* if only certain areas of the community are likely to be affected and *minimal* where affects are likely to be insignificant. In some cases, a *partial* indication may not a particular area of a community.

Extent. The extent or intensity of a hazard is discussed in terms of the magnitude of occurrences and, if quantifiable, the damages that have been known to occur. Extent may be summarized by community as *slight* if the intensity is insignificant or if the damages are unknown or not measurable, *moderate* if the damages are known and of more than an insignificant amount, and *severe* if damages are potentially considerable.

Probability of future occurrences. Based primarily on past experience, an indication is made regarding the probability of future occurrences. Probability will be indicated as *low* if an occurrence is possible, even if it is not likely or very rare (less than 10% chance in a given year), as *medium* if an occurrence is reasonably expected to happen within a ten year period (10% chance or more), as *high* if an occurrence is expected within the five year planning period (20% chance or more), and *very high* if occurrences are expected every year (100% chance) on a regular basis.

Vulnerability of structures and facilities. With regard to the vulnerability of structures and facilities within the communities of DeKalb County, different methodologies were employed due to the availability of information and the appropriateness of the methodology for the particular type of building or structure. For most types of hazards, the vulnerability is generally applicable to all structures throughout the community. Specific vulnerabilities that have been brought to the attention of this Plan are indicated under the profile and assessment by hazard.

Building, existing and future – housing. The number of housing units was determined starting with information available from Census 2010 and extrapolating the number of housing unit to the year 2030 based upon the anticipated population growth, households as a ratio of total housing units and the average number of persons per household. The projection only attempts to determine the total number of housing units in the future and not the type of housing. In the previous Part 2, the number of existing single family homes, manufactured homes and recreational vehicles used as homes is detailed along with the age and value of existing housing.

Building, existing and future - commercial and industrial buildings. A limited land use inventory was performed for a large portion of DeKalb County that lies within the Little River Watershed that indicates the type of land use including commercial and industrial buildings. Further research is ongoing to complete this for the entire county.

Infrastructure – highways. Highways in DeKalb County are generally described in Part 2. Area Profile.

Critical facilities. An inventory was performed with the assistance of local officials to develop a listing of critical facilities. This inventory is contained in Appendix D.

Vulnerability by Jurisdiction. The indication of vulnerability by jurisdiction is whether, based on experience and input from local officials, the jurisdiction is expected to have high, medium, or low risk from a particular hazard.

Potential loss methodology. Specific cost and replacement values for critical facilities and other building and facilities was difficult to obtain or inapplicable to determining potential loss.

Summary of Hazards. The following sections will detail the profile and assessment of the various hazards. A summary of the hazards profiled is contained in the following table which indicates the relative damages and probability of future occurrences and damages within DeKalb County. As can be seen, many hazards are expected to occur but are also expected to have a minor impact as far as damages are concerned. A few, however, are expected to have a major impact on the County as the years progress.

Summary of Hazards

Hazard	Total Reported Damages (\$)	Total Adjusted Damages (\$)	Probability of an Occurrence	Probability of Damages
Drought	none	n/a	<10%	<10%
Flooding	2,400,000	3,067,000	43% (high)	16% (medium)
Hailstorms	456,000	639,000	100% (high)	56% (high)
Hurricane	n/a	n/a	n/a	n/a
Lightning	415,000	555,000	100% (high)	53% (high)
Temperature	none	n/a	(low)	(low)
Thunderstorms	2,102,500	2,476,000	100% (high)	94% (high)
Tornadoes	25,249,000	60,049,000	38% (high)	32% (high)
Winter Storms	none	n/a	85% (high)	(high)
Earthquakes	none	n/a	58% (high)	(low)
Land Subsidence	Not quantified	n/a	10%-50% (med)	<10% (low)
Landslide	none	n/a	<20% (medium)	<10% (low)

* * * * *

Profile Assessment

Drought

Drought can be defined and measured in many different ways. For instance, there can be a meteorological description that describes the amount and duration of precipitation or there can be an agricultural description that takes into consideration rainfall as well as groundwater supply. Whether an event is considered a drought is also dependent on local conditions. Different areas are accustomed to differing normal amounts of water. Basically, drought is a condition of moisture deficit sufficient to have an adverse effect on vegetation, animals, and man over a sizeable area.

DeKalb County has been included in “Drought Management Region I” in the *Alabama Drought Management Plan* as prepared by the Alabama Department of Economic and Community Affairs, Office of Water Resources.

Previous occurrences. Drought is known to occur in DeKalb County. According to the National Climatic Data Center, March of 2007, normally one of the wettest months of the year, was instead one of the driest on record. The dry weather continued into April and beyond May, 2007 plunging the area into an historic drought situation. Small grass fires developed; rivers, creeks and farm ponds experienced lowered water levels; and soil moisture was at historic lows. Crops were stressed and drought emergencies were issued by the Alabama Forestry Commission due to the possibility of wildfire. Significant precipitation occurred in August but the drought persisted through the Fall and Winter. By March, 2008, rainfall was nearing normal bringing some relief. In July, the area was still feeling the effects of drought and there was still not enough groundwater recharge. There was substantial rainfall in August bringing deep groundwater to near average levels and soil moisture to near average for the first time in two years. September was dry, but by December, 2008 heavy rainfall had ended the drought. No new reports since 2010 Plan.

Location. Drought events are considered *area wide*. All areas and jurisdictions in DeKalb County have experienced, and are potentially affected by, drought.

Extent. Although crop damage from the drought of 2007-2008 is known to have occurred, no information was found containing past estimates of damages. The US Drought Monitor at the National Drought Mitigation Center categorizes drought by the following intensities or magnitude.

D0 – Abnormally Dry. Going into drought: short-term dryness slowing planting and growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.

D1 – Moderate Drought. Some damage to crops and pastures; streams, reservoirs, or wells low, some water shortages developing or imminent; voluntary water-use restrictions requested.

D2 – Severe Drought. Crop or pasture losses likely; water shortages common; water restrictions imposed.

D3 – Extreme Drought. Major crop and pasture losses; widespread water shortages or restrictions.

D4 – Exceptional Drought. Exceptional and widespread crop and pasture losses; shortages of water in reservoirs, streams and wells creating water emergencies.

Of 22 months recorded during the 2007 and 2008 drought, eight (8) were noted as D2 – severe, five (5) were noted as D3 – extreme and five (5) were noted as D4 – exceptional.

Probability of future events. For the period from 1950 through 2014, the 2007-2008 drought was the only one sufficiently severe to warrant mention in the NCDC reports. It is, however, considered certain, though infrequent, that future droughts will occur.

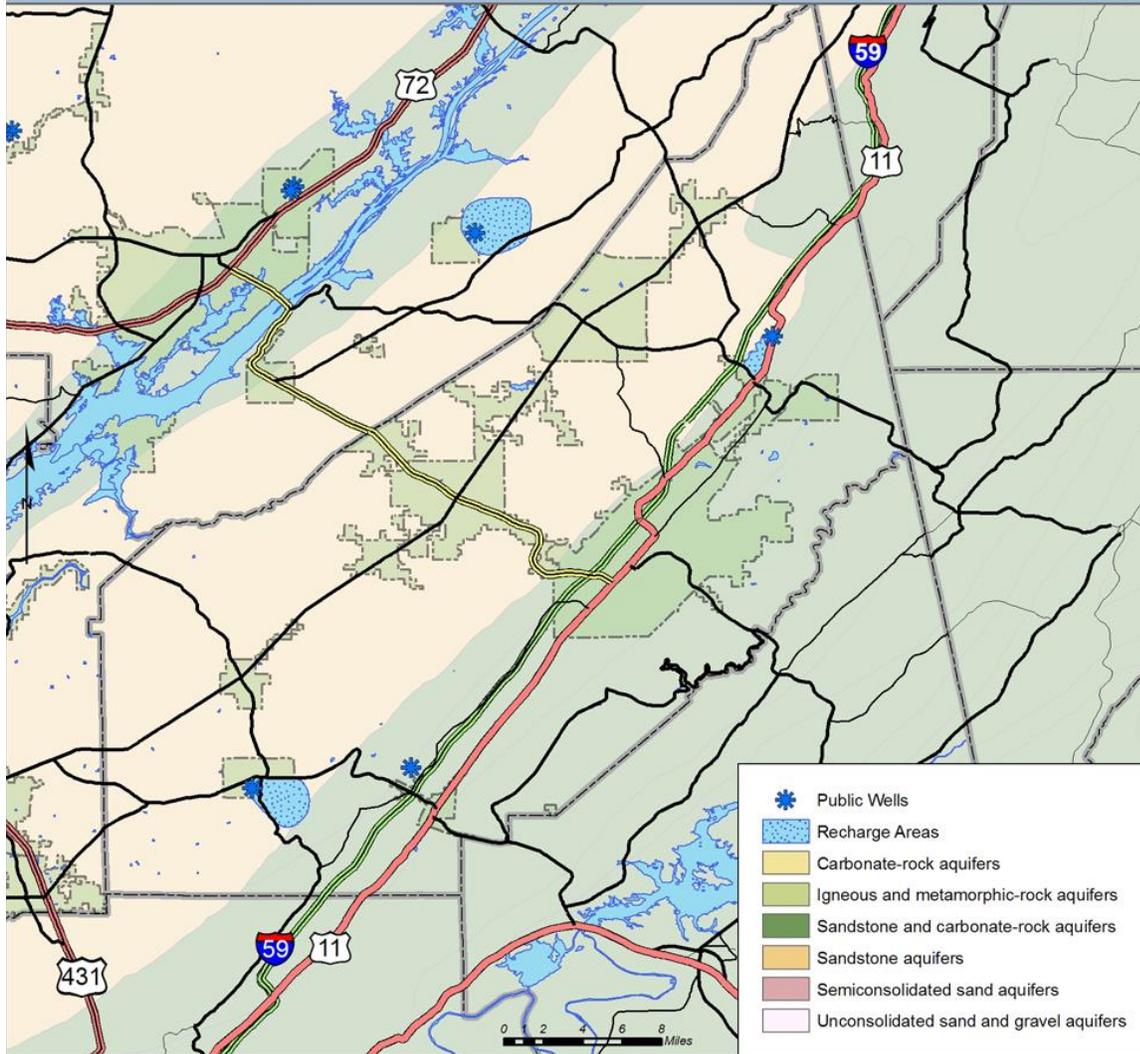
Probability of an occurrence in a given year:	less than 10% (low)
Probability of damages in a given year:	less than 10% (low)

Vulnerability. The primary vulnerability of the community with regard to droughts appears to be crop damage with the additional possibility of wells going dry during extended periods of drought. Although there is the potential of loss, there is insufficient information to predict the extent of money damages from future droughts in DeKalb County.

Summary of Drought by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	1	Areawide	Slight	Low	Low
Crossville town	1	Areawide	Slight	Low	Low
Fort Payne city	1	Areawide	Slight	Low	Low
Fyffe town	1	Areawide	Slight	Low	Low
Geraldine town	1	Areawide	Slight	Low	Low
Hammondville town	1	Areawide	Slight	Low	Low
Henagar city	1	Areawide	Slight	Low	Low
Ider town	1	Areawide	Slight	Low	Low
Lakeview town	1	Areawide	Slight	Low	Low
Mentone town	1	Areawide	Slight	Low	Low
Pine Ridge town	1	Areawide	Slight	Low	Low
Powell town	1	Areawide	Slight	Low	Low
Rainsville city	1	Areawide	Slight	Low	Low
Shiloh town	1	Areawide	Slight	Low	Low
Sylvania town	1	Areawide	Slight	Low	Low
Valley Head town	1	Areawide	Slight	Low	Low
Unincorporated area	1	Areawide	Slight	Low	Low
Countywide	1	Areawide	Slight	Low	Low

Source: National Climatic Data Center (NCDC)



Profile and Assessment

Flooding

Flooding, and more specifically poor drainage, is quite a common problem in DeKalb County. Much of the problem stems from the topography of DeKalb County, i.e., there are two linear mountains – Sand Mountain to the west and Lookout Mountain to the east – with the extended valley running the length of the county in between. Rainfall flows rapidly down these mountains into the valley below where much of the land development in the county has taken place.

Flooding since 1995

Date	Location	Damages
02/16/95	Fort Payne	50,000
06/12/96	Fort Payne	10,000
01/07/98	Countywide	30,000
02/22/03	Fort Payne	-
02/22/03	Rainsville	-
02/22/03	Fort Payne	-
02/22/03	Rainsville	-
05/06/03	Countywide	1,900,000
06/17/03	Mentone	-
06/17/03	Fyffe	-
02/06/04	Countywide	-
03/06/04	Fort Payne	-
06/25/04	Collinsville	-
09/16/04	Countywide	-
09/17/04	Fort Payne	-
11/24/04	Adamsburg	-
11/24/04	Collinsville	-
12/09/04	Fort Payne	-
07/01/07	Henagar	200,000
07/09/08	Fort Payne	-
01/06/09	Valley Head	-
01/06/09	Aroney	150,000
01/07/09	Aroney	-
05/02/09	Beaty Crossroads	-
09/21/09	Valley Head	60,000
09/21/09	Valley Head	-
10/15/09	Rodentown	-
12/08/09	Aroney	-
04/24/10	Chavies	-
07/26/10	Fort Payne	-
07/26/10	Fort Payne	-
11/30/10	Allen	-
03/09/11	Collinsville	-
03/09/11	Collinsville	-
03/09/11	Sulphur Springs	-
11/28/11	Beaty Crossroads	-
11/28/11	Rodentown	-
08/09/12	Ten Broeck	-
01/13/13	Rainsville	-
01/13/13	Sylvania	-
01/14/13	Crossville	-
04/28/13	Fort Payne	-
04/28/13	Henagar	-
04/29/14	Valley Head	-
Totals		2,400,000

Source: National Climatic Data Center

Previous occurrences. The National Climatic Data Center reports forty four (44) significant flooding events in DeKalb County. All of these have been since 1995 indicating more rigorous reporting in several years. Also, there have been several federal disaster declarations related to flooding in DeKalb County, including #1466 on May 12, 2003, #1835 on March 28, 2009, #1836 on May 8, 2009, #1971 on April 28, 2011, and #4176 on April 29, 2014.

Location. The location of flooding is in various areas throughout the County, particularly in areas along Big Wills Valley and drains portions of Sand Mountain and Lookout Mountain. The accompanying map shows flood prone areas and floodway areas.

Extent. Most listed occurrences of flooding in DeKalb County are marked by roads and highways being covered with water. Occasionally, building will have water damage, for example, in May of 2003 about 50 homes and 12 businesses were damaged by extensive flooding countywide. Flooding was about five inches deep in five buildings in Collinsville in 2004. In July of 2007, several businesses along Highways 11 and 35 were damaged and cars were submerged when Big Wills Creek crested at 11.46 feet, the 4th highest crest on record. And, in September, 2009 the Valley Head Town Hall and Fire Department were extensively damaged by flooding. During the April 2014 storms, 4.69 inches of rainfall occurred in Valley Head, resulting in railroad tracks being washed out, 2.5 feet of water flooded the Fire Department, and up to 1 foot of water flooded the Town Hall. The NCDC indicated that there was \$2,400,000 in property damage from the flooding listed above. When using the standard potential loss methodology to adjust for inflation and population change in DeKalb County, it is estimated that the total loss from 1995 to 2013 in combined property and crop damage is as follows:

Total reported loss:	\$2,400,000
Total adjusted loss in 2014 dollars:	\$3,067,000

Probability of future events. It is certain that flooding problems will continue to occur frequently in DeKalb County and that it will take considerable efforts to address the problems. As indicated in the paragraphs above, from 1995 to 2014, as reporting appeared to become more reliable, there has averaged a little more than one significant event every two years.

Probability of an occurrence in a given year:	43% (high)
Probability of damages in a given year:	16% (medium)

Vulnerability. Much of the flooding and drainage problem in DeKalb County relates to the many dirt or otherwise substandard roads and the bridges on dirt roads. There are about 250 miles of such roads in the county. These roads often have poor provision for proper drainage and may wash out during significant rainfall. Also, there are about 19 old wooden bridges, about 3 of which are typically under water during heavy rainfall. The accompanying map indicates those areas of DeKalb County subject to flooding and the location of municipalities within the County. More specifically, the extent of flooding/drainage problems in particular areas of DeKalb County is as follows:

Collinsville. Little Wills Creek floods Collinsville's central business district and an adjacent residential area. The flood prone area consists of about 21.9 acres. Flooding is aggravated by the inadequate capacity for passing flood flow on the part of bridges and culverts downstream from the central business district and by the accumulation of debris and rubbish at the upstream sides of these culverts and bridges. Little Wills Creek joins with Big Wills Creek northeast of the interchange of I-59 and Alabama Highway 68. Big Wills Creek floods rural land in this area.

Fort Payne. Big Wills Creek and its easterly tributaries flood various portions of Big Wills Valley and adjacent Railroad Valley. Big Wills Valley is predominately rural, whereas Railroad Valley is urbanized, comprising the majority of the City's urban development. The following tributaries with flood-prone areas in Railroad Valley drain westerly through Big Ridge into Big Wills Creek:

- Allen Branch, entering Big Wills Creek at Northwest 59th Street,
- Steward Branch, entering Big Wills Creek at Northwest 49th Street,
- Beeson Branch, entering Big Wills Creek at Airport Road,
- Dye Branch, entering Big Wills Creek at the interchange of Alabama State Route 35 and I-59, and
- An unnamed branch entering Big Wills Creek at Southwest 31st Street.

