



Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan

Augusta

Hamilton

Basco

La Harpe

Bowen

Nauvoo

Carthage

Plymouth

Dallas City

Pontoosuc

Elvaston

Warsaw

Ferris

West Point

March 2010

Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan

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March 2010

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PURPOSE STATEMENT

HANCOCK COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN TASK FORCE

The Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan identifies local hazard mitigation goals and objectives, and specific hazard mitigation actions to implement over the long term that will result in reduction in risk and potential for future losses associated with the occurrence of natural hazards.

The Task Force worked to reduce the impact of natural hazards on citizens, infrastructure, private property, and critical facilities through a combined effort of communities, institutions, and citizenry to develop a mitigation action plan that will be adopted and implemented by each participating community.

Natural Hazards Being Considered

Drought
Earthquake
Extreme Temperature
Flood
Flash Flooding
Severe Storm / Tornado
Severe Winter Storm

Jurisdictions Participating in NFIP

Hancock County
City of Dallas City
Village of Elvaston
City of Hamilton
City of La Harpe
City of Nauvoo
Village of Pontoosuc
City of Warsaw

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INTRODUCTION

Why a Mitigation Plan?

Communities look to protect the health, safety, and welfare of their citizens. Related to natural hazard events this has traditionally meant responding to the needs of the community after an event occurs. Mitigation looks to reduce the need for response by permanently removing people and structures from harms way when a known area of impact can be identified (such as a floodplain) or significantly reducing the impact from a known risk (such as a tornado). This Plan provides an assessment of the risks to Hancock County from natural hazard events and a comprehensive range of mitigation projects to lessen the impact of these hazards on our communities. With the availability of mitigation grant funding from the Federal Government, communities have the opportunity to implement mitigation projects that would not otherwise be financially possible. The preparation of this plan follows the guidelines to make participating communities eligible to apply for mitigation grant funding.

Community Participation in Plan Development

The criteria that would constitute satisfactory jurisdictional participation in the planning process were established at the first meeting of the Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force. Figure 1 shows the required participation elements established. All other communities met these requirements.

Figure 1: Participation Guidelines for Jurisdictions

<ul style="list-style-type: none">• Attend a minimum of 1 meeting
<ul style="list-style-type: none">• Submit a list of relevant community documents
<ul style="list-style-type: none">• Confirm hazards that affect the community
<ul style="list-style-type: none">• Confirm the list of critical facilities submitted by HAZUS
<ul style="list-style-type: none">• Develop goals and projects for the community
<ul style="list-style-type: none">• Develop and prioritize mitigation actions for the community
<ul style="list-style-type: none">• Host opportunities for public involvement
<ul style="list-style-type: none">• Review and comment on draft plan

HANCOCK COUNTY DEMOGRAPHIC OVERVIEW

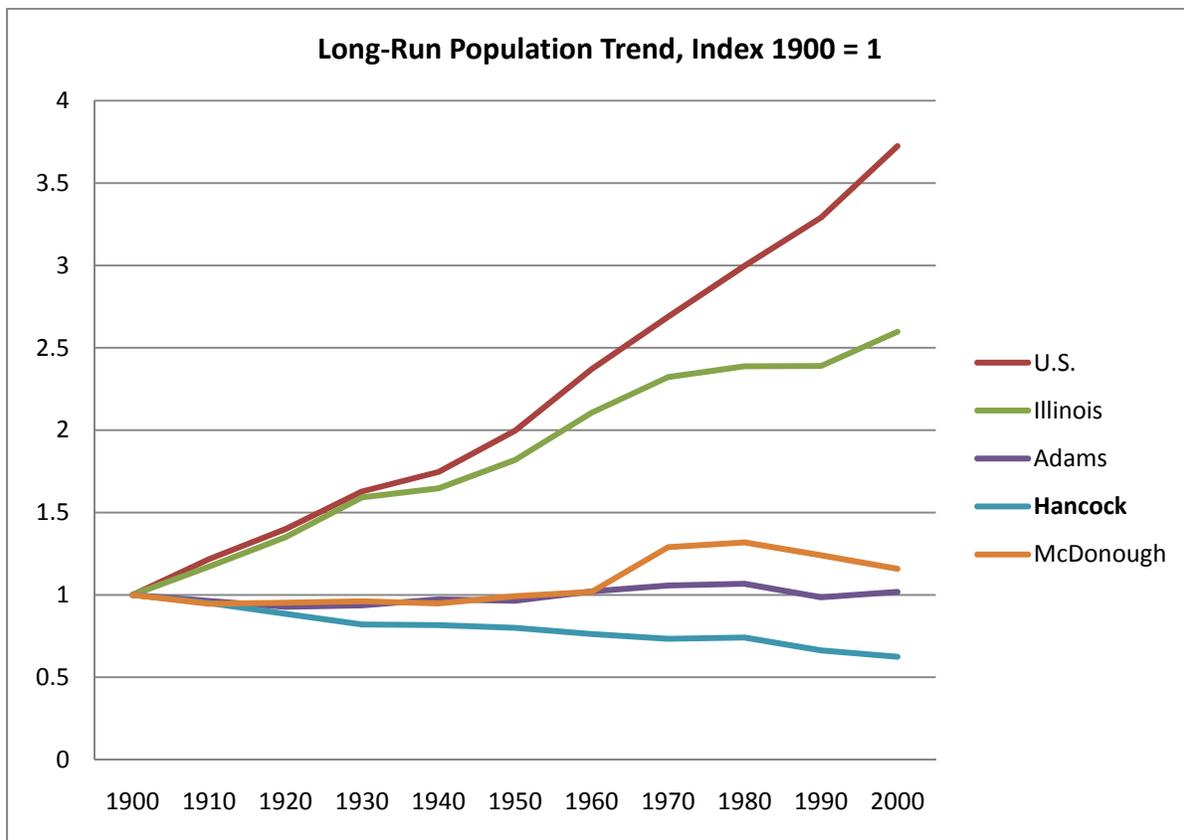
The following data is presented to provide an overview of Hancock County. All data are benchmarked against two near neighbors, Adams and McDonough counties, and when appropriate the State of Illinois and the nation.

POPULATION TRENDS

Long-Run Population Trend

The population in Hancock County has decreased every decade since 1900, with the exception of 1970 to 1980 which saw a slight increase. In 1900 the county had a population of 32,215 and by 2000 the county population had shrunk to 20,121, a decrease of 38 percent. In comparison, Hancock's two near neighbors Adams and McDonough counties saw slight increases in population over this time period (see figure).

Figure 2: Long-Run Population Trend

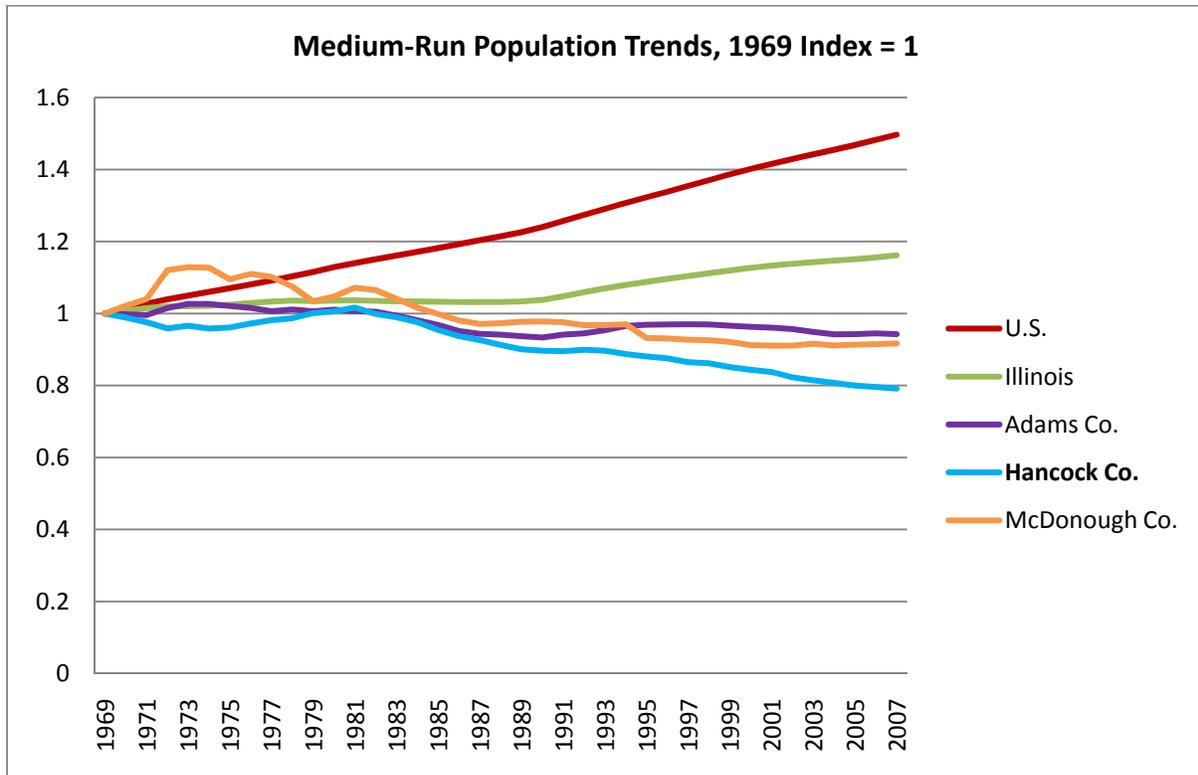


Source: U.S. Census Bureau Decennial Census 1900-2000

Medium-Run Population Trend

Population in Hancock County declined from 23,812 in 1969 to 18,845 in 2007, a loss of about 20 percent. The population trend over this time period was generally steady slow decline, although there was a small amount of growth in the 1970s. Similarly, Hancock’s nearest neighbors McDonough and Adams counties both also saw shrinking populations over the same time period, though the percentage of population lost was less in these two counties than in Hancock (see figure). Conversely both the State of Illinois and the nation grew in population over this time period.

Figure 3: Medium-Run Population Trend



Source: Bureau of Economic Analysis, Regional Employment Information System

Age of the Population

Hancock County has an older population than its two near neighbors, the state, and the nation. It is estimated that 21.4 percent of Hancock’s population is under the age of 18. This is the lowest percentage amongst all benchmark areas with the exception of McDonough County. Conversely, Hancock County has the highest percentage of persons over 65 years of age amongst all benchmark areas (see table).

Figure 4 : Population Under 18 and Over 65

	2008 Estimated Percentage of Population Under 18 and Over 65				
	U.S.	Illinois	Adams Co.	Hancock Co.	McDonough Co.
Under 18	24.42%	24.92%	22.50%	21.41%	15.98%
Over 65	12.71%	12.16%	17.47%	19.19%	13.95%

Source: Claritas 2008 Estimates

Racial Make-up of the Population

Hancock County’s population is predominantly white, and non-Hispanic. Whites comprise an estimated 98.1 percent of the population. Non-Hispanics of any race make up 99.4 percent of the total population. Hancock County is similar, but slightly less racially and ethnically diverse, than its two neighbors Adams and McDonough counties (see tables).

Figure 5: Population – Racial Make-up

2008 Estimated Racial Make-up					
	U.S.	Illinois	Adams Co.	Hancock Co.	McDonough Co.
White	72.72%	71.39%	94.14%	98.10%	89.62%
Black	12.43%	14.76%	3.46%	0.42%	4.72%
Other	14.85%	13.85%	2.40%	1.48%	5.66%

2008 Estimated Hispanic Population					
	U.S.	Illinois	Adams Co.	Hancock Co.	McDonough Co.
Hispanic or Latino	15.24%	15.13%	1.02%	0.64%	1.95%
Not Hispanic or Latino	84.76%	84.87%	98.98%	99.36%	98.05%

Source: Claritas 2008 Estimates

INCOME

Median Household and Per Capita Income

In 2000, the median household income in Hancock County was \$37,139. This was higher than Adams County which had a median income of \$34,844, but lower than McDonough County at \$37,542. The figures for the State of Illinois and the U.S. were \$47,013 and \$42,729 respectively. A more recent measure furnished by the Bureau of Economic Analysis tracks per capita income and paints a different picture. In 2007 the per capita income in Hancock County was \$28,743. This was lower than Adams County which had a per capita income of \$32,387 but higher than McDonough County at \$24,902.

Poverty Rate

In 2007, 10.8 percent of Hancock County’s population lived below the poverty line. The poverty rate amongst children under 18 was 15.7 percent. Hancock County compared favorably against all benchmark areas in both poverty measures (see table).

Figure 6: Poverty Status

2007 Estimated Poverty Status					
	U.S.	Illinois	Adams Co.	Hancock Co.	McDonough Co.
Population in Poverty	13.0%	11.9%	11.8%	10.8%	23.4%
Children in Poverty	18.0%	16.6%	16.1%	15.7%	21.8%

Source: U.S. Census Bureau, Small Area Income & Poverty Estimates

HOUSING AND HOUSEHOLDS

Household Types

Married couple families are the largest household type group in Hancock County. While this is also the largest group in all of the benchmark areas, a greater proportion of Hancock County households are married couples (see table).

Figure 7: Household Types

	2008 Estimated Households by Type and Presence of Own Children*									
	The United States		Illinois		Adams Co.		Hancock Co.		McDonough Co.	
Total Households	114,694,201		4,786,787		27,311		7,654		11,813	
Single Male Householder	13,067,150	11.39%	553,697	11.57%	3,210	11.75%	844	11.03%	1,625	13.76%
Single Female Householder	16,999,226	14.82%	735,190	15.36%	5,104	18.69%	1,265	16.53%	2,295	19.43%
Married-Couple Family	60,032,267	52.34%	2,496,554	52.16%	14,884	54.50%	4,520	59.05%	5,572	47.17%
With own children	27,564,656	24.03%	1,189,297	24.85%	6,323	23.15%	1,873	24.47%	2,142	18.13%
No own children	32,467,611	28.31%	1,307,257	27.31%	8,561	31.35%	2,647	34.58%	3,430	29.04%
Male Householder	4,690,889	4.09%	191,940	4.01%	806	2.95%	225	2.94%	342	2.90%
With own children	2,358,947	2.06%	87,622	1.83%	464	1.70%	138	1.80%	187	1.58%
No own children	2,331,942	2.03%	104,318	2.18%	342	1.25%	87	1.14%	155	1.31%
Female Householder	13,575,547	11.84%	567,244	11.85%	2,615	9.57%	573	7.49%	868	7.35%
With own children	7,988,457	6.97%	318,719	6.66%	1,672	6.12%	329	4.30%	541	4.58%
No own children	5,587,090	4.87%	248,525	5.19%	943	3.45%	244	3.19%	327	2.77%
Nonfamily: Male Householder	3,704,076	3.23%	143,153	2.99%	414	1.52%	155	2.03%	613	5.19%
Nonfamily: Female Householder	2,625,046	2.29%	99,009	2.07%	278	1.02%	72	0.94%	498	4.22%

Source: Claritas 2008 Estimates

*In contrast to Claritas Demographic Estimates, "smoothed" data items are Census 2000 tables made consistent with current year estimated and 5 year projected base counts.