Dye Branch's flood-prone area includes parts of downtown Fort Payne and areas of wholesaling, warehousing, and industrial land use in central Fort Payne. The remaining tributaries of Big Wills Creek originating in Railroad Valley include developing residential, commercial, and industrial areas in Fort Payne's urban fringe. Big Wills Creek floods predominantly rural land, except for scattered residential development near the Creek in Big Wills Valley.

Hammondville. The Hammondville Branch of Big Wills Creek floods an area comprising about 128 acres. The Hammondville Branch of Big Wills Creek drains southwesterly crossing Alabama Highway 117 and joins Big Wills Creek approximately one mile south of town.

Henagar. South Sauty Creek and local tributaries and Horsehead Creek constitute the source of local flooding in Henagar. South Sauty Creek and tributaries flood land in the central area of town. Horsehead Creek's flood prone area includes land in the extreme northern portion of the town. Henagar's flood prone area comprises about 127 acres.

Rainsville. Piney, Town, Ivy, and South Sauty Creeks and tributaries cause localized flooding in the City of Rainsville. The former three creeks drain most of Rainsville's corporate area to the southwest and south. The latter stream drains the city's northern quarter to the west. Of the above mentioned streams, Piney Creek causes Rainsville's most serious flooding problems due to its location adjacent to Rainsville's Central Business District. Ivy and South Sauty Creeks flood areas of scattered residential development. Town Creek (the largest creek draining this area) floods an entirely rural area. The Rainsville Fire Development is in flood zone "C" but is close to the floodplain. Rainsville's total flood-prone area constitutes about 835 acres.

Valley Head. The Valley Head Branch of Big Wills Creek flows through the central business district of the town of Valley Head, periodically flash-flooding commercial structures. This creek runs westerly through a gap in Little Ridge at Winston Spring, changing its name to Big Wills Creek at Winston Spring. The flood-prone comprises about 19 acres. Aside from the previously mentioned commercial structures in Valley Head's central business district, Valley Head Branch causes structural damage to street pavements and bridges along the creek's course southwest from the central business district to Winston Spring, and floods the Valley Head Park Pavilion below this spring. Local flooding is aggravated by the limited capacity of some bridges and culverts and by the accumulation of debris and brush at the upstream ends of the central business district's bridges and culverts. Specific flooding issues in Valley Head include the flooding of the Fire Department and Town Hall.

Other municipalities in DeKalb County. The towns of Crossville, Fyffe, Geraldine, Ider, Lakeview, Mentone, Pine Ridge, Powell, Shiloh and Sylvania do not experience significant local flooding of developed areas other than localized drainage problems or other problems as are otherwise mentioned above.

Unincorporated area. The unincorporated area of DeKalb County exhibits flooding problems in the flood-prone areas drained by the following major streams: Big and Little Wills Creek and Little River that drain to the Coosa River and Town, Ivy Horsehead, South Sauty, Piney, Kroger, Black Oak, Flat Rock, and Bryant Creeks that drain to the Tennessee River. These streams flood predominantly rural areas, comprising forests and agricultural land use with scattered structures. The flood-prone areas adjacent to these streams are generally narrow, linear areas with rapid drainage, susceptible to flash flooding. Flash Flooding is the predominant local flooding condition, due to the topography of Sand and Lookout Mountains. Lacking low-lying areas near the Tennessee River, DeKalb County does not experience ponding or backwash flooding.

Flooding is considered to be among the most significant natural hazard problems facing DeKalb County.

Summary of Flooding by Place

Place	Occurrence	Location	Extent	Probability	Vulnerability
Collinsville town	4	Partial	Moderate	High	Medium
Crossville town	1	Minimal	Slight	Low	Low
Fort Payne city	11	Partial	Severe	High	High
Fyffe town	1	Minimal	Slight	Low	Low
Geraldine town	0	Minimal	Slight	Low	Low
Hammondville town	0	Partial	Moderate	Medium	Medium
Henagar city	2	Partial	Severe	High	High
Ider town	0	Minimal	Slight	Low	Low
Lakeview town	0	Minimal	Slight	Low	Low
Mentone town	1	Minimal	Slight	Low	Low
Pine Ridge town	0	Minimal	Slight	Low	Low
Powell town	0	Minimal	Slight	Low	Low
Rainsville city	3	Partial	Moderate	High	Medium
Shiloh town	0	Minimal	Slight	Low	Low
Sylvania town	1	Minimal	Slight	Low	Low
Valley Head town	4	Partial	Severe	High	High
Unincorporated area	12	Partial	Severe	High	High
Countywide	4	Partial	Severe	High	High

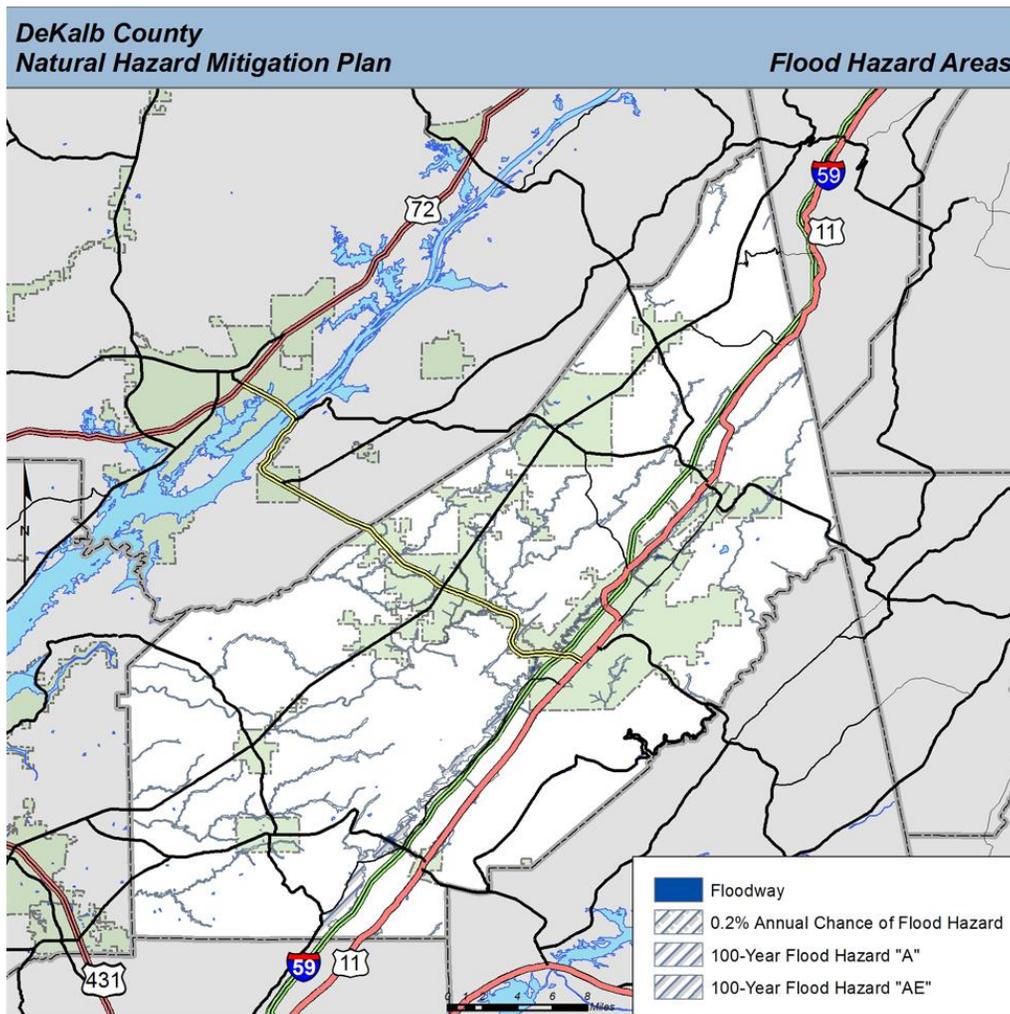
Source: National Climatic Data Center (NCDC)

Participation in the National Flood Insurance Program. DeKalb County has participated in the National Flood Insurance Program for unincorporated areas since July 17, 2003. Participating communities in DeKalb County are noted in the following table.

Participation in the NFIP

Place	Initial FIRM Identified	Notes
Collinsville town	April 15, 1980	Sanctioned October 29, 1977
Crossville town	February 20, 2008	
Fort Payne city	May 1, 1980	Sanctioned March 12, 1974
Fyffe town	September 29, 1986	
Geraldine town	February 20, 2008	
Hammondville town	February 20, 2008	
Henagar city	February 20, 2008	Sanctioned February 20, 2009
Ider town	February 20, 2008	
Lakeview town	February 20, 2008	
Mentone town	February 20, 2008	Sanctioned September 7, 1980
Pine Ridge town	February 20, 2008	Sanctioned July 2, 1977
Powell town	February 20, 2008	Sanctioned February 20, 2009
Rainsville city	May 1, 1980	Sanctioned September 14, 1980
Shiloh town	February 20, 2008	
Sylvania town	February 20, 2008	
Valley Head town	April 15, 1980	
Unincorporated area	February 20, 2008	

The jurisdictions of Lakeview, Pine Ridge and Shiloh have commented to contact the State NFIP Coordinator to start the process to complete the requirements to join the NFIP. All of the NFIP sanctioned jurisdictions are proceeding to become a participant of the NFIP and have all sanctions removed.



Profile and Assessment

Hailstorms

Hail is a form of solid precipitation, consisting of balls or lumps of ice, which frequently accompanies strong thunderstorms. The formation of hailstones requires strong upward motion of air within a thunderstorm and lowered heights of the freezing level. When the stones reach a damaging size, they can cause significant crop damage as well as damage to property. A thunderstorm which produces hail that reaches the ground is known as a hailstorm.

Previous occurrences. According to the National Climatic Data Center (NCDC), there have been 161 significant hailstorm events in DeKalb County from January 1, 1950 to December 31, 2014. In reviewing the data, it appears that reporting was probably rather sketchy prior to about 1995. For the period from 1996 to 2014, there were 74 days of hailstorms with 140 events in DeKalb County for an average of four days of hailstorms per year. There were thirteen years that had less than six days of hail and five of the eighteen years that had six or more days of hail.

Hailstorm days with reported damages from 1996 to 2014

Year	Number of Events	Property Damage	Crop Damage
1996	1	15,000	-
1997	6	30,000	-
1998	14	119,000	51,000
1999	6	7,000	-
2000	4	1,000	-
2001	2	3,000	-
2002	10	6,000	-
2003	12	-	-
2004	2	-	-
2005	13	75,000	-
2006	12	50,000	-
2007	7	-	-
2008	7	-	-
2009	7	-	-
2010	6	150,000	-
2011	12	-	-
2012	11	-	-
2013	4	-	-
2014	4	-	-

Source: National Climatic Data Center (NCDC)

Location. The location of hailstorm events is considered *areawide* in DeKalb County. All areas and jurisdictions in DeKalb County have experienced, or have a high likelihood of experiencing, and are potentially affected by hailstorms.

Extent. Most of the hail experienced since 1996 in DeKalb County has been less than quarter size hail. Of 140 events, about 77% were quarter size (1”) or smaller hailstones. Of those events with larger hailstones, five events had baseball (2.75”) size hail. The highest reported year was 1998 in which there were fourteen events causing \$171,000 in damages. During the 18-year period, reporting from the NCDC indicates that there was \$456,000 in property damage and \$51,000 in crop damage from these hailstorms. About \$55,000 of that property damage occurred on April 8, 1998 when the hail measured 2.75 inches in diameter. Another \$59,000 in property damage occurred on May 7, 1998 when the hail measured 1.75 inches in diameter. There was \$75,000 in damages on April 22, 2005 which the hail was about 1.75 inches and about \$50,000 in damages on April 7, 2006 when the hailstones were also about 1.75 inches. The hailstorm of March 12, 2010 produced \$150,000 in property damages with hail that measured 1.75 inches. There were no deaths or injuries from hailstorms during this period. When using the standard potential loss methodology described in the introduction in this Part to adjust for inflation and growth of the population in DeKalb County, it is estimated that the loss from 1996 to 2013 in combined property and crop damage would be as follows:

Total reported loss:	\$507,000
Total adjusted loss in 2014 dollars:	\$639,000

Probability of future events. As indicated in the above paragraphs, since about 1996 as reporting appeared to become more reliable, there have been just less than four days of hailstorms per year with some years having as many as six or seven days of hail. This frequency is expected to continue into the future with perhaps a little higher incidence as reporting continues to improve.

Probability of an event in a given year: 100% (high)
 Probability of damages in a given year: 56% (high)

Vulnerability. There have been no specific vulnerabilities reported in the preparation of this plan, although the potential of general property damage and crop damage continues as is indicated from the past climatic statistics.

Summary of Hailstorms by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	10	Areawide	Moderate	High	High
Crossville town	6	Areawide	Moderate	High	High
Fort Payne city	27	Areawide	Moderate	High	High
Fyffe town	5	Areawide	Moderate	High	High
Geraldine town	10	Areawide	Moderate	High	High
Hammondville town	1	Areawide	Moderate	High	High
Henagar city	6	Areawide	Moderate	High	High
Ider town	6	Areawide	Moderate	High	High
Lakeview town	0	Areawide	Moderate	High	High
Mentone town	5	Areawide	Moderate	High	High
Pine Ridge town	0	Areawide	Moderate	High	High
Powell town	1	Areawide	Moderate	High	High
Rainsville city	17	Areawide	Moderate	High	High
Shiloh town	0	Areawide	Moderate	High	High
Sylvania town	8	Areawide	Moderate	High	High
Valley Head town	4	Areawide	Moderate	High	High
Unincorporated area	33	Areawide	Moderate	High	High
Collinsville town	0	Areawide	Moderate	High	High

Source: National Climatic Data Center (NCDC)

Profile and Assessment

Hurricane/Tropical Storm

DeKalb County is not a coastal area and is generally not subject to hurricanes or tropical storms. However, the effects of the remnants of such storms are recorded from time to time. In 1995, Hurricane Opal was still registering high winds and significant rainfall as it passed through north Alabama and Georgia and in 2004, Hurricane Ivan did as well. In 2005, the remnants of tropical storm Dennis in July and Hurricane Katrina in August again brought high winds and rainfall. For the purposes of this plan, the effects of high winds, rainfall and flooding are considered through the mitigation of these other hazards.

Profile and Assessment

Lightning

Lightning is one of the hazards specifically requested for attention in the preparation of this plan by DeKalb County officials. Although lightning is a common occurrence as it accompanies thunderstorms, occasionally it causes damage to property and can also cause injury and death.

Previous occurrences. According to the National Climatic Data Center there have been fifteen significant occurrences of lightning over the period from 1996 to 2014. These events caused three injuries and \$417,000 in property damage.

Lightning with reported damages from 1996 to 2014

Date	Location	Injuries	Property Damage
06/12/96	Fort Payne	-	40,000
04/21/97	Fort Payne	1	85,000
04/27/99	Fort Payne	-	75,000
07/24/99	Crossville	-	100,000
11/24/01	Kilpatrick	1	-
04/28/02	Sylvania	-	5,000
08/20/02	Sylvania	-	2,000
08/20/02	Grove Oak	-	2,000
09/07/06	Crossville	-	50,000
06/29/07	Mentone	-	1,000
02/17/08	Rainsville	-	5,000
06/09/10	Stamp	1	-
06/21/11	Beaty Crossroads	-	5,000
07/05/12	Kilpatrick	-	20,000
08/09/12	Ten Broeck	-	25,000
08/02/14	Henagar	1	2,000
Totals		4	\$417,000

Source: National Climatic Data Center

In three of the above events, house fires occurred as a result of the lightning. The lightning of April 21, 1997 struck a hosiery mill destroying 15 knitting machines. One person was injured as he attempted to put out the fire. The lightning of July 24, 1999 caused an explosion and fire that destroyed a cabinet shop. The lightning of September 7, 2006 damaged a barn and destroyed farm equipment. Nine cows were killed in Mentone by lightning in 2007, and on February 17, 2008, lightning knocked out the main switching facility at Farmers Telecommunications Cooperative. A utility man was struck by lightning while repairing a phone line during the June 2010 event. Due to a lightning strike, a house caught fire on June 21, 2011. Lightning also struck a home on July 05, 2012 and on August 09, 2012, a house fire started due to lightning.

Location. The location of lightning events is considered areawide in DeKalb County. All areas and jurisdictions in DeKalb County have experienced, or have a high likelihood of experiencing, and are potentially affected by lightning.

Extent. The NCDC indicates that there was \$417,000 in property damage from lightning from the events listed above. When using the standard potential loss methodology described in the introduction to this Part to adjust for inflation and growth of the population in DeKalb County, it is estimated that the total loss from 1996 to 2014 combined property and crop damage is as follows:

Total reported loss:	\$417,000
Total adjusted loss in 2014 dollars:	\$557,000

Probability of future events. As indicated in the above paragraphs, since about 1996, as reporting appeared to become more reliable, there has averaged a little less than one significant lightning event per year out of the many

instances of lightning that is common with storms. This frequency of lightning is expected to continue into the future with perhaps a little higher incidence as reporting continues to improve. However, the significance of the lightning events listed is not due to the magnitude of the lightning but to the resulting damages. In several of these cases, the damages may have been preventable, in which case, the event would not have been listed.

Probability of an event in a given year: 100% (high)
 Probability of damages in a given year: 53% (high)

Vulnerability. There have been no specific vulnerabilities reported in the preparation of this plan, although the potential of general property damage continues as is indicated from the past climate statistics.