Owner Occupancy Rates

Hancock County has a high rate of owner occupancy. In 2008, an estimated 80.6 percent of occupied housing units were owner occupied. This owner occupancy rate was higher than all benchmark areas (see table).

Figure 8: Occupancy Rates

2008 Owner vs Renter Occupancy Rates					
	U.S.	Illinois	Adams Co.	Hancock Co.	McDonough Co.
Owner Occupied	67.1%	68.2%	74.6%	80.6%	62.3%
Renter Occupied	32.9%	31.8%	25.5%	19.4%	37.7%

Source: Claritas 2008 Estimates

Housing Type

Detached single-family homes are the predominant housing type in Hancock County. In 2008, an estimated 83.2 percent of housing units in Hancock County were detached single family homes. Hancock County had a higher proportion of detached single family homes than all benchmark areas (see table).

Figure 9: Housing Units

2008 Estimated Housing Units by Units in Structure					
	U.S.	Illinois	Adams Co.	Hancock Co.	McDonough Co.
1 Unit Attached	5.5%	5.1%	2.8%	0.7%	2.5%
1 Unit Detached	60.8%	58.4%	72.8%	83.2%	67.8%
2 Units	4.0%	6.6%	5.4%	2.4%	3.4%
3 to 19 Units	13.1%	16.6%	8.9%	4.9%	11.6%
20 to 49 Units	3.3%	3.9%	0.6%	0.1%	1.5%
50 or More Units	5.2%	6.2%	1.5%	0.0%	5.5%
Mobile Home or Trailer	7.9%	3.2%	7.9%	8.6%	7.5%
Boat, RV, Van, etc.	0.3%	0.1%	0.2%	0.1%	0.1%

Source: Claritas 2008 Estimates

Age of Structures

The median year that a structure was built in Hancock County was 1956. The dominant year that structures in Hancock County were built was 1939 or earlier. Hancock County's building stock is older than all benchmark areas (see table).

Figure 10: Age of Structures - County

Median Year and Dominant Year Structures Built					
	U.S.	Illinois	Adams Co.	Hancock Co.	McDonough Co.
Median Year Built	1975	1966	1959	1956	1963
Dominant Year Built	1970 to 1979	1939 or Earlier	1939 or Earlier	1939 or Earlier	1939 or Earlier

Source: Claritas 2008 Estimates

SELECTED DATA FOR PARTICIPATING JURISDICTIONS

The following data covers selected demographics for jurisdictions in Hancock County which are participating in this mitigation plan.

Land Area and Population

Most of the villages and cities in Hancock County lost population between 2000 and 2008 according to Claritas estimates (see table).

Figure 11: Land Area and Population - Municipalities

Land Area and Population			
	Land Area (Sq Miles)	2000 Population*	2008 Population **
Augusta village	0.713	657	565
Basco village	0.227	107	108
Bowen village	0.431	535	494
Carthage city	1.605	2,725	2,466
Dallas City city	2.375	1,055	985
Elvaston village	0.797	152	162
Ferris village	1.957	168	177
Hamilton city	3.748	3,029	2,786
La Harpe city	1.355	1,385	1,204
Nauvoo city	3.382	1,063	942
Plymouth village	0.589	562	524
Pontoosuc village	1.409	171	159
Warsaw city	6.617	1,793	1,703
West Point village	0.168	195	181

* - 2000 population data is from the U.S. Census Bureau 2000 Decennial Census

** - 2008 population data is from Claritas 2008 estimates

Age of the Population

In general villages and cities in Hancock County have older populations than the State of Illinois and the U.S. Most places have a lower proportion of the population under the age of 18, and a higher proportion of the population over the age of 65 than the state and nation (see table).

Figure 12: Population Under 18 and Over 65 – Municipalities

2008 Estimated Percentage of Population Under 18 and Over 65

	Pct Under 18	Pct Over 65
<i>U.S.</i>	24.42%	12.71%
<i>Illinois</i>	24.92%	12.16%
Augusta village	17.35%	23.54%
Basco village	20.37%	17.59%
Bowen village	28.74%	15.38%
Carthage city	20.76%	22.91%
Dallas City city	18.68%	23.05%
Elvaston village	27.16%	16.05%
Ferris village	19.21%	18.64%
Hamilton city	19.60%	19.45%
La Harpe city	20.60%	23.09%
Nauvoo city	22.40%	24.84%
Plymouth village	27.67%	17.18%
Pontoosuc village	20.13%	18.24%
Warsaw city	21.67%	16.27%
West Point village	22.10%	10.50%

Source: Claritas 2008 Estimates

Age of Structures

Most of the villages and cities in Hancock County have older building stock. All of the municipalities except for Pontoosuc have structures which are generally older than state and national averages (see table).

Figure 13: Age of Structures - Municipalities

Median Year and Dominant Year Structures Built		
	Median Year Built	Dominant Year Built
<i>U.S.</i>	<i>1975</i>	<i>1970 to 1979</i>
<i>Illinois</i>	<i>1966</i>	<i>1939 or Earlier</i>
Augusta village	1938	1939 or Earlier
Basco village	1928	1939 or Earlier
Bowen village	1941	1939 or Earlier
Carthage city	1955	1939 or Earlier
Dallas City city	1951	1939 or Earlier
Elvaston village	1949	1939 or Earlier
Ferris village	1945	1939 or Earlier
Hamilton city	1967	1939 or Earlier
La Harpe city	1958	1939 or Earlier
Nauvoo city	1968	1939 or Earlier
Plymouth village	1943	1939 or Earlier
Pontoosuc village	1979	1999 or Later
Warsaw city	1941	1939 or Earlier
West Point village	1928	1939 or Earlier

Source: Claritas 2008 Estimates

HANCOCK COUNTY LAND USE AND DEVELOPMENT TRENDS

Hancock County, Illinois, located in West Central Illinois, is a primarily rural county encompassing 795 square miles, with 19.9 square miles of water area, primarily miles of Mississippi River Bank. Sparsely populated, with a mere 21.7 persons per square mile, the primary land use for the county is agricultural land. The fifteen incorporated jurisdictions within the county encompass 25.6 square miles, which represents over 3% of the total land mass of the County.