Summary of Lightning by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	0	Areawide	Moderate	High	High
Crossville town	2	Areawide	Moderate	High	High
Fort Payne city	3	Areawide	Moderate	High	High
Fyffe town	0	Areawide	Moderate	High	High
Geraldine town	0	Areawide	Moderate	High	High
Hammondville town	0	Areawide	Moderate	High	High
Henagar city	0	Areawide	Moderate	High	High
Ider town	0	Areawide	Moderate	High	High
Lakeview town	0	Areawide	Moderate	High	High
Mentone town	1	Areawide	Moderate	High	High
Pine Ridge town	0	Areawide	Moderate	High	High
Powell town	0	Areawide	Moderate	High	High
Rainsville city	1	Areawide	Moderate	High	High
Shiloh town	0	Areawide	Moderate	High	High
Sylvania town	2	Areawide	Moderate	High	High
Valley Head town	0	Areawide	Moderate	High	High
Unincorporated area	6	Areawide	Moderate	High	High
Countywide	0	Areawide	Moderate	High	High

Source: National Climatic Data Center

Profile and Assessment

Temperature Extreme

There are four events of temperature extremes listed by the National Climatic Data Center for DeKalb County. Two of these were for extreme heat and two were for extreme cold.

Three events were recorded in 1996. In early February of 1996, record lows were listed generally for North Alabama. Later that month above average highs in the 80's were recorded. This set the stage for crop damage to occur in other parts of the State the following month in March of 1996 when new low temperatures were again experienced.

In August of 2007, high temperatures aggravated the drought conditions that were prevalent across much of North Alabama that summer.

There was no specific money damages recorded for DeKalb County for any of these events, whether for extreme heat or extreme cold. Although events of extreme heat and cold are not unknown for DeKalb County, the events appear to be sufficiently infrequent and isolated that no trends can be identified. This being the case, there was no further consideration of temperature extremes as a significant hazard for DeKalb County.

Summary of Temperature Extremes by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	4	Areawide	Slight	Low	Low
Crossville town	4	Areawide	Slight	Low	Low
Fort Payne city	4	Areawide	Slight	Low	Low
Fyffe town	4	Areawide	Slight	Low	Low
Geraldine town	4	Areawide	Slight	Low	Low
Hammondville town	4	Areawide	Slight	Low	Low
Henagar city	4	Areawide	Slight	Low	Low
Ider town	4	Areawide	Slight	Low	Low
Lakeview town	4	Areawide	Slight	Low	Low
Mentone town	4	Areawide	Slight	Low	Low
Pine Ridge town	4	Areawide	Slight	Low	Low
Powell town	4	Areawide	Slight	Low	Low
Rainsville city	4	Areawide	Slight	Low	Low
Shiloh town	4	Areawide	Slight	Low	Low
Sylvania town	4	Areawide	Slight	Low	Low
Valley Head town	4	Areawide	Slight	Low	Low
Unincorporated area	4	Areawide	Slight	Low	Low
Countywide	4	Areawide	Slight	Low	Low

Source: National Climatic Data Center (NCDC)

Profile and Assessment

Thunderstorms and High Winds

Thunderstorms and high winds are natural hazards that occur quite frequently within DeKalb County. Damage from any isolated event is usually not as great as with other types of hazards such as tornadoes. However, when taken cumulatively, the damages can be significant. According to the US Wind Zone Map published by FEMA, DeKalb County is in Wind Zone IV where winds can be as high as 250mph.

Previous occurrences. According to the National Climatic Data Center (NCDC), there have been 302 significant events in DeKalb County from 1960 through 2014. In reviewing the data, it appears that reporting was probably rather sketchy prior to about 1982 and damage reporting did not occur until about 1994. For the 18-year period from 1996 to 2014, there were 130 days of significant thunderstorms in DeKalb County for an average of almost six such storms per year. In addition to thunderstorms, there were ten other occurrences of high or strong winds. These strong winds often knocked down trees and power lines and blocked roads. On April 13, 2009, a gravity wave caused strong winds with gusts up to 65 miles per hour that caused considerable damage in nearby Marshall and Jackson Counties.

Thunderstorms with reported damages by year from 1996 to 2014

Year	Storm Events	Property Damage	Crop Damage
1996	9	83,000	6,000
1997	4	34,000	4,000
1998	6	114,000	34,000
1999	7	63,000	-
2000	12	142,000	-
2001	3	13,000	-
2002	4	19,000	-
2003	12	15,000	-
2004	8	10,000	-
2005	14	325,000	-
2006	7	361,000	-
2007	20	-	-
2008	27	51,000	-
2009	3	109,000	-
2010	27	185,300	-
2011	55	244,200	-
2012	21	258,000	-
2013	13	32,000	-
2014	11	78,000	-
Totals	263	2,136,500	\$44,000

Source: National Climatic Data Center (NCDC)

Location. Thunderstorms and high winds occur throughout the area of DeKalb County.

Extent. During the 18-year period from 1996 to 2014, reporting from the NCDC indicates that there was \$2,136,500 in property damage and \$44,000 in crop damage from these storms. It is estimated that the total loss from 1996 to 2014 in combined property and crop damage is as follows:

Total reported loss:	\$2,136,500
Total adjusted loss in 2014:	\$2,554,500

Probability of future events. As indicated in the above paragraphs, since about 1996 as reporting appeared to become more reliable, there has been an average of about six days of significant thunderstorms and high winds per year. This frequency is expected to continue into the future with perhaps a little higher incidence as reporting continues to improve.

Probability of an event in a given year:	100% (high)
Probability of damages in a given year:	94% (high)

Vulnerability. There have been no specific vulnerabilities reported in the preparation of this plan. The vulnerabilities due to the effects of such storms are similar in nature to the vulnerabilities related to flooding and tornadoes. Those sections deal with such specific vulnerabilities in more detail.

Summary of Thunderstorms by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	16	Areawide	Moderate	Very High	High
Crossville town	12	Areawide	Moderate	Very High	High
Fort Payne city	36	Areawide	Moderate	Very High	High
Fyffe town	13	Areawide	Moderate	Very High	High
Geraldine town	19	Areawide	Moderate	Very High	High
Hammondville town	2	Areawide	Moderate	Very High	High
Henagar city	13	Areawide	Moderate	Very High	High
Ider town	16	Areawide	Moderate	Very High	High
Lakeview town	0	Areawide	Moderate	Very High	High
Mentone town	4	Areawide	Moderate	Very High	High
Pine Ridge town	0	Areawide	Moderate	Very High	High
Powell town	2	Areawide	Moderate	Very High	High
Rainsville city	11	Areawide	Moderate	Very High	High
Shiloh town	0	Areawide	Moderate	Very High	High
Sylvania town	13	Areawide	Moderate	Very High	High
Valley Head town	2	Areawide	Moderate	Very High	High
Unincorporated area	89	Areawide	Moderate	Very High	High
Countywide	4	Areawide	Moderate	Very High	High

Source: National Climatic Data Center

Profile and Assessment Tornadoes

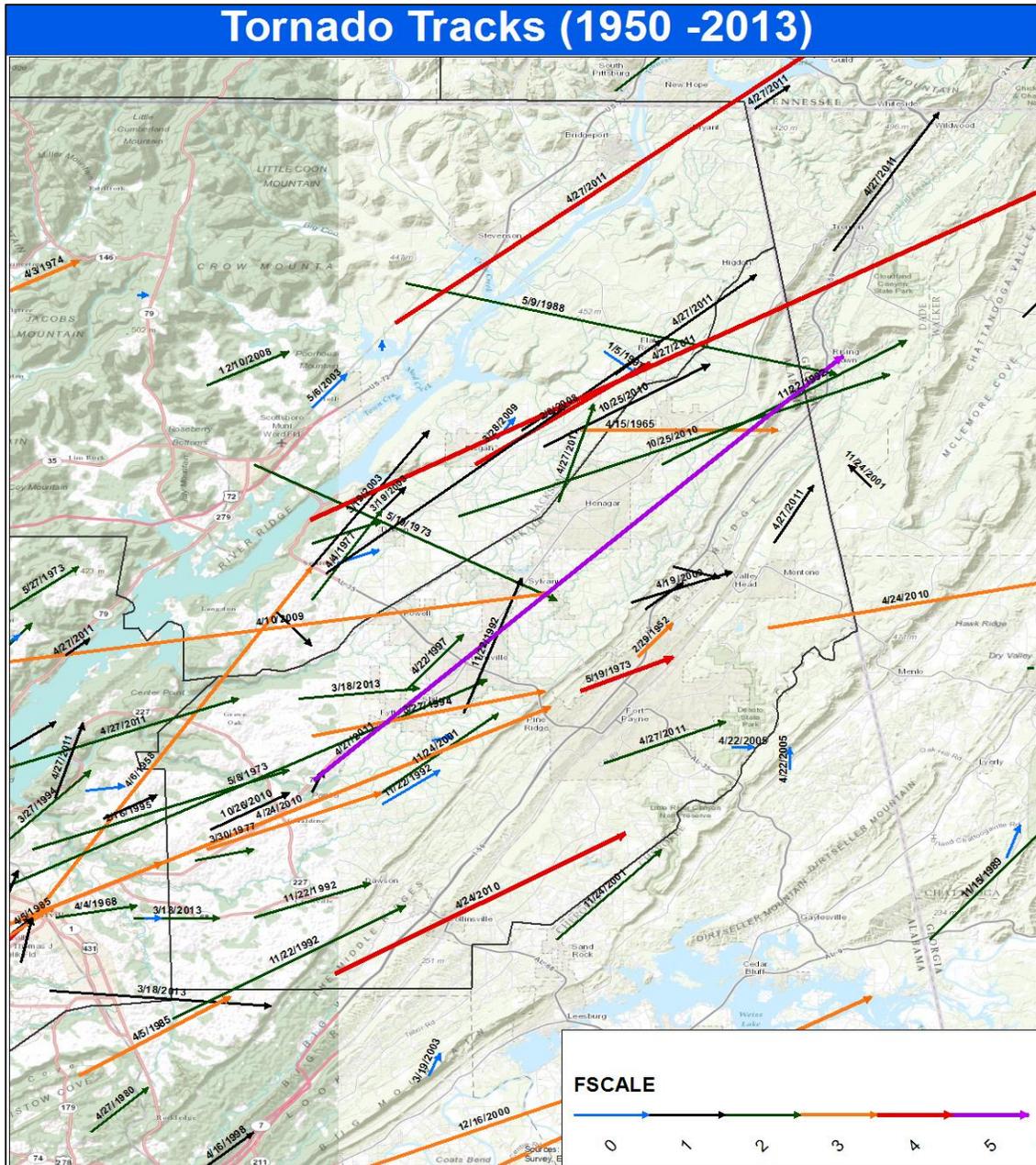
Tornadoes are one of the most significant natural hazards that occur within DeKalb County. Although they might not occur as frequently as other storms, an isolated tornado can cause incredible damage. Tornadoes are also one of the most likely hazards, with the possible exception of flooding, to cause injuries and death. According to the US Wind Zone Map published by FEMA, DeKalb County is in Wind Zone IV where winds can be as high as 250mph.

Tornadoes since 1950

Date	Magnitude*	Deaths	Injuries	Property Damage	Crop Damage
04/29/52	F3	0	12	-	-
11/18/57	F1	0	0	25,000	-
01/24/64	F2	0	0	25,000	-
04/07/64	F2	0	1	250,000	-
04/07/64	F1	0	0	25,000	-
04/15/65	F3	0	0	250,000	-
05/08/73	F2	2	12	2,500,000	-
05/19/73	F2	0	0	3,000	-
05/19/73	F4	0	19	2,500,000	-
12/29/73	F2	0	1	250,000	-
03/30/77	F3	0	2	250,000	-
03/30/77	F2	0	1	25,000	-
05/19/83	F3	0	3	2,500,000	-
05/09/88	F2	0	0	25,000	-
11/22/92	F1	0	8	-	-
11/22/92	F2	0	6	-	-
11/22/92	F0	0	1	-	-
11/22/92	F2	0	6	-	-
11/22/92	F2	0	4	-	-
03/27/94	F4	0	20	5,000,000	-
04/22/97	F2	0	10	2,200,000	10,000
04/08/98	F1	0	0	95,000	20,000
04/27/99	F0	0	0	4,000	-
04/27/99	F0	0	0	14,000	-
11/24/01	F2	0	0	100,000	-
05/06/03	F1	0	0	5,000	-
04/22/05	F0	0	0	-	-
04/07/06	F0	0	0	5,000	-
05/20/08	F0	0	0	1,000	-
03/28/09	F1	0	0	20,000	-
04/10/09	F3	0	0	-	-
04/19/09	F0	0	0	17,000	-
04/19/09	F1	0	13	-	-
04/24/10	F3	0	10	3,000,000	-
04/24/10	F3	0	0	1,500,000	-
04/24/10	F4	0	5	3,000,000	-
10/25/10	F2	0	0	1,300,000	-
10/25/10	F1	0	0	100,000	-
10/26/10	F1	0	0	200,000	-
04/27/11	F1	0	0	-	-
04/27/11	F1	0	0	30,000	-
04/27/11	F1	0	0	-	-
04/27/11	F1	0	0	-	-
04/27/11	F4	6	0	-	-
04/27/11	F5	29	0	-	-
04/27/11	F2	0	0	-	-
03/18/13	F2	0	7	-	-
03/18/13	F2	0	0	-	-
02/21/14	F2	0	1	-	-
04/28/14	F1	0	0	Not determined	-
04/28/14	F2	0	0	Not determined	-
04/28/14	F2	0	0	Not determined	-
04/29/14	F2	0	0	Not determined	-
04/29/14	F0	0	0	Not determined	-
04/29/14	F1	0	0	Not determined	-
04/29/14	F1	0	0	Not determined	-
Totals		37	142	25,219,000	30,000

Source: National Climatic Data Center (NCDC); Tornado Recovery Action Council (TRAC) of Alabama Report

**F0 through F5 refers to the Fujita scale



Previous occurrences. According to the National Climatic Data Center (NCDC), there have been 48 significant events in DeKalb County from 1950 to 2013. For this period, there were 48 tornadoes reported on 28 days. The most tornadoes on one day occurred on April 27, 2011 and April 29, 2014 when there were seven tornadoes reported.

Location. The location of tornadoes is considered *areawide* in DeKalb County. Tornadoes are possible, and have occurred, in all areas of the County, though some specific jurisdictions have been spared.

Extent. The magnitude of tornadoes is indicated from F0 to F5 with F5 being the most damaging. Of the 57 tornadoes reported, eight had a magnitude of F0, sixteen had a magnitude of F1, twenty were F2, eight were F3, four were F4, and one F5. Reporting from the National Climatic Data Center indicates that, since 1950, there has been \$25,219,000 in property damage and \$30,000 in crop damages from these storms. When adjusted for inflation and growth of the population in DeKalb County, it is estimates that the total combines damages through 2013 would be as follows:

Total reported loss:	\$25,249,000
Total adjusted loss in 2013 dollars:	\$60,049,000

Probability of future events. Given its history of tornadoes and severe thunderstorms, there is no question that DeKalb County will continue to experience such storms in the future. DeKalb County is in the area designated by the American Society of Civil Engineers as Wind Zone IV that has a design wind speed of 250 mph. Although there is no spatial predictability of individual tornado events within as small an area as a county, the trend of a number of events over a long period of time can give some indication of what to expect in the future. That is to say, absent some significant climatic change that is beyond the scope of this study, it is expected that at some time over the next fifty years, DeKalb County will experience tornadoes of similar number and severity as occurred over the last fifty years.

Probability of an event in a given year:	38%
Probability of damages in a given year:	32%

Vulnerability. There is no spatial predictability of tornado events. Therefore, every structure in the area can be considered vulnerable. Because of this, the extent of the vulnerability of structures becomes a function of the method and soundness of construction. Not all structures can be made perfectly safe. However, better construction can reduce vulnerability to milder tornadoes and windstorms and can provide safe space for people to take refuge.

Tornadoes are so unpredictable and can be so severe, that they are the most likely natural hazard in DeKalb County to result in loss of life. Particular vulnerabilities in this regard include schools. Although there are certainly other places where people may tend to congregate, it is probable that schools have the greatest concentration of people, day in and day out, of any other facilities.

Summary of Tornadoes by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	1	Areawide	Severe	High	High
Crossville town	0	Areawide	Severe	High	High
Fort Payne city	5	Areawide	Severe	High	High
Fyffe town	2	Areawide	Severe	High	High
Geraldine town	2	Areawide	Severe	High	High
Hammondville town	1	Areawide	Severe	High	High
Henagar city	0	Areawide	Severe	High	High
Ider town	2	Areawide	Severe	High	High
Lakeview town	0	Areawide	Severe	High	High
Mentone town	1	Areawide	Severe	High	High
Pine Ridge town	1	Areawide	Severe	High	High
Powell town	1	Areawide	Severe	High	High
Rainsville city	4	Areawide	Severe	High	High
Shiloh town	0	Areawide	Severe	High	High
Sylvania town	1	Areawide	Severe	High	High
Valley Head town	0	Areawide	Severe	High	High
Unincorporated area	16	Areawide	Severe	High	High
Countywide	19	Areawide	Severe	High	High

Source: National Climatic Data Center (NCDC)

Profile and Assessment

Winter Storms

Winter storms occur in all parts of DeKalb County, particularly in the rural areas and in higher elevations of Sand Mountain and Lookout Mountain.

Previous occurrences. Communities in DeKalb County express varying levels of concern about future winter storms with the community of Mentone specifically indicating a past event which caused considerable damage. According to the National Climatic Data Center (NCDC), there have been 41 significant snow and ice events in DeKalb County from 1993 to early 2014. Data for previous years was not available. For the 20-year period, eleven years had two or more events per year and six years had one event. The most significant event was the winter storm of March 12, 1993 that caused four deaths. Another death due to winter storm occurred on January 28, 2000.