Agriculture remains a dominant force. According to the 2007 Census of Agriculture, there are 1,063 farms in the county, down from 1,095 in 2002, a 3% reduction. The average size of farms is 370 acres (down from 394 in 2002), and the average market value of agricultural products (crops and livestock) sold per farm is \$177,364, a 66% increase from 2002 when the average was \$106,723. Harvested agricultural land in Hancock County represents nearly 392,898 acres annually, or 614 square miles of the county land mass. The remaining land uses in the county include wetlands, rural residential property, lakes, ponds, streams, and recreational land.

The development trends of Hancock County, like many similar rural counties, have been stagnant for the past several decades. As reported in previous sections, the population continues to both age and diminish in number. There are no major industries or employers, as you will see in a table following this section. With no significant manufacturing shipments, the county, through the Hancock County Economic Development Corporation, has focused energy on housing development and tourism. Due in large part to the sluggish regional economy, little to no development has occurred in the county over the past decade.

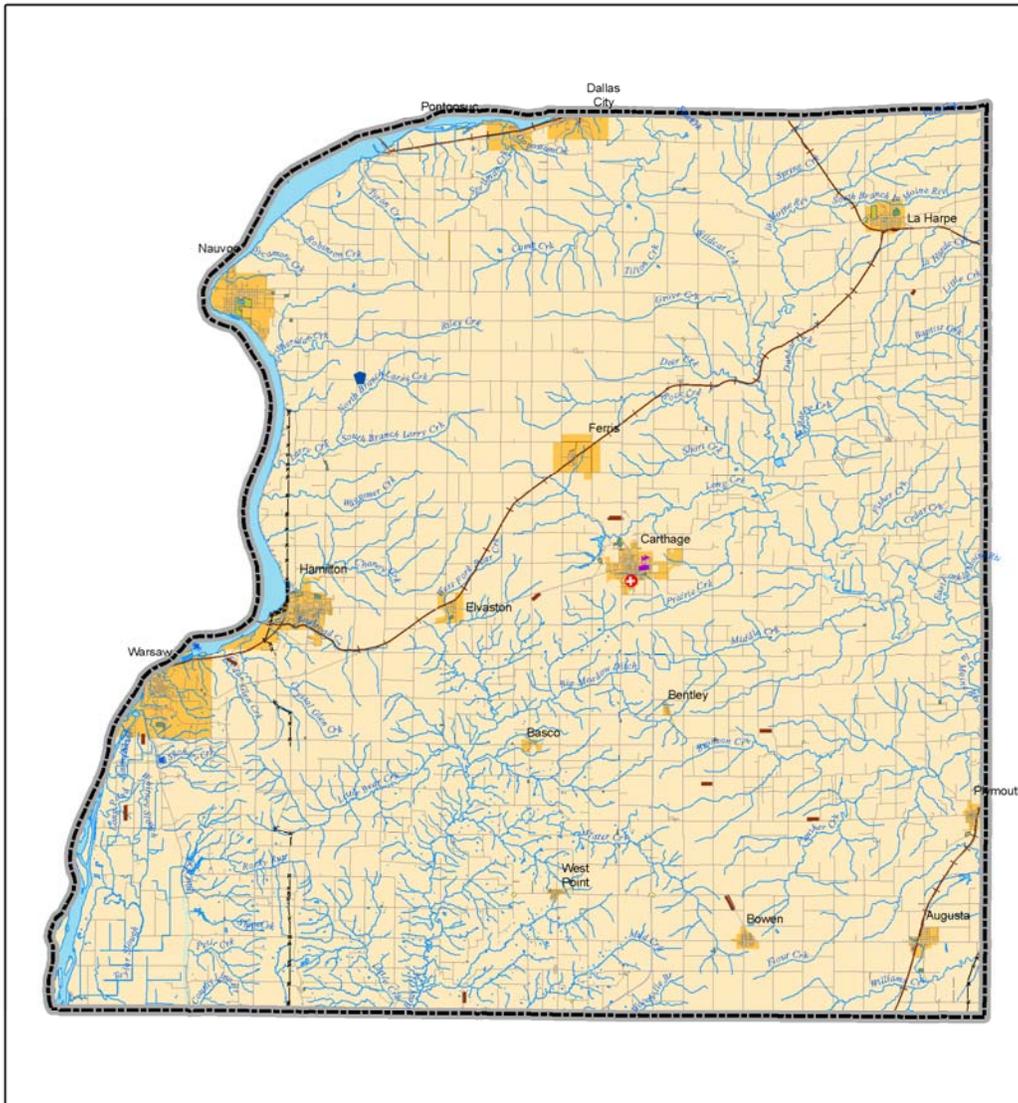
The City of Nauvoo has benefitted from substantial investment by the Church of Latter Day Saints which reconstructed a temple based on plans from the original which was destroyed by fire in the 1800's. Nauvoo is a destination for LDS members because of the historical connection to their religion, as is Carthage which is where the original LDS Prophet, Joseph Smith, was murdered by a mob in the county jail. The LDS Church has restored many historical properties and constructed a modern Visitors Center. There is also an annual Pageant in July which attracts thousands of visitors. As you might imagine, the LDS Church contributes significantly to local tourism efforts and to assist the City of Nauvoo adapt infrastructure and manage tourists and traffic, especially during the summer season. Nauvoo is also the home of a State Park which adds to the mix.

In addition to its tourism appeal, Carthage is trying to capitalizing on an extension of Highway 336, a four-lane road which will eventually be part of highway construction connecting Chicago, Indianapolis, St. Louis and Kansas City. The city of Carthage annexed land bordering that highway bypass, with the first construction being a new facility for Memorial Hospital. Hamilton is also attempting to capitalize on its natural assets of eagles and geodes, both of which have dedicated followers which come back year after year to view the one and find the other.

With the current enhancement of Highway 336 and the various tourism opportunities, there is potential for future development in Hancock County. Focuses on housing and recreational development are planned for the region with some growing interest in entrepreneurship and "economic gardening" rather than the labor-intensive, and rarely successful, strategy of attracting a large industrial employer. In this way the shortened drive time that comes with four-lane roads is detrimental since the larger cities of Quincy and Macomb with their existing infrastructure in place will have even more appeal to such employers since the range of potential workers expands with those highway expansions.

Figure 14: County Map

Hancock County



1:312,184

- | | |
|---|--|
| <ul style="list-style-type: none"> County Boundary Line Places-Municipalities School Airport or Airfield Golf Course Government Center Hospital/Hospice/Urgent Care Facility Primary Road Ramp Secondary Road Local Neighborhood Road, Rural Road, City Street Alley/Private Drive/Service Drive Vehicular Trail (HWD) Airport or Airfield Railroad Feature (Main, Spur, or Yard) | <ul style="list-style-type: none"> Ferry Crossing Powerline Perennial Shoreline Intermittent Shoreline Stream/River Canal, Ditch or Aqueduct Lakes/Rivers Park Airport—Statistical Representation Amusement Center Campground Cemetery Golf Course Industrial Building or Industrial Park Shopping Center or Major Retail Center |
|---|--|



All data from 2008 US Census TIGER/Line except
 2007 land cover raster data from USGS,
 2005 DOQQ imagery data from USGS,
 2003 DEM elevation data from USGS
 Datum and Projection:
 WGS84 UTM Zone 18N
 Map produced by
 University of Illinois U-C Extension CADS
 January 2009

MAJOR EMPLOYERS IN HANCOCK COUNTY

Employer	# Employees	Website
Memorial Hospital Hancock County Nursing Home	208 (130 FT; 78 PT)	http://www.mhtlc.com/
County of Hancock Hancock County Shelter Care	153 (117 FT; 36 PT)	http://www.hancockcountycourthouse.org/
Professional Swine Management	<i>Farms:</i> 112 (98 FT; 14 PT) <i>HQ:</i> 28 (27 FT; 1 PT)	http://www.psmswine.com/
W.L. Miller Gray Quarries	120	http://www.wlmillerco.com/
Southeastern School District	97 (91 FT; 6 PT)	http://www.southeastern337.com/
Hamilton School District	95 (48 FT; 47 PT)	http://www.hhs328.com/
Dadant & Sons	90	http://www.dadant.com/
Warsaw School District	77 (65 FT; 12 PT)	http://www.hancock.k12.il.us/whs/
La Harpe Elementary School District	76	http://www.laharpeeagles.org/
Hancock County Nursing Home	66 (38 FT; 28 PT)	http://www.mhtlc.com/pages/nursinghome
Dallas City Elementary School District	64 (53 FT; 11 PT)	http://www.dcbulldogs.com/
Nauvoo Restoration, Inc.	60 (15 FT; 10 PT; 35 Volunteer)	
Illini West High School District	55	http://www.illiniwest.org/
Montebello Healthcare Center	55	
Nauvoo-Colusa School District	52 (48 FT; 4 PT)	http://www.nauvoo-colusa.com/
First State Bank (3 locations)	50	http://www.firststateil.com/
Methode	50	http://www.methode.com/
Marine Bank (3 locations)	44 (41 FT; 3 PT)	http://www.marinebk.com/
Carthage Elementary School District	44	http://www.carthageschools.k12.il.us/
Carthage Veterinary Service	43 (42 FT; 1 PT)	http://www.hogvet.com/
County Market	40-50 (25 FT; 15-25 PT, depending on season)	http://www.freshtraditions.com/
Mental Health Centers of Western Illinois	30	http://www.mhcwi.org/
LaHarpe- Davier Healthcare Center	30	http://www.laharpedavier.4t.com/
Precision Foundry Tooling Cores for You	29	http://www.pftooling.com/ http://www.coresforyou.com/

CHAPTER 1 – PLANNING PROCESS

How the Plan Was Prepared

Preparation of the Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan was facilitated by the University of Illinois Extension CADS Program and developed through the Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan Steering Committee.

July- organizing to plan

This meeting dealt with the scheduling of all future meetings, determining who was missing from the table that still needed to be invited, explaining the importance of jurisdictional representation and public participation, discussions of how to promote meetings and future actions and a discussion about how the county will provide the local match (25%) required for the project.

August- Jurisdictional risk assessment and critical facilities identification

This meeting covered the significant impact of historical data based on natural hazards. The group discussed the hazards provided by the Illinois Water Survey and then ranked the hazards for each participating jurisdiction. Plans were devised for first public meeting.

September- Public Engagement Plan (i.e. meetings, either review or plan, and survey distribution) and Hazard Mitigation Goals

This meeting dealt with the public survey that needed to be distributed throughout the county. The Boy Scout clubs were selected to hand deliver the surveys to the residents in the area. Also the group discussed the goals for the Hazard Mitigation Plan as well as the format for the upcoming public meeting.

October- Existing Plan reviews and Mitigation ideas by jurisdiction

This meeting allowed the Task Force to work on creating objectives to go with their goals that had been established at a prior meeting. The group also discussed some potential projects and how they could each come up with project ideas for the different jurisdictions in the county.

November- Jurisdictional Priorities and Grid development, plan maintenance strategy

The jurisdictional project grids were collected at this meeting. The group discussed the final county-wide project grid and accepted it. They also reviewed the county demographics that were provided to them.

THE PLANNING TEAM

Hancock County received a planning grant through the Hazard Mitigation Grant Program to prepare this plan. Hancock County contracted through the University of Illinois Extension's CADS program to assist in the planning process and to coordinate the plan preparation and participation. Earl Bricker, led development at the Staff level, assisted by Kristin Huls and Deb Pflasterer.

All communities in Hancock County were invited to participate in the Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan. Bentley is the only incorporated municipality that did not participate in any way. Following is a list of the participating communities: Augusta, Basco, Bowen, Carthage, Dallas City, Elvaston, Ferris, Hamilton, La Harpe, Nauvoo, Plymouth, Pontoosuc, Warsaw, West Point.

Based upon the short timeline for Hazard Mitigation Planning in Hancock County, participation requirement for jurisdictional participation was kept at a minimum requirement. Each participating jurisdiction was required to attend at least one steering committee meeting.

The list of jurisdictional representatives is outlined below:

HANCOCK COUNTY:	Jack Curfman Elgin Berry Dale Bolton Randy White
AUGUSTA:	Cyndia Avise
BASCO:	Stanley Davidson
BOWEN:	Dave Campbell
CARTHAGE:	Kathy Dougherty
DALLAS CITY:	Ruth Higgins
ELVASTON:	Sandy Printy
FERRIS:	Charles vass
HAMILTON:	Jean Massey
LA HARPE:	Willo Shutwell
NAUVOO:	Don Faulkner
PLYMOUTH:	David Ellis
PONTOOSUC:	Bob Durand
WARSAW:	Brandon Norris
WEST POINT:	Larry Wood

PUBLIC PARTICIPATION

The importance of public participation in the planning process was recognized by the Task Force. Efforts to educate the public regarding creation of the plan and to provide opportunities for the public to have input on the plan were an integral part of the planning process. These efforts are discussed below.

Representing a rural county without large media outlets, the Hancock County Hazard Mitigation utilized multiple methods to engage citizens of the county in the planning process. Press releases, public meetings, issue-based focus groups, and community surveys were all used to gather opinion and suggestions. Throughout the process, steering committee members were also encouraged to explain and discuss the planning process with their friends and neighbors and encourage their input.

Throughout the planning timeframe, multiple press releases have been sent out to area newspapers and radio stations explaining the process, promoting the public meetings, and encouraging survey participation.

Four public meetings were held in different locations throughout the county which allowed interested parties to view the risk assessments, propose potential projects, and to discuss any ideas or concerns that they may have. The overall objective was to encourage public comment as to what could be done to permanently reduce the risk to life and property from natural disasters. The schedule for the meetings was as follows:

Thursday, September 10, 2009	6:00-7:00	Southeastern High School Cafeteria, Augusta
Tuesday, September 22, 2009	6:00-7:00	U of Illinois Extension Office, Carthage
Monday, September 28, 2009	6:00-7:00	Community Center, Hamilton
Tuesday, October 6, 2009	6:00-7:00	Senior Center, Dallas City

The intent of scheduling four meetings at four separate locations was to enable the greatest participation from all segments of the public. While attendance was small, discussion was lively, and significant input was gathered in this manner. In addition to such discussion, those attending were asked to complete a brief form to better capture their thoughts and ideas about mitigation strategies.