The following is a list of the winter storms listed for DeKalb County by the NCDC. The data regarding damages for winter storms is not exclusive for DeKalb County and cannot be disaggregated. Therefore, it has not been possible to develop damage estimates from the available data.

Winter Storms since 1993

Date	Type
03/12/93	Winter Storm
02/06/95	Snow/Ice
02/11/95	Snow/Ice
01/06/96	Winter Storm
02/01/96	Winter Storm
02/16/96	Winter Storm
01/10/97	Winter Storm
12/29/97	Winter Storm
02/04/98	Winter Storm
12/23/98	Ice Storm
01/06/99	Winter Storm
12/21/99	Ice Storm
01/22/00	Ice Storm
01/28/00	Ice Storm
03/21/01	Heavy Snow
02/05/02	Winter Storm
02/26/04	Winter Storm
01/28/05	Ice Storm
01/29/05	Ice Storm
02/02/07	Heavy Snow
01/19/09	Winter Weather
12/05/09	Winter Weather
01/07/10	Winter Weather
01/29/10	Winter Weather
02/12/10	Heavy Snow
02/15/10	Winter Weather
03/02/10	Heavy Snow
12/12/10	Winter Weather
12/15/10	Winter Weather
12/25/10	Heavy Snow
12/26/10	Winter Weather
01/09/11	Heavy Snow
01/20/11	Winter Weather
02/03/11	Heavy Snow
02/09/11	Heavy Snow
11/29/11	Winter Weather
01/12/12	Winter Weather
01/17/13	Winter Weather
02/02/13	Winter Weather
03/01/13	Winter Weather
03/26/13	Winter Weather
02/11/14	Heavy Snow
02/12/14	Heavy Snow

Location. The location of winter storm events is considered *area wide* in DeKalb County. All areas and jurisdictions in DeKalb County have experienced, or have a high likelihood of experiencing, and are potentially affected by winter storms. The higher elevations of Sand Mountain and Lookout Mountain may experience extended effects from such events.

Extent. Although roadway damage and cleanup costs are known to have occurred, no information was found containing past estimates of damages.

Probability of future events. DeKalb County should expect at least one and probable two significant winter storm events each year. Of the twenty years surveyed, there were 41 winter storm events with storms occurring in seventeen of the years.

Probability of an event in a given year:
85% (High)

Vulnerability. Of particular concern with regard to winter storms are the highway and road gaps through the mountains, the potential damage to roads and highways, and the accumulation of snow and ice on dirt roads. Of particular concern are Alabama Highways 35 and 117 where they each cross both Sand Mountain and Lookout Mountain in the Fort Payne area and in the Valley Head/Mentone area. The Road Department has recommended an increase in the number of spreader trucks and sand bins with a storage facility to keep the sand dry. There is not sufficient information at this time to predict the extent of damages from future winter storms.

Source: National Climatic Data Center (NCDC)

Summary of Winter Storms by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	41	Areawide	Slight	High	Low
Crossville town	41	Areawide	Moderate	Very High	Low
Fort Payne city	41	Areawide	Slight	High	Low
Fyffe town	41	Areawide	Moderate	Very High	Low
Geraldine town	41	Areawide	Moderate	Very High	Low
Hammondville town	41	Areawide	Slight	High	Low
Henagar city	41	Areawide	Moderate	Very High	Low
Ider town	41	Areawide	Moderate	Very High	Low
Lakeview town	41	Areawide	Slight	High	Low
Mentone town	41	Areawide	Moderate	Very High	Low
Pine Ridge town	41	Areawide	Moderate	Very High	Low
Powell town	41	Areawide	Moderate	Very High	Low
Rainsville city	41	Areawide	Moderate	Very High	Low
Shiloh town	41	Areawide	Moderate	Very High	Low
Sylvania town	41	Areawide	Moderate	Very High	Low
Valley Head town	41	Areawide	Slight	High	Low
Unincorporated area	41	Areawide	Moderate	Very High	Low
Countywide	41	Areawide	Moderate	Very High	Low

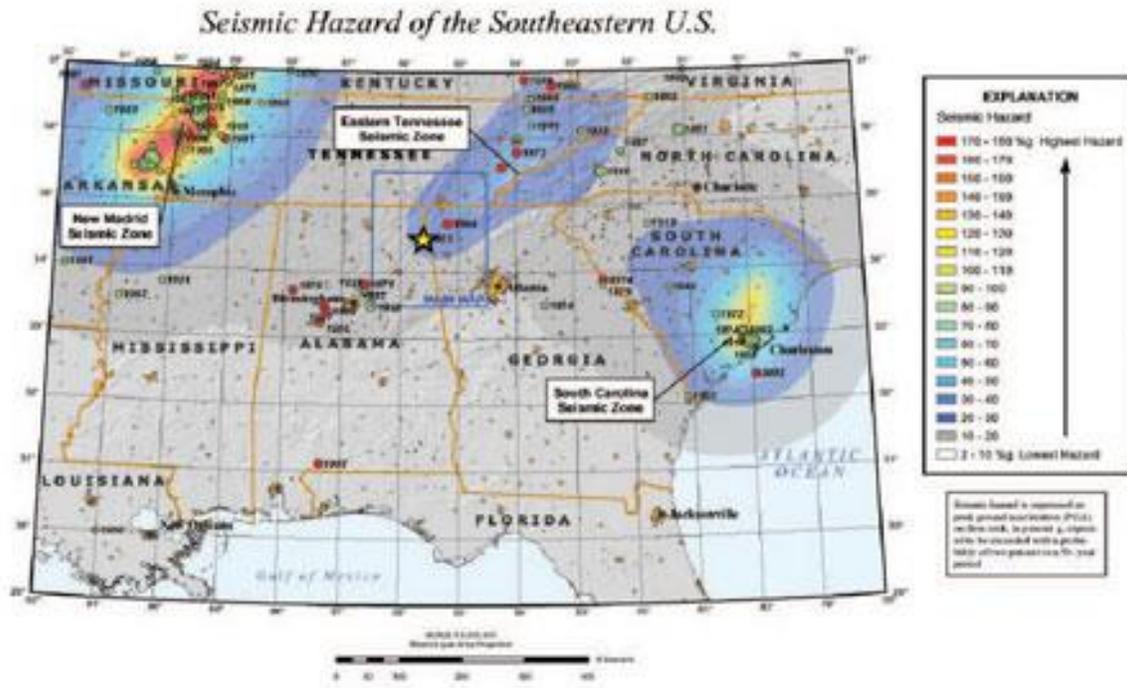
Source: National Climatic Data Center (NCDC)

Profile and Assessment

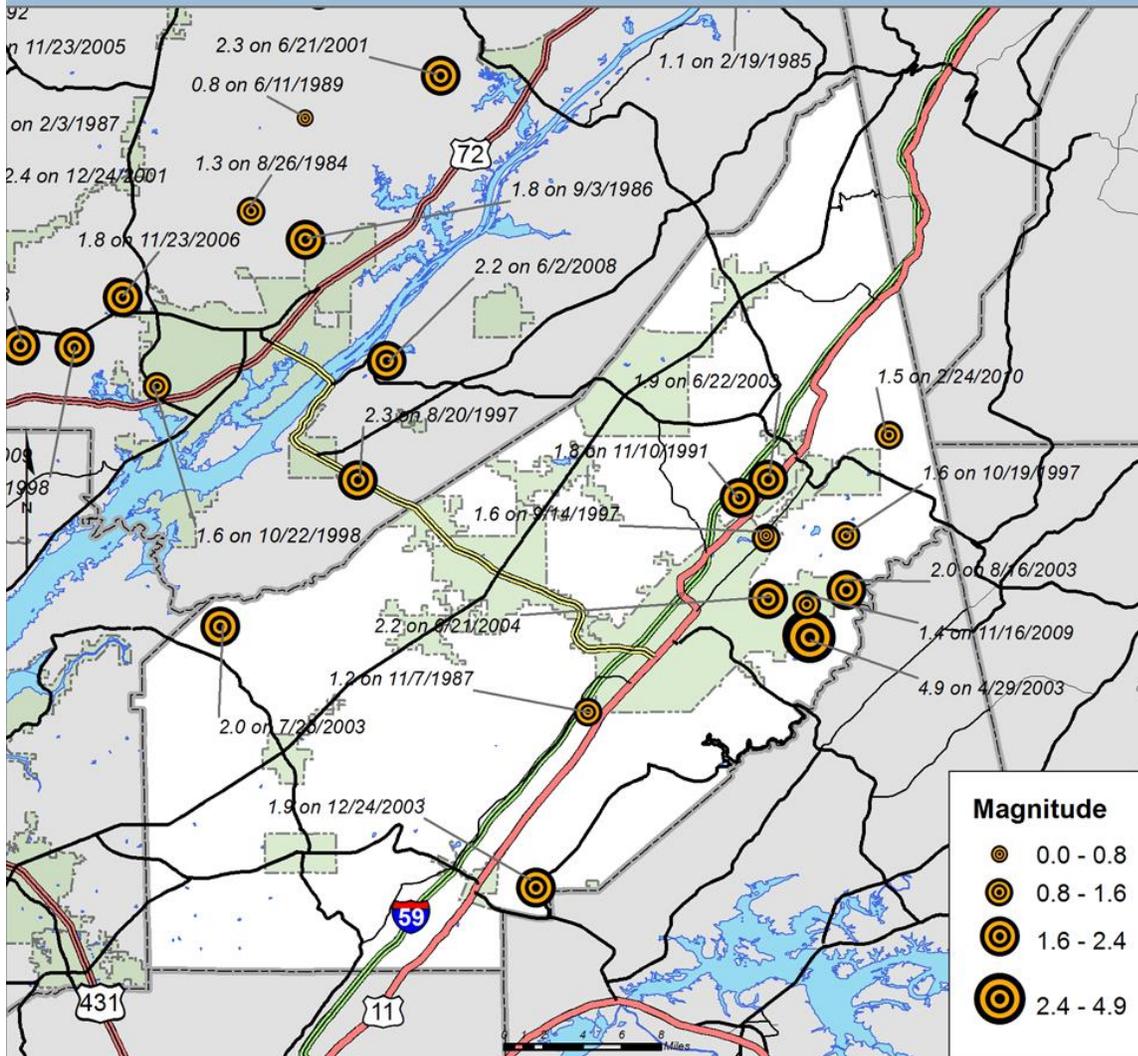
Earthquake

An earthquake is the sudden, sometimes violent movement of the earth's surface from the release of energy in the earth's crust. Because the crust of the earth is rigid, when stress or pressure exceeds the strength of the rocks, the crust breaks along a fault and snaps into a new position. This movement causes vibrations called seismic waves that travel through the earth and along its surface. These seismic waves cause the ground motion that we feel as earthquakes.

There are three zones of frequent earthquake activity which affect Alabama. These are the New Madrid Seismic Zone (NMSZ), the Southern Appalachian Seismic Zone (SASZ), and the South Carolina Seismic Zone (SCSZ). DeKalb County lies within the Southern Appalachian Seismic Zone that extends from southwestern Virginia to central Alabama. Most earthquakes in Alabama are in the SASZ that is considered a zone of moderate risk. The greatest earthquake in the zone occurred in 1897 near Pearisburg, Virginia, with an estimated magnitude of 5.8.



Previous occurrences. Since 1987, there have been twelve earthquakes in DeKalb County. Two of these earthquakes also resulted in numerous aftershocks. The most significant earthquake event was on April 29, 2003; an earthquake registering 4.9 on the Richter Scale had its epicenter in northeast DeKalb County just east of DeSoto State Park. This earthquake is one of the largest earthquakes known to have occurred anywhere in the southern Appalachians (Source: Geological Survey of Alabama). The quake was felt as far away as Tuscaloosa and Montgomery. The only other earthquake ever recorded in Alabama to have this magnitude was a 4.9 earthquake in Escambia County in 1997. Although earthquakes are common in this area, they are normally quite small and usually not felt. No new events since the Plan was last submitted in 2010.



Location. As indicated on the accompanying table, earthquakes may occur in any area of DeKalb County and should be considered an *area wide* hazard.

Extent. The magnitude of the twelve earthquakes in DeKalb County since 1987 have ranged from 1.2 to 4.9 on the Richter Scale with an average magnitude of 2.0 and a midpoint of about 1.8 or 1.9. Most of these earthquakes are not severe enough to be felt. No records were found of significant money damages due to earthquakes.

As stated above, Alabama is in the SASZ that is considered an area of moderate risk. DeKalb County, in particular, is in an area where, in the event of an earthquake, horizontal shaking at a level of 4%g – 8%g has a 10% chance of being exceeded in a 50-year period (g is the gravitational acceleration of a falling object). Comparatively, extreme south Alabama has a level of 0%g – 2%g, middle Alabama has a level of 2%g – 4%g, the center of the New Madrid Seismic Zone near St. Louis has a level of 16%g – 24%g, and the coastal areas of California have a level of 32%g or greater.

DeKalb County Earthquakes

Date	Epicenter Near	Magnitude
11/01/87	Fort Payne	1.2
11/10/91	Dugout Valley	1.8
09/14/97	Fort Payne*	1.6
10/19/97	Fort Payne	1.6
04/29/03	Mentone**	4.9
06/22/03	Fort Payne	1.9
07/25/03	Rainsville	2.0
08/16/03	Alpine	2.0
12/24/03	Collinsville	1.9
06/21/04	Fort Payne	2.2
11/16/09	Fort Payne	1.4
02/24/10	Mentone	1.5
02/25/10 – 12/31/2014	No new occurrences	

* Two aftershocks the same day

** Numerous aftershocks through August, 2003

Source: Geological Survey of Alabama

Probability of future events. Over the course of the last 20 years or so, from 1987 through the early part of 2014, twelve (12) earthquakes have occurred in seven (7) of those years. There is no reason to expect that this frequency will not continue into the future.

Probability of an event in a given year: 58% (High)
 Probability of damages in a given year: (Low)

Vulnerability. Despite the occurrence of an earthquake of some magnitude, the actual damage sustained was minor. Wall hangings shook, items fell off shelves, and a trailer came off its foundation. A large sinkhole was known to open up due to the earthquake and some wells were thought to be affected. Given the rareness of events of the magnitude of the recent earthquake, and the lack of significant damages attributable to it, earthquakes are not expected to be a significant natural hazard for DeKalb County. In most cases, adherence to the provisions of typical building codes will likely prevent most potential damages from becoming severe.

Summary of Earthquakes by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	1	Areawide	Slight	High	Low
Crossville town	0	Areawide	Slight	High	Low
Fort Payne city	6	Areawide	Slight	High	Low
Fyffe town	0	Areawide	Slight	High	Low
Geraldine town	0	Areawide	Slight	High	Low
Hammondville town	0	Areawide	Slight	High	Low
Henagar city	0	Areawide	Slight	High	Low
Ider town	0	Areawide	Slight	High	Low
Lakeview town	0	Areawide	Slight	High	Low
Mentone town	2	Areawide	Slight	High	Low
Pine Ridge town	0	Areawide	Slight	High	Low
Powell town	0	Areawide	Slight	High	Low
Rainsville city	1	Areawide	Slight	High	Low
Shiloh town	0	Areawide	Slight	High	Low
Sylvania town	0	Areawide	Slight	High	Low
Valley Head town	0	Areawide	Slight	High	Low
Unincorporated area	2	Areawide	Slight	High	Low
Countywide	n/a	Areawide	Slight	High	Low

Source: National Climatic Data Center (NCDC)

Profile and Assessment

Landslides

Landslides are a downward and outward movement of slope-forming soil, rock, and vegetation under the influence of gravity. They can be triggered by natural causes such as heavy rain and seismic activity, or by human-induced causes such as changes in slope caused by agricultural terracing, cut-and-fill construction for highways, building construction, mining, and changes in irrigation or surface runoff.

Previous occurrences. Local officials report landslides on both mountainous areas of the County. There are known to be landslides and/or potential landslides in the areas of the mountain bluffs, particularly where new construction is occurring.

Location. As stated above, landslides are known to occur in the mountainous areas of the County along Sand Mountain and Lookout Mountain, particularly in the areas of State Highways 35 and 117, north of which run northwest to southeast cutting across the ridgelines of the mountains. Landslides in remote, natural areas, though, are not usually reported.

Place	Location
Collinsville town	Valley-Lookout Mtn. - Side
Crossville town	Sand Mountain – Top
Fort Payne city	Valley – Lookout Mtn. - Side
Fyffe town	Sand Mountain – Top
Geraldine town	Sand Mountain – Top
Hammondville town	Valley
Henagar city	Sand Mountain – Top
Ider town	Sand Mountain – Top
Lakeview town	Sand Mountain – Top
Mentone town	Lookout Mtn. – Top and Side
Pine Ridge town	Sand Mountain – Side
Powell town	Sand Mountain – Top
Rainsville city	Sand Mountain – Top
Shiloh town	Sand Mountain – Top
Sylvania town	Sand Mountain – Top
Valley Head town	Valley

Extent. According to the Geological Survey of Alabama, DeKalb County lies generally in an area that has high susceptibility, yet low incidence of landslides. High susceptibility indicates that greater than 15% of the areas are susceptible to landslides. Low incidence indicates that less than 1.5% of the area has been subject to landslides. Given the high susceptibility of the area to landslides and the prospect of future population growth and development, the probability of future hazardous or damaging landslides is high.

Total reported loss: None

Probability of future events. Given that DeKalb County has a high susceptibility to landslides, the probability of future hazardous or damaging landslides is quite possible, particularly in areas of highway and roadway development.