To ensure that diverse groups were also included in the process, eight focus groups were held over the course of a week to gather input from the following sectors:

- Ag and Natural Resources
- Health and Human Services
- Transportation (2)
- Utilities
- Public Safety
- Business and Development
- Education

Names of those individuals and groups invited to participate are provided in the Appendix. Also in the Appendix is an agenda for these small groups and a copy of the form used to gather information additional to the recorded discussion.

COMMUNITY SURVEYS

The Hancock County Hazard Mitigation Steering Committee chose to distribute a community survey as a portion of their public participation process. Included in the survey were questions about all of the natural hazards that may have a potential affect on Hancock County, and community knowledge of the proper steps to prepare for such disasters. Survey respondents were also given the opportunity to share ideas about on how to reduce the impact of natural disasters in Hancock County.

The survey was distributed in two separate ways. First, paper copies of the survey were distributed to all communities via City and Village offices and through the Hancock County Clerk’s office. Copies were also disseminated at meetings of service clubs and through selected churches. In addition, an electronic version of the survey was created with a link on various local websites. A press release was also sent to area media as to the locations and websites where the survey could be obtained. Steering committee members were also encouraged to send the online link to any of their contacts who resided in Hancock County and encourage those contacts to do the same.

Through all sources of distribution, a total of three hundred twenty-five surveys were collected and tabulated into the final survey results. This represents approximately 4.2 percent of households in Hancock County. The following pages illustrate the findings from that survey, both narrative and graphically.

Figure 15: Zip Codes Represented in Hancock LHMP Survey

Zip	# Responses	Zip	# Responses
61420	1	61450	33
61454	1	62311	15
62313	4	62316	5
62321	72	62329	1
62330	42	62336	1
62341	73	62343	1
62351	1	62354	38
62358	7	62367	3
62373	1	62374	1
62379	13	62380	11
65432	1		
Sub-Total	216	Sub-Total	109
		TOTAL	325

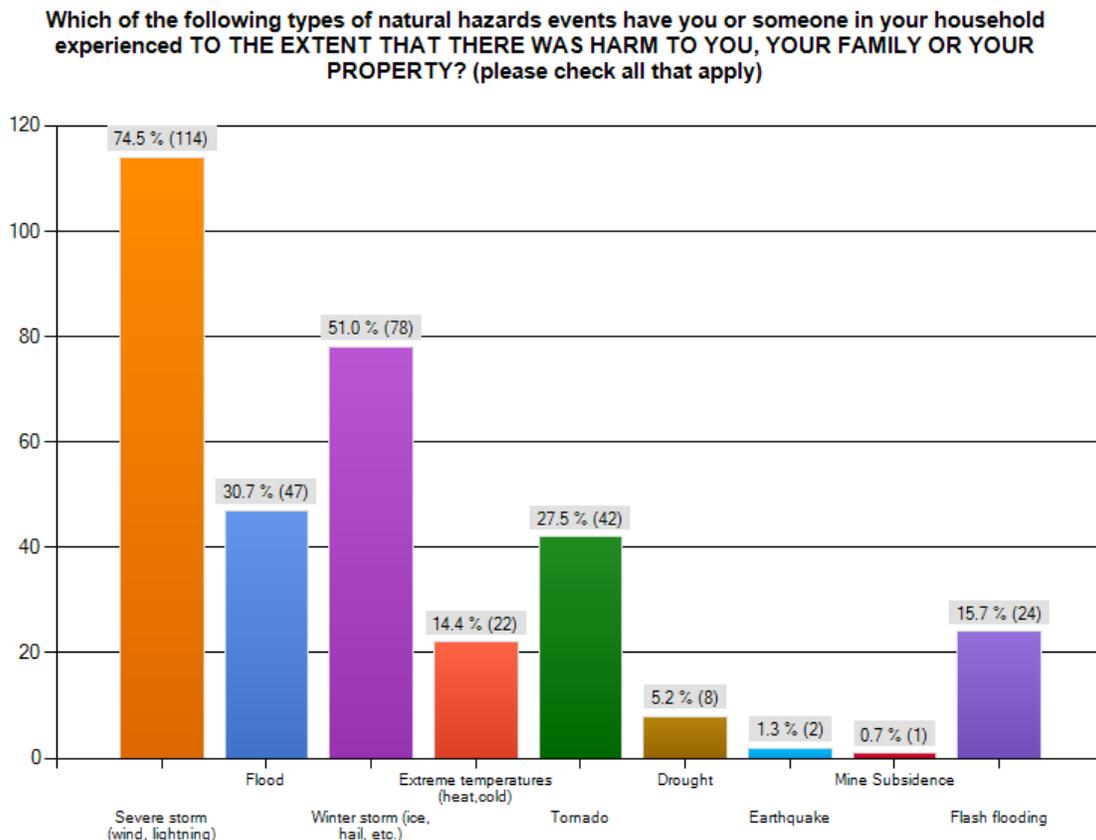
No surprise that the larger communities were represented in larger numbers.

Survey Results

Of the 325 respondents, almost 72% indicated that they lived in a community rather than in the country. Not all respondents chose to share their age but of those who did, both the median and average age was calculated to be 54. More women (59%) responded than men..More than three-fourths (76.3%) have lived in Hancock County for 20 years or more, and 95% own their home, with most (93%) of those structures identified as a single family residence. The vast majority (89.6%) stated they have Internet access.

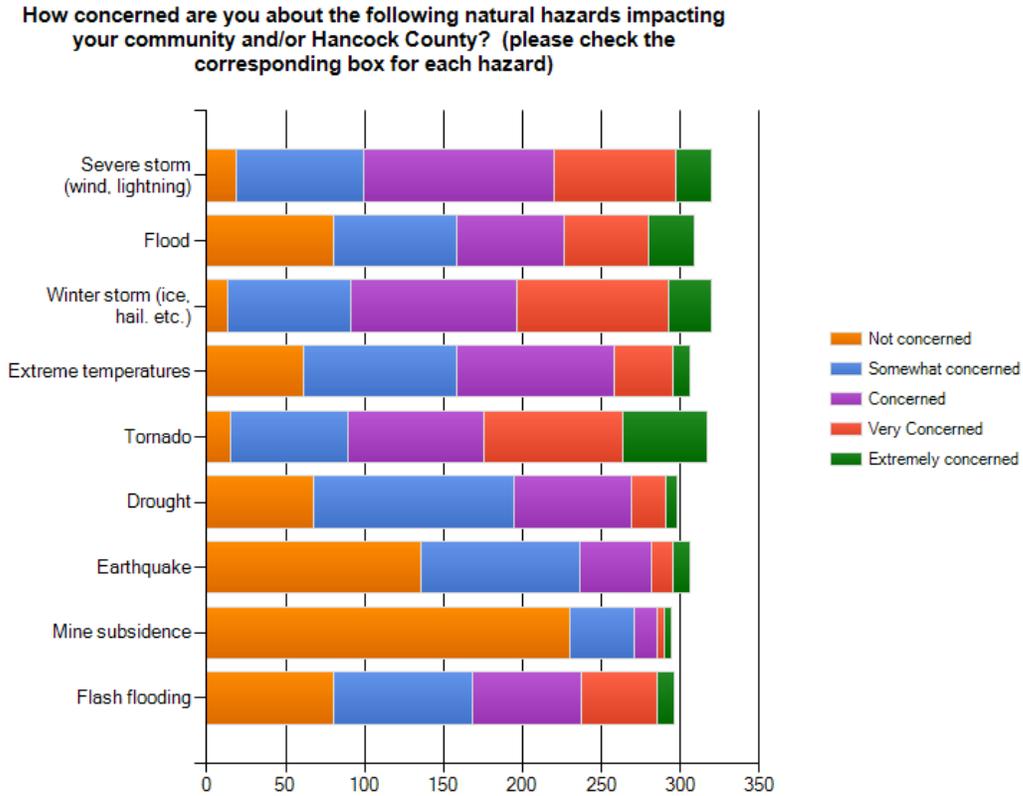
A little more than half of the respondents (53.5%) said that they had personal experience with some sort of natural hazard in the last ten years to the extent that there was harm to person or property. The most frequently cited hazard was severe storms with almost 75% of those answering this question identifying it; slightly more than half identified winter storm as that experienced hazard with just over a quarter citing tornadoes. Hancock County was a declared disaster area due to the 2008 flooding, the reason for this planning effort, and this was demonstrated by 30% stating that they had been adversely impacted by flooding.