Probability of an event in a given year:	10% to 50% (Medium)
Probability of damages in a given year:	Less than 10% (Low)

Vulnerability. The most immediate vulnerabilities of the area to landslide hazards are the roads that necessarily cut across the mountain ridges and land development, particularly housing, that is constructed on or near steep slopes and hillsides. There is not sufficient information to quantify the potential dollar loss due to landslides. If new, more extensive development begins to take place in the mountainous areas along the sides of Sand Mountain and Lookout Mountain, the potential for damages could rise if measures are not taken to protect such development from poor development practices. Without mitigation measures, the potential loss could be quite high due to the topography and geology of the area.

Summary of Landslides by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	unknown	Partial	Slight	Medium	Low
Crossville town	unknown	Minimal	Slight	Low	Low
Fort Payne city	unknown	Partial	Slight	Medium	Low
Fyffe town	unknown	Minimal	Slight	Low	Low
Geraldine town	unknown	Minimal	Slight	Low	Low
Hammondville town	unknown	Minimal	Slight	Low	Low
Henagar city	unknown	Minimal	Slight	Low	Low
Ider town	unknown	Minimal	Slight	Low	Low
Lakeview town	unknown	Minimal	Slight	Low	Low
Mentone town	unknown	Partial	Slight	Medium	Low
Pine Ridge town	unknown	Partial	Slight	Medium	Low
Powell town	unknown	Minimal	Slight	Low	Low
Rainsville city	unknown	Minimal	Slight	Low	Low
Shiloh town	unknown	Minimal	Slight	Low	Low
Sylvania town	unknown	Minimal	Slight	Low	Low
Valley Head town	unknown	Minimal	Slight	Low	Low
Unincorporated area	unknown	Partial	Slight	Medium	Low
Countywide	unknown	Partial	Slight	Medium	Low

Source: National Climatic Data Center (NCDC)

Profile and Assessment

Land Subsidence

Land subsidence is typically observed in areas by carbonate rocks and characterized by the presence of subsurface cavities, sinkholes, and underground drainage. These are called “karst terrains.” It is these areas that are most susceptible to subsidence and the development of sinkholes. In DeKalb County, generally, the valley that extends southwest to northeast between Sand Mountain and Lookout Mountain is underlain by carbonate rock and is thus susceptible to the formation of sinkholes.

Previous occurrences. Because of the Big Wills Valley is underlain by carbonate rock, in this case, dolomite and limestone, it is suspected that there are instances of land subsidence.

Location. Although it is suspected that there are instances of land subsidence, the only instance to come to the attention of this study is the large sinkhole near Fort Payne that was affected by the earthquake of April 29, 2003.

Extent. Other than the sinkhole mentioned above that was associated, damages are not known to have occurred.

Total reported loss: None

Probability of future events. It is expected that land subsidence will continue to be a natural hazard to DeKalb County in the future, though not as significant as some other hazards. Given the number of sinkholes detailed above under previous occurrences, it is expected that the probability of an event in a given year will be medium to low.

Probability of an event in a given year: less than 20% (Medium)
 Probability of damages in a given year: less than 10% (Low)

Vulnerability. Vulnerability of the communities of DeKalb County to land subsidence hazards is considered to primarily relate to highway construction. Given the general density of development in DeKalb County, it is not thought that land subsidence will be a major hazard to most land development. There is not sufficient information to develop an estimate of potential loss due to land subsidence in DeKalb County. Unless the incidence of land subsidence is shown to be substantially more than has already been indicated in this Plan, further effort to estimate potential loss is not considered warranted.

Summary of Land Subsidence by Place

Place	Occurrences	Location	Extent	Probability	Vulnerability
Collinsville town	0	Areawide	Slight	Medium	Low
Crossville town	0	Areawide	Slight	Medium	Low
Fort Payne city	1	Areawide	Slight	Medium	Low
Fyffe town	0	Areawide	Slight	Medium	Low
Geraldine town	0	Areawide	Slight	Medium	Low
Hammondville town	0	Areawide	Slight	Medium	Low
Henagar city	0	Areawide	Slight	Medium	Low
Ider town	0	Areawide	Slight	Medium	Low
Lakeview town	0	Areawide	Slight	Medium	Low
Mentone town	0	Areawide	Slight	Medium	Low
Pine Ridge town	0	Areawide	Slight	Medium	Low
Powell town	0	Areawide	Slight	Medium	Low
Rainsville city	0	Areawide	Slight	Medium	Low
Shiloh town	0	Areawide	Slight	Medium	Low
Sylvania town	0	Areawide	Slight	Medium	Low
Valley Head town	0	Areawide	Slight	Medium	Low
Unincorporated area	0	Areawide	Slight	Medium	Low
Countywide	0	Areawide	Slight	Medium	Low

Source: National Climatic Data Center (NCDC)

DeKalb County, Alabama
Natural Hazard Mitigation Plan

Part 4. Mitigation Strategy

Introduction54
Vision, Intent and Goals57
Prevention.....58
Objective 1.1 Promote Disaster Resistant Development58
Objective 1.2 Promote Disaster Resistant Redevelopment59
Objective 1.3 Promote Natural Area Resistance60
Protection.....61
Objective 2.1 Protect Property.....61
Objective 2.2 Protect Critical Facilities.....62
Objective 2.3 Provide Shelter.....63
Objective 2.4 Expand Warning System.....64
Education.....65
Objective 3.1 Expand Public Information and Awareness.....65
Objective 3.2 Target Information.....66
Objective 4.1 Maintain Oversight and Coordination.....67
Administration.....68
Objective 4.2 Develop Partnerships.....68
Objective 4.3 Develop Funding Source.....68

Introduction

This part of the Natural Hazard Mitigation Plan describes the strategy developed by DeKalb County for dealing with natural hazards. Recognizing that natural events that pose a hazard to life and property are inevitable, the strategy begins with an overall vision for making DeKalb County a more disaster-resistant community. The overall vision is then followed by three goals that are the basis for the actions that will be taken to accomplish the vision. Briefly, the three goals deal with the areas of:

- 1. prevention,*
- 2. protection, and*
- 3. education.*

It is felt that these three areas of activity encompass an effective strategy for dealing with the natural hazards facing DeKalb County. A fourth and final goal deals with the administrative activities of funding and coordination. For each goal, a number of objectives are listed. These objectives are selected and designed such that, upon their accomplishment, the overall goal will be achieved. Further, for each objective, actions for implementation will be described from which an annual work program will be established.

Jurisdiction. This plan is a multi-jurisdictions plan. Not all of the actions described herein will be undertaken by each jurisdiction within the planning area. Therefore, for each action listed, an indication is given regarding those jurisdictions that intend to undertake a specific action or whether a specific action should be undertaken by all municipalities or all jurisdictions or whether they will be covered by actions that are areawide in nature.

Priority. For each action listed, priority is given in accordance with whether it is considered critical, essential, necessary, or desirable. The term “critical” is used for those actions of the highest priority. The term “essential” is

for those of the next highest priority, “necessary” for the next, and “desirable” is for those actions of the least priority. That a lower priority is indicated does not mean that an action should not be undertaken. Since the total cost of the proposed actions for implementation have not been determined, a full cost benefit analysis is not possible. Therefore qualitative criteria were used in order to determine relative priority. To determine the priority, each action was scored according to three qualitative criteria. The qualitative criteria are 1) expected benefit, 2) ease of implementation, and 3) expected cost level. The criteria were scored “3” for best, “2” for next best, and “1” for last best. The individual scores for each action were added to obtain a cumulative score. Cumulative scores of 3 and 4 are considered “desirable,” 5 and 6 are “necessary,” 7 and 8 are “essential,” and 9 is “critical.”

In the course of developing this Plan, participating communities were asked to help establish priorities for planning for natural hazards. They were given a series of statements and were asked whether the statement was extremely important, very important, somewhat important, or not important. The responses were given a weighted score and ranked. The following statements reflect their priorities based on their responses and are listed in order of importance.

1. (tie) Protecting critical facilities (e.g. fire stations, hospitals, etc.).
1. (tie) Protecting and reducing damage to utilities.
1. (tie) Strengthening emergency services (e.g. police, fire, ambulance).
2. Promoting cooperation among agencies, citizens, business, etc.
3. Enhancing the function of natural areas (e.g. streams, wetlands).
4. (tie) Protecting private property.
4. (tie) Preventing development in hazard areas.
5. Protecting historical and cultural landmarks.

In addition, communities were asked about the types of activities they thought their communities would support to reduce the risk and loss associated with natural disasters. It was explained that activities can be regulatory and non-regulatory. An example of a regulatory activity would be a policy that limits or prohibits development in a known hazard area such as a floodplain. An example of a non-regulatory activity would be to develop a public education program to demonstrate steps citizens can take to make their homes safer from natural hazards. Communities were asked if they would support, would not support, or were neutral about the following list of activity types. These activity types are listed from the most support to the least support.

1. (tie) Secure shelters and place of refuge after area is inhabitable or inaccessible.
1. (tie) Plan for securing backup fuel sources for disaster operations (i.e. dispatch, schools, fuel pumps...)
2. (tie) Plan to have emergency food and water for minimum of 96 hours.
2. (tie) Published evacuation routes in event of imminent weather to avoid clogging transportation infrastructure.
2. (tie) Improving the disaster preparedness of local schools.
3. (tie) A local inventory of at-risk buildings and infrastructure.
3. (tie) Published procedure for volunteer reception center and duties.
4. Protecting historical and cultural structures.
5. Policies to prohibit development in areas subject to natural hazards.
6. The use of local tax dollars to reduce risks and losses from natural disasters.

Timeframe. For each action listed, a timeframe is given that indicates whether it should be undertaken immediately, in the short-range, in the long-range, or whether the action is ongoing. “Immediate” actions are those that should be undertaken within the first or second year of the planning period. If an action so indicated will not be undertaken until the second year, project planning for the action should at least be started within the first year. “Short-range” actions are those that will be undertaken within the first five years of the planning period before the five-year plan update is prepared. “Long-range” actions are those that, because of nature or cost, will take considerable time for planning and programming. These actions should be started but are not expected to be accomplished within the first five-year planning period. Ongoing actions are those that are of a policy nature rather than project specific. These actions should be started early in the planning period.

Benefit. The relative benefits of the specific actions for implementation are indicated as to whether the action is expected to be: 1) extremely beneficial for those actions expected to have the most impact, 2) very beneficial, or 3) somewhat beneficial.

Ease. The relative ease of implementation of actions for implementation is indicated as to whether the action is expected to be of: 1) considerable difficulty, 2) moderate difficulty, or 3) easy.

Cost. The cost of implementation is one of the key items in determining whether an action is economically feasible. An action may have a high priority but, because of high cost, it may not be possible to perform. Many times, local funding for an action will not be sufficient unless it is combined with funding from other sources, such as intergovernmental grants. In any case, the performance of all actions must be made with fiscal responsibility in mind. The relative costs of specific actions for implementation are indicated as whether the action is expected to be of 1) high cost, 2) moderate cost, or 3) low cost.

Cost/Benefit Analysis is Project Development. As stated above in the paragraphs relating to prioritization of the proposed actions for implementation, full cost/benefit analysis is not possible at this point in the planning process since total costs and specific benefits of particular activities have not been determined. Therefore, qualitative criteria were used in order to determine relative priority as previously described so that direction could be provided to efforts at project development.

When a program or project is proposed for development and implementation, in those projects where it is appropriate, detailed cost estimates are to be prepared and compared with the estimated value of specific benefits to be derived from project implementation. At a minimum, it is expected that the costs will not exceed benefits, i.e., the project will have a cost/benefit ratio of no more than 1/1. Where multiple alternative strategies or projects are under construction at a given time, priority will be given to those projects that have the least cost relative to benefits.

Action/Hazard Cross Reference. In the following pages, a Vision, Intent and Goals are stated along with a number of Actions of Implementation. The selection and variety of Actions for Implementation are intended to represent a comprehensive approach to hazard mitigation such that all potential hazards are addressed in some fashion with the most attention being given to those hazards that have the most potential for local impact. At the end of this section is an Action / Hazard Cross Reference which lists the Actions for Implementation contained in this Plan and cross references them with the specific hazards that they are intended to address. The purpose of this cross reference is to provide a guide to implementation on a hazard by hazard basis.

Vision, Intent and Goals

Overall, it is the intent and vision of the DeKalb County Natural Hazard Mitigation Plan to:

Make DeKalb County and its communities more resistant to loss of life and property due to natural hazards.

In furtherance of this vision, the Hazard Mitigation Steering Committee has developed three strategic goals for DeKalb County in the areas of prevention, protection and education. A fourth goal relates to administration.

1. Prevention. It is a goal of the residents and citizens of DeKalb County that:

The communities of DeKalb County will be designed and built in a manner that reduces the risk of natural hazards to life and property.

This goal recognizes that there are actions that can be taken that have the effect of making a natural hazard less of a threat, sometimes to the point that it is no more than a natural event rather than a hazard. Many of the actions that may be taken to accomplish this goal are regulatory in nature.

2. Protection. It is a goal of the residents and citizens of DeKalb County that:

The people and properties of DeKalb County will be protected, so much as is practicable, from the effects of natural hazards to life and property.

The intent of this goal is to take direct action to protect life and property in those instances where preventative measures are not effective or not available. Whereas the costs of regulatory measures are normally more indirect and borne over time, protective measures are often more costly and the cost is usually more immediate.

3. Education. It is a goal of the residents and citizens of DeKalb County that:

The people who live, work and visit in DeKalb County will be well-educated regarding natural hazards, the risks associated with natural hazards, and measures that may be taken to reduce the risk of natural hazards to life and property.

Educational programs can be of a general nature, that is, designed to make the general public aware of what mitigation is and how they can benefit. Or, such programs can be targeted to specific audiences for specific reasons. An overall strategy will utilize both types of programs.

4. Administration. It is a goal of the residents and citizens of DeKalb County that:

Hazard mitigation in DeKalb County – the activities called for in this Natural Hazard Mitigation Plan – will be performed in an effective, responsive, and fiscally responsible manner.

To be worthwhile, hazard mitigation efforts must be effective. Such efforts must also be responsive to local needs and values. Sometimes, mitigation efforts are beyond the fiscal or administrative capacity of a local area. This mitigation planning effort includes recognition of the need for local capacity building for effective mitigation.

* * * * *

Objective 1.1 Promote Disaster Resistant Development

Promote community planning and land development practices that have the effect of reducing exposure to the risks of natural hazards.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Perform a land use study that will include a more comprehensive inventory or commercial and industrial land types and uses. **Dependent on funding	/ All jurisdictions	/ Necessary / Dec. 31, 2020	/ Somewhat beneficial / Moderate difficulty / Low cost
(b) Coordinate to develop guidelines that can be used for the purpose of preparing community growth and development plans that incorporate hazard mitigation considerations.	/ All jurisdictions	/ Essential / Oct. 31, 2016	/ Very beneficial / Moderate difficulty / Low cost
(c) Review and consider the development and/or implementation of building regulations that aid in the protection of property from weather hazards **Dependent on political will	/ All jurisdictions	/ Critical / Oct. 31, 2016	/ Extremely beneficial / Easy / Low cost
(d) Review and consider the status of participation in and compliance with the National Flood Insurance Program. **Dependent on political will	/ Lakeview / Pine Ridge / Shiloh	/ Essential / April 30, 2016	/ Extremely beneficial / Easy / Low cost

Objective 1.2 Promote Disaster Resistant Redevelopment

Promote land redevelopment activities that reduce the risk of natural hazards in hazard-prone areas.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Develop guidelines for the use of easements to protect private property from site-specific natural hazards.	/ All jurisdictions	/ Necessary / Oct. 31, 2016	/ Somewhat beneficial / Moderate difficulty / Low cost
(b) Develop and implement storm water management regulations to improve the efficiency of flood protection and drainage facilities. **Dependent on political will	/ All jurisdictions	/ Essential / Oct. 31, 2016	/ Extremely beneficial / Moderate difficulty / Low cost

Objective 1.3 Promote Natural Area Resistance

Recognize and take advantage of natural areas, particularly creeks and streams, where their preservation or effective use has the effect of reducing the risk of natural hazards.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Use floodplain development regulations to protect property from flooding and to protect the efficiency of the floodplain in the dissipation of floodwaters. **Dependent on funding	/ All jurisdictions	/ Essential / Dec. 31, 2020	/ Extremely beneficial / Moderate difficulty / Low cost
(b) Explore opportunities for open space preservation in conjunction with hazard mitigation objectives.	/ All jurisdictions	/ Necessary / Dec. 31, 2020	/ Very beneficial / Moderate difficulty / High cost
(c) Cooperate with the Alabama Forestry Commission in the use of Wildland-Urban Interface programs to protect property from wildfire.	/ All jurisdictions	/ Essential / Dec. 31, 2020	/ Very beneficial / Easy / Low cost

Objective 2.1 Protect Property

Develop a program of structural improvements, particularly to drainage ways, that will have the effect of protecting property from natural hazards.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Use subdivision regulations for the regulation of the development of manufactured housing parks to make them more resistant to natural hazards.	/ All municipalities	/ Essential / Aug. 31, 2016	/ Very beneficial / Moderate difficulty / Low cost
(b) Identify and request funding for the acquisition and/or relocation of properties that are and have been the subject of frequent and continuing flooding.	/ All jurisdictions	/ Necessary / Complete	/ Extremely beneficial / Moderate difficulty / High cost

Objective 2.2 Protect Critical Facilities

Take positive and direct action to protect those facilities and access routes that are critical in the response to natural disasters.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Work with local utility companies to perform a utility study that will include a more comprehensive inventory and vulnerability assessment that will be applicable to the needs and concerns of both the community and the service providers.	/ DeKalb County	/ Necessary / Dec. 31, 2020	/ Very beneficial / Considerable difficulty / Moderate cost
(b) Establish a bridge replacement program for the three old wooden bridges that are subject to flooding. **Dependent upon funding availability	/ DeKalb County	/ Necessary / Dec.31,2020	/ Beneficial / Difficulty / Very costly
(c) Acquire backup power supply for the Fort Payne potable water treatment plant. **Dependent upon funding availability**	/ Fort Payne	/ Essential / Dec. 31, 2020	/ Very beneficial / Easy / Moderate cost
(d) Acquire backup power supplies for key wastewater pumping stations. **Dependent upon funding availability**	/ DeKalb County	/ Essential / Dec. 31, 2020	/ Very beneficial / Easy / Moderate cost
(e) Develop a program and request funding for the placement of sand bins and a storage facility to protect critical mountain roads in the event of winter storms. **Dependent upon funding availability**	/ DeKalb County	/ Necessary / Dec. 31, 2020	/ Very beneficial / Moderately difficult / Moderate cost

Objective 2.3 Provide Shelter

Provide strategically located shelters and facilities for those events where property protection activities will be insufficient to protect life.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Maintain a program for storm shelters or other protection at schools. **Dependent upon funding availability**	/ DeKalb County	/ Necessary / Dec. 31, 2020	/ Extremely beneficial / Moderate difficulty / High cost
(b) Consider storm shelters at dense residential areas such as apartments and mobile home parks. **Dependent upon funding availability**	/ All jurisdictions	/ Necessary / Dec. 31, 2020	/ Extremely beneficial / Moderate difficulty / High cost
(c) Develop a program for the provision of community storm shelters. **Dependent upon funding availability**	/ All jurisdictions	/ Necessary / Dec. 31, 2020	/ Extremely beneficial / Moderate difficulty / High cost

Objective 2.4 Expand Warning Systems

Expand the early warning systems to those areas of the county that are not now served.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Develop a program to assure the provision of weather sirens or radios at all schools. **Dependent upon funding availability**	/ DeKalb County	/ Essential / Dec. 31, 2020	/ Extremely beneficial / Moderate difficulty / Moderate cost
(b) Develop a program for the provision of weather radios in homes and school.	/ DeKalb County	/ Essential / Dec. 31, 2020	/ Extremely beneficial / Moderate difficulty / Moderate cost
(c) Maintain a program for maintenance of other weather alert programs; (PAWS, Alert DeKalb, social media)	/ DeKalb County	/ Essential / Dec. 31, 2020	/ Extremely beneficial / Moderate difficulty / Moderate cost

Objective 3.1 Expand Public Information and Awareness

Expand the public information program to increase the awareness of the general public regarding natural hazard mitigation.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Use social media to provide information for general public use regarding hazard mitigation.	/ DeKalb County	/ Essential / Dec. 31, 2020	/ Very beneficial / Moderate difficulty / Moderate cost
(b) Participate in public events which allows dissemination of hazard mitigation information (at least twice per year).	/ DeKalb County	/ Necessary / Dec. 31, 2020	/ Very beneficial / Moderate difficulty / Low cost

Objective 3.2 Target Information

Provide information to promote awareness to access and functional needs communities which are at higher risk to specific natural hazards.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Prepare hazard mitigation information to be distributed to access and functional needs locations. **Dependent upon funding availability**	/ DeKalb County	/ Essential / Dec. 31, 2020	/ Very beneficial / Easy / Low cost
(b) Prepare and distribute information regarding best management practices regarding hazard mitigation in forest and vegetation management.	/ DeKalb County	/ Necessary / Deferred to DCVFA	/ Somewhat beneficial / Moderate difficulty / Low cost

Objective 4.1 Maintain Oversight and Coordination

Provide central and continuing oversight and coordination to countywide natural hazard mitigation activities.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Meet biannually to discuss and approve updates and changes to the Natural Hazard Mitigation Plan	/ DeKalb County	/ Essential / Dec. 31, 2020	/ Very beneficial / Easy / Low cost

Objective 4.2 Develop Partnerships

Identify and develop partnerships with agencies and organization that, although they might not have a major role to play in disaster response and recovery, can provide effective assistance in hazard mitigation activities.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Develop continuing relationships with local, regional and state agencies, to include businesses, government and the academic sector, that have roles in the hazard mitigation processes.	/ DeKalb County	/ Essential / Dec. 31, 2020	/ Very beneficial / Easy / Low cost

Objective 4.3 Develop Funding Source

Explore and catalog traditional and non-traditional sources of funding for natural hazard mitigation activities.

Action	Jurisdiction	Priority/Timeframe	Benefit / Ease / Cost
(a) Explore non-traditional sources of both government and non-government grants and loans for mitigation activities.	/ DeKalb County	/ Necessary / Dec. 31, 2020	/ Somewhat beneficial / Moderate difficulty / Low cost

DeKalb County, Alabama
Natural Hazard Mitigation Plan

Part 5. Implementation and Plan Maintenance

Adoption.....69
Oversight and Responsibility.....69
Continuing Public Involvement.....70

* * * * *

This Part of the DeKalb County Natural Hazard Mitigation Plan is intended to provide a process for implementation of the Plan and for periodic monitoring. It also provides for oversight and responsibility.

Adoption

The DeKalb County Natural Hazard Mitigation Plan is a multi-jurisdictional plan. As such, it is intended for adoption by all of the local governments of the County including the DeKalb County Commission. Adoption of this Plan serves as authorization for the various implementing agencies to take action in furtherance of the objectives contained herein. Following the adoption process, the DeKalb County Emergency Management Agency will transmit this Plan to the Alabama Emergency Management Agency (AEMA) that will in turn forward it to the Federal Emergency Management Agency (FEMA) for acceptance. Upon acceptance, the adopting jurisdictions will attain eligibility for Hazard Mitigation Grant Program funding for mitigation activities. Resolutions of adoption by the local governments are contained in Appendix A.

Oversight and Responsibility

Oversight. The mitigation strategy contained in the previous Part generally indicates the agency or jurisdiction that will normally be responsible for implementation of the activities and mitigation measures called for in this Plan. Oversight of these activities is vested in the DeKalb County Emergency Management Agency (DCEMA).

Responsibility. The responsibility for implementation of actions contained in the mitigation strategy will normally be: 1) with the participating jurisdiction within which the action is intended to take place; 2) with an area wide agency when that agency is normally charged with the responsibilities of a similar nature; or 3) with another agency when that agency is necessarily designated responsible due to the requirements of funding sources. Final determinations of responsibility for implementing specific actions will be in the course of preparing the annual work program.

Annual work program. The DCEMA, with the advice of the Hazard Mitigation Committee, will prepare an annual work program consisting of activities and mitigation measures considered to be reasonably attainable within the scope of each year with the intent of eventually accomplishing the objectives of the entire plan. In the course of preparing the annual work program, the DCEMA and the Hazard Mitigation Committee will maintain communication with those jurisdictions and agencies that may be designated with responsibility for implementation of specific actions and, ultimately, make final determinations of responsibility. The DCEMA will transmit the annual work program to those jurisdictions and agencies that have been designated with responsibility for implementation of items contained in the work program.

The “Action for Implementation Form” included at the end of this part may be used for developing the annual work program.

Incorporation into existing planning mechanisms. Where possible, the provisions of this plan will be recommended to local jurisdictions for incorporation into their existing planning mechanisms. At a minimum, this includes incorporation of this plan into the Emergency Operations Plan as was the previous 2010 plan. Additionally, this

Plan will be reviewed for those actions that would be applicable for a local comprehensive plan or capital improvements program and those items will be communicated to the appropriate jurisdiction.

Annual review. This Hazard Mitigation Plan is to be monitored by a process of annual review. An annual monitoring report is to be prepared once a year by the DCEMA. The monitoring report will indicate progress made toward implementing the activities and mitigation measures contained in the annual work program as well as changing conditions in the county that may affect adjustments to the work program. For each item, a statement will be made regarding whether it has been accomplished and, if not, why it has not and what can be done to accomplish it in the future. If it is determined that an activity cannot or should not be accomplished, then that also will be stated. The annual monitoring report and the annual work program may be consolidated into a single report.

Continuing Public Involvement

Public involvement is important to the development of any plan. But it is just as important to the implementation efforts that follow. Continuing public involvement in the development and implementation of a plan helps to assure the reasonableness and public acceptance of a community's efforts with regard to hazard mitigation. Therefore, this Plan includes this process for continuing public involvement.

Plan Availability. Copies of this plan will be maintained and available at the DeKalb County Emergency Management Agency. In addition, this Plan will be distributed to the DeKalb County Commission, to each municipality within the County and to each public library in the County. A public notice of availability will be published in the local newspaper following final adoption.

Public Comment. Over the course of the five years between plan updates, a file will be maintained by the DCEMA containing public comments regarding the contents of the Plan. These comments will be periodically reviewed by the DCEMA during annual monitoring of plan implementation progress and during the five-year evaluation and update. Public comments may be made addressed to the offices of the DCEMA

* * * * *

DeKalb County, Alabama
Natural Hazard Mitigation Plan

Appendices

Appendix A. Resolutions of Adoption

Appendix B. Steering Committee

Appendix C. Community and Public Involvement

Appendix D. Critical Facilities Inventory

Appendix E. Selected Resources

Appendix F. Update Summary

Appendix G. Review of Actions for Implementation

Appendix A. Resolutions of Adoption

The resolutions of adoption by the local governments will be inserted upon adoption.

Resolutions are expected from:

DeKalb County;
Collinsville;
Crossville;
Fort Payne;
Fyffe;
Geraldine;
Hammondville;
Henagar;
Ider;
Lakeview;
Mentone;
Pine Ridge;
Powell;
Rainsville;
Shiloh;
Sylvania;
Valley Head.

Appendix B. Steering Committee
DeKalb County
Natural Hazard Mitigation Plan
Steering Committee

Johnny Traffanstedt, Mayor
Town of Collinsville – (President of DeKalb County Mayor’s Association)

Matt Sharp, County Administrator
DeKalb County Commission

Anthony Clifton, Director
DeKalb County EMA

Daryl Lester, President
DeKalb County Association of Fire Departments

Mark Ford, Director
DeKalb Ambulance Service

Ben Luther, County Engineer
DeKalb County Commission

Tom Broyles, Superintendent
DeKalb County Road Department

Tim Williams, Director
City of Fort Payne Public Works

Randy Bynum, Chief of Police
City of Fort Payne Police Department

Charles Centers, Chief of Police
City of Rainsville Police Department

Felicia Knight, Director
DeKalb County Chapter – Salvation Army

Carrie Lea, President
DeKalb County Volunteer Organizations Active in Disaster

Katy Powers, President
DeKalb County Long Term Recovery Committee

Appendix C. Community and Public Involvement

Item 1. Questionnaire

Item 2. Informational Flyer and Public Survey

Item 3. Notice of Public Meeting

Item 4. Survey Monkey Results

Item 5. Agenda for Steering Committee Meeting of April 24, 2014

Item 6. Minutes for Steering Committee Meeting of April 24, 2014

Item 7. News Release of July 14, 2014 to inform public and other agencies

Item 8. Sign in Sheet for Stakeholder/Public Meeting of July 17, 2014

Item 9. Minutes for July 17, 2014 Stakeholder/Public Meeting

Item 10. Notice of Stakeholder Meeting for October 2, 2014.

Item 11. Agenda for of October 2, 2014.

DeKalb County Hazards Preparedness Questionnaire

The DeKalb County Emergency Management Agency is updating a planning process to identify, plan for and mitigate the risk and vulnerability to natural disasters in our community.

Essential to this process is the knowledge of our citizens regarding potential hazards and techniques to reduce risk and loss from hazards. Also important is the local information you may have about areas in DeKalb County that are vulnerable to one or more hazards.

The information you provide will aid the DeKalb County Natural Hazard Mitigation Plan Steering Committee in the coordination of preparedness and mitigation measures in DeKalb County.

Thank you for your time and participation in this important process.

HAZARD INFORMATION

1. In the past 10 years, have you or someone in your household experienced a natural disaster within DeKalb County such as flood, fire, or severe damage from a winter storm?

_____ Yes

_____ No (skip to Question 2)

If yes, which of these types of natural disasters have you or someone in your household experienced?

_____ Flood

_____ Wildfire

_____ Lightning

_____ Tornado

_____ Earthquake

_____ Hailstorm

_____ Winter Storm

_____ Drought

_____ Thunderstorm

2. How concerned are you personally about the following natural disasters impacting DeKalb County? All answers on scale of 1 to 5, five being highly concerned – one being not concerned.

_____ Flood

_____ Thunderstorm

_____ Wildfire

_____ Hailstorm

_____ Drought

_____ Lightning

_____ Tornado

_____ Landslide/debris flow

_____ Winter Storm

_____ Land subsidence (sinkholes)

_____ Earthquake

3. Do you consider yourself prepared for the probable impacts of a natural disaster?

Yes No

3.a. Please rate how prepared you and your household are for the impact of a natural disaster with 5 being the most prepared. _____

3.b. If yes, how have you prepared? (Check all that apply)

Emergency preparedness information from government sources (federal, state, local emergency management)

Experience. We have been through an event one or more times.

Locally provided news or media information

Have attended meetings that have dealt with disaster preparedness

I am a member of the Community Emergency Response Team (CERT)

Other: _____

4. What do you feel is the most effective way to receive information to make your family and home safer from natural disasters?

Printed Media:

Newspaper

Telephone book

Direct Mail

Information at Libraries

Information distributed through schools

Books

Television:

TV News

TV Ads

Radio:

Radio News

Radio Ads

Internet/E-Mail:

DeKalb County website

Links to Emergency Preparedness websites

Email notifications/newsletters

Public Forums:

Public Meetings

Neighborhood Association Meetings

Workshops

School-based public meetings

Chamber of Commerce/business meetings

Other Methods:

Outdoor advertisements (billboards)

Public Awareness Events (Flood awareness week)

Other: _____

5. Is your property located in a designated floodplain?

Yes

No

6. Do you have flood insurance?
 Yes No
7. If no, what is the primary reason you do not have flood insurance?
 Do not need it. My property has never flooded.
 My homeowners insurance policy will cover flooding.
 Not worth it
 Not familiar with it/I don't know about it
 Other: _____
8. Do you have earthquake insurance?
 Yes No
9. If no, what is the primary reason you do not have earthquake insurance?
 Too expensive
 In my opinion, risk of earthquake in DeKalb County does not warrant insurance
 Not available
 Deductibles too high
 Not familiar with it/I don't know about it
 Other: _____

HAZARD MITIGATION

The term mitigation means to make something less harsh or severe. Mitigation activities are actions you can take to protect your home and property from hazards such as flood and fire.

The purpose of the DeKalb County Natural Hazard Mitigation Plan is to list mitigation activities for those hazards most likely to occur in our community. The plan will aid DeKalb County and other responsible agencies to protect life and property from the impacts of future natural disasters.

The following questions will allow those preparing the County's plan determine the knowledge the County citizens have about mitigation activities to protect from natural disasters.

10. Did you consider the possible occurrence of natural hazards when you purchased or moved into your current home? Yes or No
11. Was the presence of hazard risk zones (i.e. Floodplain, proximity to railyard, etc.) on your property disclosed to you by your Real Estate agent when you purchased your home? Yes or No
12. Would you be willing to spend money on your current home to retrofit it from the impacts of future hazard events? (Examples of retrofits include bolting foundations and anchoring shelving

and utilities for earthquake protections, or installing a safe room for tornado protection) Yes or No

13. How much money would you be willing to spend to better protect your family and home from impacts of potential hazards?

- | | | |
|---|---|---|
| <input type="checkbox"/> \$5000 and above | <input type="checkbox"/> \$2500 to \$4999 | <input type="checkbox"/> \$1000 to \$2499 |
| <input type="checkbox"/> \$500 to \$999 | <input type="checkbox"/> \$100 to \$499 | <input type="checkbox"/> less than \$100 |
| <input type="checkbox"/> Nothing | <input type="checkbox"/> Don't know | <input type="checkbox"/> Other |

14. Which of the following incentives would motivate you to spend money to retrofit your home from the impacts of potential future natural disasters?

- | | |
|---|--|
| <input type="checkbox"/> Insurance Discount | <input type="checkbox"/> Building Permit (fee waiver or reduction) |
| <input type="checkbox"/> Mortgage Discount | <input type="checkbox"/> Property Tax break or incentive |
| <input type="checkbox"/> Low interest rate loan | <input type="checkbox"/> Grant funding that pays for portion of retrofit |
| <input type="checkbox"/> Other: _____ | |

Demographic Questions:

- Age: _____
Gender: _____
Level of Education: _____
ZIP Code: _____
Length of Residence: _____
Own or Rent: _____

Comments:

Will it happen again?

Since 1950 ...

- ... 43 winter storms;
- ... 161 hailstorms; and
- ... 50 tornadoes.

All these and others have occurred in DeKalb County since 1950. The tornadoes alone have accounted for over 200 injuries, 37 deaths and over \$25,000,000 in property damage. It is estimated that if those tornadoes occurred at today's level of development in DeKalb, damages are estimated to cost over \$70,000,000.



Unfortunately, yes. It will happen again. Hazards from natural forces are a part of life. But, there are things you and your community can do to make DeKalb County a more disaster resistant community. That's why the DeKalb County Emergency Management Agency, in cooperation with the Federal Emergency Management Agency and the Alabama Emergency Management Agency are working together to update the Natural Hazard Mitigation Plan for DeKalb County. The purpose of this effort is to develop strategies and actions that the community and its residents can take so that, when a natural disaster happens, there will be much less danger to people and much less damage to property.