Figure 16: Experienced Hazards in Hancock County



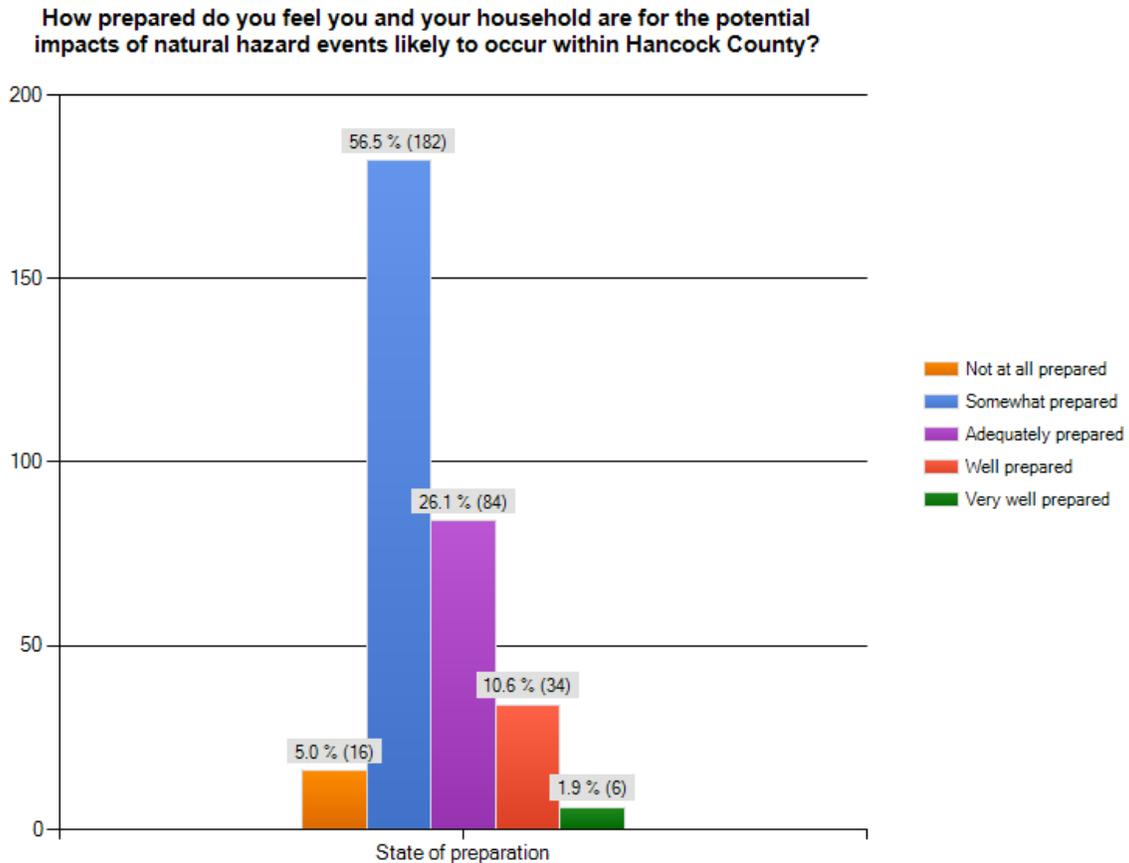
This order shifted a bit in responses to another survey question asking about the level of concern felt about particular natural hazards occurring in their community and/or county. Most concern was expressed about tornadoes, likely because of the threat to life not common to the other hazards. Winter storms were identified next in respect to the level of concern, followed by severe storms and then flooding.

Figure 17: Concern about Natural Hazards



Of particular interest to the Steering Committee were the responses related to community preparedness and information dissemination. Many of the project areas identified for the county refer to education, communication and public awareness. The survey results provide a picture of where county residents currently are in respect to disaster preparedness, demonstrating opportunity for increased education and awareness since more than 60% responded that they were either “not at all” or merely “somewhat” prepared. The fewest number of respondents indicated that they feel “very well prepared,” reinforcing the need for more awareness campaigns.

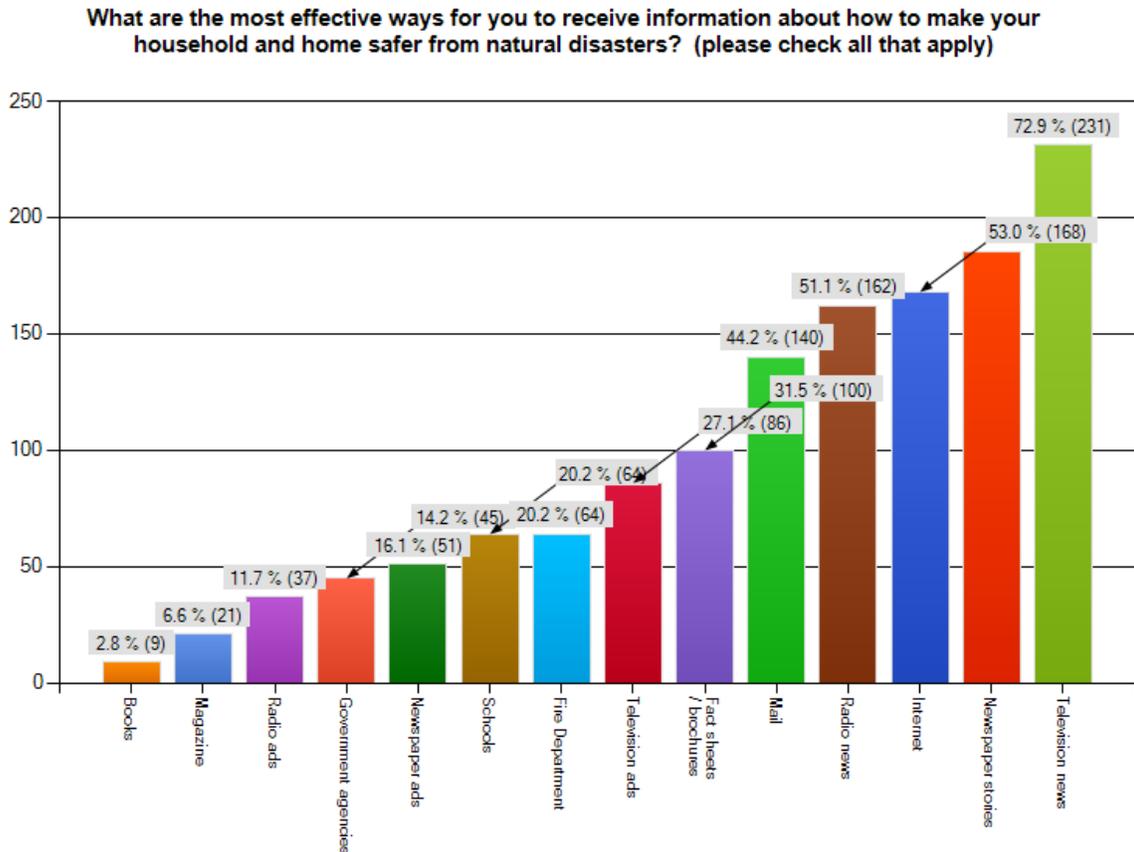
Figure 18: Prepared for Natural Hazard Events