HELP MAKE DEKALB COUNTY MORE DISASTER-RESISTANT. MAIL OR FAX THIS FORM OR SEND AN EMAIL MESSAGE TO:

DeKalb County Emergency Management Agency
 111 Grand Ave SW Suite 21
 Fort Payne, AL 35967
 Phone: 256-845-8569
 Fax: 256-845-8790
 Email: tpeek@dekalbcountyal.us

WE'D LIKE TO HEAR FROM YOU!

What natural hazards concern you?

- Drought
- Earthquake
- Flooding
- Hailstorm
- Sinkholes
- Winter Storms
- Tornadoes
- Wildfire

What do you think should be done?

- Protect private property
- Protect fire stations, etc.
- Prevent hazardous development
- Enhance natural areas
- Protect historical landmarks
- Promote cooperation
- Protect utilities
- Strengthen emergency services

Other suggestions or comments:

Name: _____
 Phone: _____

HAZARD MITIGATION PLAN

Public Meetings

*Help us identify Natural Hazards to Your Community...
Make Sure Your Neighborhood is Eligible for Grant Funding...*

DeKalb County and participating jurisdictions are updating our Hazard Mitigation Plan. This plan is extremely important to your community because it can provide federal grant funds to mitigate any potential hazard problems that you help us identify.

In the past we have worked with the public to identify potential natural hazards. In this next phase we have the opportunity to decide on the most effective strategies to mitigate those potential hazards. Your participation will help shape and define the activities and projects that will greatly benefit your neighborhood, your community and your region.

Examples of mitigation projects that may be funded using FEMA Hazard Mitigation Assistance funds include retrofitting or strengthening a major public building to protect it from seismic damage or elevating a structure to reduce the likelihood of flooding. Other activities, such as adopting a building code or developing a public information program, may be equally effective without requiring FEMA funding.

Please plan to participate in one of our public meetings. Your participation will allow us build a strong foundation to protect you and your community.

HAZARD MITIGATION PLAN SURVEY

To begin the hazard identification process, we request that you complete a brief survey. This will help us learn more about your community. The survey is at:

<https://www.surveymonkey.com/s/BFBTC0H>

PUBLIC MEETING SCHEDULE

JULY 24, 2014 : 2pm

DeKalb County Activities Building
111 Grand Ave SW, Fort Payne, AL

OCTOBER 2, 2014 : 2pm

DeKalb County Activities Building
111 Grand Ave SW, Fort Payne, AL

Survey Monkey Results – Community Questionnaire

Question 1: In the past ten years, have you or someone in your household experienced a natural disaster within DeKalb County such as flood, fire, or severe damage from a winter storm?

Answered: 49 Skipped: 2
 77.55% Yes
 22.45% No

Question 2: If yes, which of these types of natural disasters have you or someone in your household experienced? (Check all that apply)

Answered: 49 Skipped: 2
 6.12% Flood
 75.51% Tornado
 55.10% Winter Storm
 6.12% Wildfire
 22.45% Earthquake
 16.33% Drought
 28.57% Lightning
 44.90% Hailstorm
 53.06% Thunderstorm

Question #3: Evaluate the following statements. How concerned are you personally about the following natural disasters impacting DeKalb County? Rank each listing using a scale of 1 to 5, five being extremely concerned and one being not concerned.

Answered: 49 Skipped: 2

	Not Concerned	Lightly Concerned	Moderately Concerned	Highly Concerned	Extremely Concerned
Flood	56.41%	23.08%	12.82%	5.13%	2.56%
Wildfire	7.69%	28.21%	46.15%	15.38%	2.56%
Drought	2.70%	32.43%	37.84%	21.62%	5.41%
Tornado	0.00%	0.00%	2.17%	32.61%	65.22%
Winter Storm	0.00%	11.90%	28.57%	33.33%	26.19%
Earthquake	13.51%	32.43%	16.22%	27.03%	10.81%
Thunderstorm	5.26%	21.05%	28.95%	23.68%	21.05%
Hailstorm	8.11%	27.03%	29.73%	16.22%	18.92%
Lightning	5.56%	16.67%	22.22%	30.56%	25.00%
Landslide/debris flow	57.89%	23.68%	10.53%	7.89%	0.00%
Land Subsidence	25.64%	38.46%	12.82%	20.51%	2.56%

Question #4: Please rate how prepared you and your household are for the impact of a natural disaster with 5 being the most prepared.

Answered: 49 Skipped: 2
 8.16% rated 1
 14.29% rated 2
 48.98% rated 3
 18.37% rated 4
 10.20% rated 5

Question 5: If you answered yes to question 3, how have you prepared for disasters? (Select all that apply)

Answered: 35 Skipped: 16
 25 Responses for: Using emergency preparedness information from government sources (FEMA, DHS, EMA)
 25 Responses for: Experience! We have been through an event one or more times.
 24 Responses for: Locally provided news or media information
 11 Responses for: Have attended meetings that have dealt with disaster preparedness
 8 Responses for: I am a member of the Community Emergency Response Team (CERT)

Question 6: What do you feel is the most effective way to receive information to make your family and home safer from natural disasters?

Answered: 35 Skipped: 16

	Strongly Disagree	Disagree	Agree	Strongly Agree
Newspaper	20.00%	20.00%	52.00%	8.00%
Telephone Book	37.93%	27.59%	31.03%	3.45%
Direct Mail	25.00%	20.83%	41.67%	12.50%
Information at Libraries	17.39%	30.43%	43.48%	8.70%
Information distributed through schools	8.33%	16.67%	54.17%	20.83%
Books	12.50%	16.67%	58.33%	12.50%
TV News	0.00%	3.57%	42.86%	53.57%
TV Ads	8.33%	4.17%	54.17%	33.33%
Radio News	4.00%	8.00%	52.00%	36.00%
Radio Ads	4.17%	12.50%	45.83%	37.50%
DeKalb County Website (Facebook, Twitter, etc)	0.00%	3.45%	31.03%	65.52%
Links to Emergency Preparedness websites	3.57%	0.00%	50.00%	46.43%
Email notifications / newsletters	3.85%	3.85%	38.46%	53.85%
Public Meetings	4.17%	20.83%	45.83%	29.17%
Neighborhood Association Meetings	4.35%	30.43%	43.48%	21.74%
Workshops	4.17%	20.83%	50.00%	25.00%
School-based Public Meetings	4.35%	34.78%	34.78%	26.09%
Chamber of Commerce / Business Meetings	4.35%	43.48%	39.13%	13.04%
Outdoor Advertisements / Billboards	4.35%	26.09%	60.87%	8.70%
Public Awareness Events (Flood Awareness Week, Severe Weather Awareness Week)	4.17%	16.67%	45.83%	33.33%

Question 7: Would you be willing to spend money on your current home to retrofit it from the impacts of future hazard events?

Answered: 35 Skipped: 16

82.86% Yes

17.14% No

Question #8: How much money would you be willing to spend to better protect your family and home from the impacts of potential hazards?

Answered: 35 Skipped: 16

25.71% \$5000 and above

8.57% \$2500 to \$4999

22.86% \$1000 to \$2499

8.57% \$500 to \$999

8.57% \$100 to \$499

0.00% less than \$100

17.14% Nothing

8.57% Other/not applicable

Question #9: Which of the following incentives would motivate you to spend money to retrofit your home from the impacts of potential future national disasters?

Answered: 35 Skipped: 16

80.00% Insurance Discounts

28.57% Mortgage Discount

34.29% Low interest rate loan

8.57% Building permit

68.57% Property tax break or incentive

68.57% Grant funding that pays for portion of retrofit

2.86% Other/not applicable

**DeKalb County Emergency Management Agency
Natural Hazard Mitigation Plan
Steering Committee
April 24, 2014
Agenda**

1. Welcome
2. Community Questionnaire
3. Critical Facilities Survey
4. Hazard Profile and Assessment Review
5. Quarterly Reports
6. Public Meetings Flyer
7. Steering Committee Members
8. Review of Old Projects for Implementation

Next Meeting: July 24, 2014 at 2pm DeKalb County Commission Chambers

DeKalb County Emergency Management Agency
Natural Hazard Mitigation Plan
Steering Committee
April 24, 2014
Minutes

Members present: Ben Luther, Felicia Knight, Kate McCullough, Bobby Ridgeway, Tiffany Peek

1. An introduction to the Natural Hazard Mitigation Plan as well as the requirement of hosting several Steering Committee meetings throughout the year.
2. The Community Questionnaire will be emailed to the mayors/town clerks and Tier II companies.
3. Electrical will be added to the Critical Facilities Survey, per Ben Luther's observations. The survey will be emailed to the electric companies in DeKalb County in addition to the mayors/town clerks and Tier II.
4. Tiffany will email Felicia Knight the NHMP to be reviewed.
5. The Quarterly Reports will become part of the EOC activation and added to the EOP update. Recommendation by Bobby Ridgeway.
6. The public meetings flyer will be distributed in places residents frequent, i.e., Lowe's, Town Halls, Libraries, etc.
7. Decision made by committee to include a representative from Northeast Alabama Community College, VOAD, public health, superintendent of schools. Decision made to remove the Red Cross from steering committee due to lack of local chapter.
8. In reviewing the Old Projects of Implementation, it was decided to add a planning officer, per objective 4.1a.

Next Meeting July 24, 2014 at 2pm in DeKalb County Commission Chambers

NEWS RELEASE

(Released to Fort Payne Times Journal and Mountain Valley News)

For Immediate Release: Monday, July 14, 2014

DeKalb County Emergency Management Agency to review Natural Hazard Mitigation Plan

Fort Payne, AL. The DeKalb County Emergency Management Agency is in the process of developing a plan for dealing with natural hazards before a disaster strikes. The purpose of such a plan, called a “Natural Hazard Mitigation Plan” is to make DeKalb County more resistant to natural disasters, such as floods, tornadoes, even earthquakes, by taking steps to reduce risk to life and property from such hazards. As an example of the risk involved, preliminary research indicates that there have been at least 56 tornadoes in DeKalb County over the past half century resulting in 142 injuries, 37 deaths and over \$25 million in damages.

The EMA is seeking public opinion on this subject and will be holding a public open house for this purpose at 2:00pm on Thursday, July 17, 2014. The meeting will be held at the DeKalb County Activities Building at 111 Grand Ave SW in Fort Payne. A questionnaire will be available for people who would like to provide comments.

The DeKalb County EMA is being supported in this effort by the Alabama Emergency Management Agency. People who would like to obtain a questionnaire or would just like to make a statement about their concerns or ideas regarding how to deal with natural hazards are invited to contact Tiffany Peek at DeKalb County EMA by calling 256-845-8569 or sending an email message to tpeek@dekalbcountyal.us.

Contact: Tiffany Peek, Planning Officer, DeKalb County EMA, 256-845-8569

Natural Hazard Mitigation Plan
Minutes
July 17, 2014

Members present were given a handout including all the updates to the Natural Hazard Mitigation Plan and encouraged to look them over.

1. Community surveys have been advertised on flyers, survey monkey, and during special events.
2. Emails have been sent to towns/cities to complete the questionnaires and critical facilities survey. Those that have not returned their information are receiving visits to complete in person. This information is needed to be eligible for mitigation funds.
3. The Preparedness Fair on Sept 13, 2014 will be a VOAD exercise in opening a Disaster Resource Center. Will use to give information to citizens and gain volunteers as well as use for a fundraiser for VOAD. Need to invite vendors to set up booth and have products/information available for public. Vendors will be asked to make a donation to VOAD.
4. DeKalb County has received 6 donated weather sirens. Three from Etowah County and three from Calhoun County. Potential places for siren placement: Cartersville, Powell, Geraldine, Aroney, Little River Canyon. Locations for sirens have not yet been determined.

Next meeting will be approval and acceptance of the updated Natural Hazard Mitigation Plan.

Meeting adjourned.

Next meeting: Oct 2, 2014 at 2pm located in the Commission Chambers, Activities Building, 111 Grand Ave SW, Fort Payne.

Michael Posey

From: Michael Posey <mposey@dekalbcountyga.us>
Sent: Monday, September 29, 2014 11:07 AM
To: DeKalb County Administrator; 'aclifton@dekalbcountyga.us'; Daryle Lester; 'Mark Ford'; Ben Luther; 'DC RD Tom Broyles'; FPPD Randy Bynum; 'chiefcenters@farmerstel.com'; Felicia_Knight@uss.salvationarmy.org; 'carrielea@farmerstel.com'; Katy Powers; Barbara Tilley; Brandi Clayton; Debbie Steepleton; Debra Maddox; Hammondville; Kim Cleveland; Larry Chesser; Nick Jones; Peggy Wright; Pine Ridge Chief; Stephanie Bryan; Susie Wilbourn; Sylvania; Valley Head; Wilma Fletcher
Subject: Final Review of Natural Hazard Mitigation Plan Meeting
Attachments: Hazard Mitigation Plan Update 2014.docx

Greetings Stakeholders:

The final review of the Natural Hazard Mitigation Plan is scheduled for this Thursday, October 2, 2014 at 2:00pm located in the Activities Building, Commission Chambers, 111 Grand Ave SW, Fort Payne. The plan is attached for you to review prior to the meeting. If you have any suggestions, please feel free to discuss them at this meeting. After the final review on Oct. 2nd, this Plan will be submitted to the State for further review. Thank you for your cooperation and assistance in the updating of this Plan.

Thank you,

EMA

256-845-8569

ema@dekalbcountyga.us

DeKalb County Emergency Management Agency
Natural Hazard Mitigation Plan
October 2, 2014

1. Welcome

2. Review of 2015 Natural Hazard Mitigation Plan Update

3. Comments

Appendix D. Critical Facilities Inventory

Community	Name of Facility	Owner	Primary Purpose	Facility Needs
Collinsville	Collinsville School	DeKalb Co. BOE	Education	
	DeKalb Ambulance Service	DeKalb Hospital Association	Ambulance Service Operations	
	Collinsville Town Hall/Police Department	Town of Collinsville	Government/police/dispatch	Mobile communication center
	Collinsville Water and Sewer	Town of Collinsville		Generators
	Collinsville Volunteer Fire Dept.	Town of Collinsville	Fire Operations	Generator
	Collinsville Community Center	Town of Collinsville	Place of assembly	Generator, Cots, First Aid Kits
	Collinsville Health Care & Rehab	James Coker	Long-term care facility/rehab	Contact owner 256-524-2117
	TVA Substation	Tennessee Valley Authority	Power Substation	865-632-2101
	Sand Mountain Electric Substation	Sand Mountain Electric Coop	Power Substation	256-659-2153
	TDS Substation	TDS Telecom	Telephone Service Substation	256-927-4444
DC Gas Koch's	DeKalb Cherokee Gas	Chicken Processing Facility	256-524-2147	
Crossville	Crossville School	DeKalb Co. BOE	Education	
	Crossville Town Hall/Police Department	Town of Crossville	Government/police operations	
	Crossville Wastewater	Town of Crossville		Generator
	Crossville Volunteer Fire Dept.	Town of Crossville	Fire Operations	Generator
Fort Payne	Fort Payne Water Treatment Plant	Fort Payne Water Board	Potable Water Treatment	Generator
	Northeast Alabama Water	Northeast Water, Sewer, & Fire Protection	Potable Water Treatment	
	Northeast Alabama Water	Northeast Water, Sewer, & Fire Protection	Potable Water Treatment	
	Fort Payne Middle School	Fort Payne BOE	Education	
	Williams Ave Elementary	Fort Payne BOE	Education	
	Wills Valley Elementary	Fort Payne BOE	Education	
	DeKalb Ambulance Service	DeKalb Hospital Association	Ambulance Service Operations	
	Fort Payne City Hall	City of Fort Payne	Municipal Government	
	Fort Payne Police Department	City of Fort Payne	Police Operations/dispatch	
	Fort Payne Wastewater	City of Fort Payne		Generator
	Isbell Field	City of Fort Payne	Air Transportation	
	Fort Payne Public Works	City of Fort Payne	Public Works/Fuel Storage	
	Fort Payne Fire Department	City of Fort Payne	Fire Operations	
	Fort Payne Fire Department #2	City of Fort Payne	Fire Operations	
	Fort Payne Fire Department #3	City of Fort Payne	Fire Operations	
Fort Payne Fire Department #4	City of Fort Payne	Fire Operations		
Fort Payne Fire Department #5	Fischer Rescue Squad	Rescue/Fire Operations		
Fyffe	Fyffe School	DeKalb County BOE	Education	
	Fyffe Town Hall/Police & Fire Department	Town of Fyffe	Municipal government/police operations/fire	Generator
	Fyffe Senior Center	Town of Fyffe	Place of assembly	
Geraldine	Geraldine High School	DeKalb County BOE	Education	
	DeKalb Ambulance Service	DeKalb Hospital Association	Ambulance Service Operations	
	Geraldine Town Hall/Police Department	Town of Geraldine	Government/police operations	
	Geraldine Volunteer Fire Dept.	Town of Geraldine	Fire Operations	Generator

Community	Name of Facility	Owner	Primary Purpose	Facility Needs
Hammondville	DeKalb Ambulance Service	DeKalb Hospital Association	Ambulance Service Operations	
	Hammondville Town Hall/Police Department	Town of Hammondville	Government/police operations	
	Hammondville Volunteer Fire Department	Town of Hammondville	Fire Operations	Generator
Henagar	Henagar Elementary	DeKalb County BOE	Education	
	Henagar City Hall	City of Henagar	Municipal Government	
	Henagar Police Department	City of Henagar	Police operations/dispatch	
	Henagar Wastewater	City of Henagar		
	Henagar Volunteer Fire Dept.	City of Henagar	Fire Operations	
	Robert Hadden Memorial Library	City of Henagar	Library	
	City of Henagar Street Building	City of Henagar	Storage & Repair Street Equip.	
	Henagar Community Center	City of Henagar	Place of assembly	
Ider	Ider High School	DeKalb County BOE	Education	
	DeKalb Ambulance Service	DeKalb Hospital Association	Ambulance Service Operations	
	Ider Town Hall/Police Dept.	Town of Ider	Government/police operations	
	Ider Wastewater Treatment	Town of Ider	Wastewater treatment	
	Ider Volunteer Fire Dept.	Town of Ider	Fire Operations	
	Ider Rescue Squad	Town of Ider	Rescue Operations	
Lakeview	Lakeview Town Hall	Town of Lakeview	Government	
Mentone	Moon Lake School	DeKalb County BOE	Education	
	Mentone Town Hall/Police Department	Town of Mentone	Government/Police Operations	
	Mentone Volunteer Fire Dept.	North Lookout Mountain Fire Protection District	Fire Operations	
Pine Ridge	Pine Ridge Volunteer Fire Dept.	Pine Ridge Fire Protection Dis.	Fire Operations	
	Pine Ridge Town Hall	Town of Pine Ridge	Government	
	Pine Ridge Community Center	Pine Ridge Fire Department	Place of assembly	
Powell	Powell Town Hall/Police Dept.	Town of Powell	Government/Police Operations	Generator
	Powell Volunteer Fire Dept.	Town of Powell	Fire Operations	Cots & Blankets
Rainsville	Plainview High School	DeKalb County BOE	Education	
	DeKalb Ambulance Service	DeKalb Hospital Association	Ambulance Service Operations	
	NE AL Agri-Business Center	DeKalb County	Arena/Multi-use Facility	
	Rainsville City Hall	City of Rainsville	Government	
	Rainsville Police Department	City of Rainsville	Police Operations/dispatch	
	Rainsville Wastewater	City of Rainsville		
	Rainsville Fire Department	City of Rainsville	Fire Operations	
Shiloh	Shiloh Town Hall/Fire Dept.	Town of Shiloh	Government/Fire Operations	
Sylvania	Sylvania High School	DeKalb County BOE	Education	
	Sylvania Town Hall/Police Department	Town of Sylvania	Government/Police Operations	Generator
	Sylvania Fire Station #1	Town of Sylvania	Fire Station to house fire equip.	Generator
	Sylvania Fire Station #2	Town of Sylvania	Fire Operations	
	Sylvania Sewer Pump Station #1	Town of Sylvania	Collect raw sewage, pump to Rainsville Treatment Plant	Generator
	Sylvania Sewer Pump Station #2	Town of Sylvania	Collect raw sewage, pump to Rainsville Treatment Plant	Generator
	Sylvania Sewer Pump Station #3	Town of Sylvania	Collect raw sewage, pump to Rainsville Treatment Plant	Generator
	Sylvania Sewer Pump Station #4	Town of Sylvania	Collect raw sewage, pump to Rainsville Treatment Plant	Generator

Community	Name of Facility	Owner	Primary Purpose	Facility Needs
Valley Head	Valley Head Water Plant	Valley Head Water Board	Potable Water Treatment	
	Valley Head School	DeKalb County BOE	Education	
	Valley Head Town Hall/Police Department	Town of Valley Head	Government/Police Operations	
	Valley Head Volunteer Fire Department	Town of Valley Head	Fire Operations	Generator
DeKalb County	DeKalb County Schools Coliseum	DeKalb County BOE	Shelter/Distribution	
	Ruhama School	DeKalb County BOE	Education	
	DeKalb County Sheriff's Office	DeKalb County Commission	Sherriff operations/communications/jail	
	DeKalb Activities Building	DeKalb County Commission	Government Operations	
	DeKalb County Courthouse	DeKalb County Commission	Judicial	
	DeKalb County Road Dept.	DeKalb County Commission	Public Works Operations	
	DeKalb County Senior Center	DeKalb County Commission	Place of assembly/DRC/Shelter	
	Alabama Hwy 35			
	Alabama Hwy 40			
	Alabama Hwy 68			
	Alabama Hwy 75			
	Alabama Hwy 117			
	Interstate 59			
	US Hwy 11			
	Norfolk Southern Railway			
	DeKalb County VFW Fairgrounds	DeKalb County Chapter VFW	Fairgrounds	
	DeKalb Regional Medical Center	Community Health Systems	Hospital/Emergency Dept.	
	Adamsburg Volunteer Fire Dept	Adamsburg Fire Protection Dis	Fire Operations	
	Aroney Volunteer Fire Dept. Station #1	Aroney Fire Protection District	Fire Operations	
	Aroney Volunteer Fire Dept. Station #2	Aroney Fire Protection District	Fire Operations	
	Blake Volunteer Fire Dept.	Blake Fire Protection District	Fire Operations	
	Cartersville Volunteer Fire Dept.	Cartersville Fire Protection Authority	Fire Operations	
	Dogtown Volunteer Fire Dept.	Dogtown Fire Protection Dis.	Fire Operations	
	Grove Oak Volunteer Fire Dept.	Grove Oak Fire Protection Authority	Fire Operations	
	Hendrixville Volunteer Fire Dept.	Hendrixville Fire Protection District	Fire Operations	
	Kilpatrick Volunteer Fire Dept.	Kilpatrick Fire Protection Dis.	Fire Operations	
	Mentone Volunteer Fire Dept. Station #2	North Lookout Mountain Fire Protection District	Fire Operations	
	Mt. Vera Volunteer Fire Dept.	Mt. Vera Fire Protection Dis.	Fire Operations	
	Peak's Corner Volunteer Fire Dept.	Peak's Corner Fire Protection District	Fire Operations	
	Tenbroeck Volunteer Fire Dept.	Tenbroeck Fire Protection Authority	Fire Operations	

Appendix E. Selected Resources

2010 Natural Hazard Mitigation Plan for DeKalb County, AL

2010 US Census Bureau

Alabama Commission on Higher Education

American Community Survey, 2007-2011 5-year estimates

Alabama Department of Labor

DeKalb County Economic Development Authority

DeKalb County Revenue Commission Office

Federal Emergency Management Agency website (www.fema.gov)

National Climatic Data Center (NCDC) (<http://www.ncdc.noaa.gov/stormevents/>)

National Weather Service

The University of Alabama, Center for Business and Economic Research

Tornado Recovery Action Council Report (http://ema.alabama.gov/filelibrary/TRAC_Report.pdf)

Appendix F. Update Summary

In the course of the updating the plan from the 2010 Plan to the 2015 Plan, a number of changes and updates were made. The following is a summary of those changes.

The section in “Part 1 The Planning Process / Participation in the Process” was revised to describe the implementation of the process as it played out in the 2015 Plan as distinct from the 2010 Plan.

The section in “Part 2 Area Profile / Municipalities” was revised to update population data.

The section in “Part 2 Area Profile / Housing” was revised to update housing data.

The section in “Part 2 Area Profile / Economy” contains a major revision to include new and updated demographic and economic information.

The section in “Part 3 Risk Assessment / Generally” was revised to update Federal Disaster Declarations. 1. Federal disaster declarations in DeKalb County since 1999 – Table.

Each Profile and Assessment by Hazard in “Part 3 Risk Assessment” was revised to improve and update the examination of occurrences and trends, probability, vulnerability and projections forward from 2010 to 2015 where appropriate. Also, new and updated mapping of hazard events was included for those hazards where appropriate.

The section in “Part 4 Mitigation Strategy / Introduction” was revised to include more information from the surveys and questionnaires.

The Actions for Implementation were revised to reflect the wishes and desires of the participants in the 2010 Plan.

“Part 5 Implementation and Plan Maintenance” was intentionally not revised.

Appendix G. Review of Action for Implementation

1.1 Community Development Planning. Promote community planning and community development practices that have the effect of reducing exposure to the risks of natural hazards.

- a) Perform a land use study that will include a more comprehensive inventory of commercial and industrial land types and uses.

Action taken: Ongoing

Comments: Partially complete for the Little River watershed, ongoing for other communities. ***Dependent on funding availability***

- b) Develop guidelines that can be used for the purpose of community growth and development plans that incorporate hazard mitigation considerations.

Action taken: Ongoing

Comments: Development of community specific plans that incorporate smart objectives to efficiently address hazard mitigation issues to involve the whole community.

- ~~e) Continue the process of developing this Plan by enhancing the risk assessment, impact and accompanying conclusions regarding drought, flooding, winter storms, and landslides and thunderstorm hazards.~~

~~Action taken: Completed~~

~~Comments: Also, have reworked and updated the EOP.~~

1.2 Land Development and Building Regulations. Promote the effective, yet minimal use of land protection of property from weather hazards.

- a) Review and consider the development and/or implementation of building regulations that aid in the protection of property from weather hazards.

Action taken: Ongoing

Comments: Fort Payne has reviewed steep slope regulations; the county has new subdivision regulations but does not have building regulations.

- ~~b) Develop guidelines that can be used in the review of building and development regulations including subdivision regulations, to determine their effectiveness in mitigating against the risk from natural hazards.~~

~~Action taken: Completed~~

1.3 Land Redevelopment. Promote land redevelopment activities that reduce the risk of natural hazards in hazard-prone areas.

- ~~a) Review and revise subdivision regulations countywide with the intent of better mitigating against the risk from natural hazards, specifically with regard to flooding and landslides.~~

~~Action taken: Completed~~

- ~~b) Develop regulations for development on hillsides and steep slopes to aid in the reduction of storm water runoff and landslides.~~

~~Action taken: Completed~~

~~Comments: Completed and denied.~~

- c) Develop guidelines for the use of easements to protect private property from site-specific natural hazards.

Action taken: Ongoing

Comment: Development of community specific plans that incorporate smart objectives to efficiently address hazard mitigation issues to involve the whole community and protect private property where possible.

- d) Develop and implement storm water management regulations to improve the efficiency of flood protection and drainage facilities.

Action taken: In process

1.4 Natural Areas. Recognize and take advantage of natural areas, particularly creeks and streams, where their preservation or effective use has the effect of reducing the risk of natural hazards.

- ~~a) Perform further study to ascertain the potential vulnerability of the area, particularly water supply wells, from drought.~~

~~Action taken: Completed~~

- b) Use floodplain development regulations to protect property from flooding and to protect the efficiency of the floodplain in the dissipation of floodwaters.

Action taken: In process

Comments: Better maintenance procedures in place

- c) Explore opportunities for open space reservation in conjunction with hazard mitigation objectives.

Action taken: Ongoing

- ~~d) Develop and implement sedimentation and erosion regulations to reduce the damaging effects of situation on flood protection and drainage facilities.~~

~~Action taken: Completed~~

- ~~e) Contact the US Army Corp of Engineers for advice in the development of stream dumping regulations.~~

~~Action taken: Completed~~

~~Comments: Developed relationship with ADEM to closely monitor spills and stream dumping.~~

2.1 Protect Property. Develop a program of structural improvements, particularly to drainage ways, that will have the effect of protecting property from natural hazards.

- a) Use subdivision regulations for the regulation of the development of manufactured housing parks to make them more resistant to natural hazards.

Action taken: In process

- ~~b) Identify and request funding for the acquisition and/or relocation of properties that are and have been the subject of frequent and continuing flooding.~~

~~Action taken: Completed~~

~~Comments: Identified the Church of God property in Fort Payne which has been mitigated.~~

2.2 Protect Critical Facilities. Take positive and direct action to protect those facilities and access routes that are critical in the response to natural disasters.

- a) Work with local utility companies to perform a utility study that will include a more comprehensive inventory and vulnerability assessment that will be applicable to the needs and concerns of both the community and the service providers.

Action taken: Ongoing

- b) Establish a bridge replacement program for the 12 to 15 old wooden bridges that are subject to flooding.

Action taken: In process

Comments: There are three bridges left to have all of them replaced. No current funding available for this project.

- c) Acquire backup power supply for the Northeast Water potable water treatment plant.
Action taken: Completed
- d) Acquire backup power supplies for key wastewater pumping stations.
Action taken: In process
Comments: The issue has been addressed with a temporary solution; however, there is still a need for site specific generators.
- ~~e) Improve the access to the Hospital in Fort Payne in order to eliminate flooding of the access road.
Action taken: ~~Completed~~
Comments: ~~The creek was widened to accommodate better storm water flow.~~~~
- ~~d) Perform examinations to further determine the extent of the flooding problem at:
Valley Head School;
Valley Head Town Hall; and
Rainsville Fire Department;

Action taken: ~~Completed~~~~
- ~~e) Take action to correct the flooding problem at Collinsville School.
Action taken: ~~Deleted~~
Comments: ~~This was determined to not be a problem.~~~~
- ~~f) Examine a strategy to improve ingress and egress at the Pine Ridge Fire Station in the event of ice storms.
Action taken: ~~Completed~~
Comments: ~~This was determined to be not possible.~~~~
- g) Develop a program and request funding for the placement of sand bins and a storage facility to protect critical mountain roads in the event of winter storms.
Action taken: In process
Comments: Need storage bins or containers for sand / slag positioned at strategic locations throughout DeKalb County to be used to protect or improve critical access routes on both Sand Mountain and Lookout Mountain.

2.3 Provide Shelter. Provide strategically located shelters for those events where property protection activities will be insufficient to protect life.

- a) Develop a program for the provision of storm shelter or other storm protection at schools.
Action taken: Ongoing
Comments: One shelter has been built. Goal is to have two more shelters in place by 2020. A total of 13 shelters or storm protection areas are still needed.
- b) Consider the development of a program for the provision of storm shelters at dense and vulnerable residential establishments such as apartments and mobile home parks.
Action taken: In process

Comment: ****Dependent upon funding availability****
- c) Develop a program for the provision of community storm shelters.
Action taken: In process

Comment: ****Dependent upon funding availability****

2.4 Expand Warning Systems. Expand the early warning systems to those areas of the county that are not now served.

- a) Develop a program to assure the provision of weather sirens or radios at all schools.
Action taken: Ongoing
Comments: Two schools have received sirens since the last update. Goal is to have a siren at Geraldine school by 2020. Sirens have been applied for the remaining schools.
- b) Develop a program for the provision of weather radios in homes and school.
Action taken: In process

Comment: ****Dependent upon funding availability****
- ~~e) Identify and request funding to replace towers, which are structurally deteriorated, at transmitter sites to maintain radio transmission for warning siren activation.
Action taken: Deleted
Comments: Towers did not need replacing~~

3.1 Public Information and Awareness. Expand the public information program to increase the awareness of the general public regarding natural hazard mitigation.

- a) Enhance web site access and information for general public use regarding hazard mitigation.
Action taken: Ongoing
Comments: Social media and other websites are continuously updated and monitor by a Virtual Operations Support Team (VOST). Additionally, the county has implemented a mass notification system called “Alert DeKalb. This is a continual process and will be in a constant state of change.
- b) Develop a hazard mitigation information center that can be stationed at high traffic areas such as shopping centers, public parks, or special events where people tend to congregate.
Action taken: Revised
Comments: Regularly attend and set up booth at public events, such as the VFW fair.

3.2 Targeted Information. Provide information to promote awareness to access and functional needs communities which are at higher risk to specific natural hazards.

- a) Prepare hazard mitigation information to be distributed to hospitals, nursing homes, clinics, etc.
Action taken: Ongoing
Comments: In particular, have worked with summer camps to have evacuation and mitigation plans.
- b) Prepare and distribute information regarding best management practices regarding hazard mitigation in forest and vegetation management.
Action taken: Deferred to DeKalb County Volunteer Fire Association

4.1 Maintain Central Oversight. Use the resources and services of the DeKalb County Emergency Management Agency to provide central and continuing oversight to countywide natural hazard mitigation activities.

- ~~a) Assign a person at the DCEMA with the responsibility of periodically reviewing the activities contained in this Plan and for performing the annual review.~~

~~_____ Action taken: Completed~~

~~b) Update the permanently established expanded Natural Hazard Mitigation Committee as an arm of the DeKalb County EMA.~~

~~————— Action taken: ——— Completed~~

4.2 Develop Partnerships. Identify and develop partnerships with agencies and organizations that, although they might not have a major role to play in disaster response and recovery, can provide effective assistance in hazard mitigation activities.

a) Expand the list of stakeholders, particularly to include the business and academic sectors, to obtain their cooperation in the implementation of mitigation activities.

Action taken: Revised to be more specific

b) Develop continuing relationships with local, regional and state agencies that have roles in the hazard mitigation process.

Action taken: Revised to be more specific

4.3 Establish Coordinating Mechanism. Establish the DeKalb County Natural Hazard Mitigation Steering Committee as a coordinating mechanism for countywide mitigation activities.

~~a) Permanently establish an expanded Natural Hazard Mitigation Committee as an arm of the DCEMA and develop guidelines for the conduct of business.~~

~~————— Action taken: ——— Completed~~

4.4 Develop Funding Sources. Explore and catalog traditional and non-traditional sources of funding for natural hazard mitigation activities.

~~a) Develop a resource catalog to be used for identifying funding sources and assistance providers.~~

~~————— Action taken: ——— Completed~~

~~————— Comments: ——— Will be available for use by January 2015.~~

~~b) Explore non-traditional sources of both government and non-government grants and loans for mitigation activities.~~

~~————— Action taken: ——— Completed~~