Determining the best way for such information to be disseminated will be aided by the responses to the question asking about preferred methods of receiving information. Those responses are displayed on the next page.

Respondents were allowed to choose as many options as they liked. Thus multiple methods of delivery received relatively high rankings. Traditional media – television, radio, newspaper – all were identified by higher percentages of responses. Note a distinction between “news” and “ads” with the latter falling short in order of preference. Internet was right in the mix; as noted in a previous section, almost 90% of respondents indicated access, suggesting that this would be a relatively low cost method of educating the public. The diversity of responses will help inform groups as to the wide array of information sources to which citizens may turn for information they trust.

Figure 19: Effective Ways of Receiving Information



Other survey questions focused on the willingness of respondents to engage in personal mitigation efforts around their own home, incentives to help make that more likely to happen, and about the risks of flood and earthquake on their own home.

A complete summary of survey responses, including respondent comments, is included in the Appendix.

REVIEW AND INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS, AND TECHNICAL INFORMATION

All known existing plans within Hancock County were gathered by Western Illinois Regional Council Staff. At the first Task Force meeting the community representatives were given a documents Form to be completed in consultation with the leaders in their community, providing them with a list of plans and other documents that should be considered during preparation of the plan. Natural hazards mitigation can be incorporated into existing plans and ordinances during updates. If a community does not have particular regulations that would promote hazard mitigation, such as building codes, these could be considered for adoption. Other documents could provide helpful information for assessing risks or determining appropriate mitigation projects. A combined listing of community documents is below.

Figure 20: Existing Community Documents

	Augusta	Basco	Bowen	Carthage	Dallas City	Elvaston	Ferris	Hamilton	La Harpe	Nauvoo	Plymouth	Pontoosuc	Warsaw	West Point
DOCUMENT		NR				No	No				NR			
Comprehensive Plan				X						X			X	
Subdivision Ordinance				X					X	X			X	
Zoning Ordinance				X				X		X			X	
Building Codes				X						X			X	
Land Use Plan				X						X			X	
Existing Land Use Map				X						X			X	
Flood Ordinance				X	X			X		X			X	
Flood Insurance Rate Map*				X	X	X		X	X	X		X	X	
Repetitive Flood Loss List				X									X	
Elevation Certificates for Bldgs													?	
Capital Improvement Plan				X									X	
Historic Preservation Ordinance				X					X				X	
Storm Water Management Plan					X				X				X	
Hazard Mitigation Plan									X	X		X	X	
Emergency Management Plan	X			X	X				X	X			X	
Drainage Ordinance									X				X	
Critical Facilities Map				X									X	X
Hazard Vulnerability Analysis													X	
Infrastructure Map				X					X	X		X	X	X
Topographic Map				X						X		X	X	
Community Website				X	X			X	X	X				

	Augusta	Basco	Bowen	Carthage	Dallas City	Elvaston	Ferris	Hamilton	La Harpe	Nauvoo	Plymouth	Pontoosuc	Warsaw	West Point
DOCUMENT		NR				No	No				NR			
COMMUNITY ACTION														
Siren	X		X	X	X			X	X	X			X	
Weather Radio	X								X	X				
Storm Spotters	X			X	X				X	X			X	X
Local Weather Station	X			X										
Watershed Repairs								X						
Road Treatment	X	X	X	X	X	X	X	X	X	X		X	X	X

* The Flood Insurance Rate Maps for Hancock County, produced by the Illinois State Water Survey, were effective 10/16/2009 and the above Figure reflects that status.

STATE AND LOCAL CAPABILITY ASSESSMENT

This section provides details on the State and local capabilities when dealing with hazard mitigation. The State and local capabilities are referenced in order to show what plans, documents and regulations are already in place and are ready to be used in the event of a natural disaster occurring.

State Capability Assessment:

The Illinois Natural Hazard Mitigation Plan (INHMP) compiled by the state and dated October 2007 looks at the State's ability to respond in the event of a natural disaster. A selection from the "Purpose" section of the document is provided below:

"The contents of this Illinois Natural Hazard Mitigation Plan (INHMP) are intended to provide the framework for hazard mitigation not only during the recovery and reconstruction process, but on a year-round basis to identify current and proposed mitigation projects which will reduce the potential for future losses and decrease the costs to the taxpayers."

Local Capability Assessment:

The local capability assessment has an overview of existing communities and their respective plans, documents and regulations that are currently in place or being created to mitigate some of the devastating effects of natural disasters.

Mitigation measures in place or being implemented

The following are mitigation measures that communities either have in place or are currently working on for the county-wide hazard mitigation plan.

Weather Warning Systems

All but a few of the communities (Basco, Bentley, Elvaston, Ferris, Pontoosuc and West Point) have a siren in town or at the fire station that signals residents when a strong storm, tornado or other hazard is present.

Emergency Warning Radios

A few households may have emergency warning radios but most village and city halls or police and fire departments in the communities do not have a weather radio. Only two communities, LaHarpe and Nauvoo, had weather radios in a public space and kept them turned on.

Severe Weather Spotters

Most communities have volunteer firemen from a department or district. Often these are the people who will be assigned to look out for inclement weather and report back to the police. Many of the smaller communities in Hancock County with populations under 200 do not have an official "storm-spotter."

Stormready Communities

There are zero Stormready Communities in Hancock County

Building Code Standards

There are only three communities with assigned building codes: Carthage, Nauvoo and Warsaw.

Local Media Outreach

There are radio stations in Carthage OR Quincy, IL and Burlington or Keokuk, IA. The only community with their own radio station in Hancock County for weather alerts and local news is in Carthage, IL.

Road Treatment in Advance of Expected Ice Conditions

All but one community plans on using cinder, salt or sand to prevent slippage during icy conditions in the communities. This work is most often done by the communities themselves but may also be done by the county if the road is a county road or if the community cannot budget for such preventative measures.

Figure 21: Overview of Safety Measures

	Augusta	Basco	Bentley	Bowen	Carthage	Dallas City	Elvaston	Ferris	Hamilton	La Harpe	Nauvoo	Plymouth	Pontoosuc	Warsaw	West Point
Community Action															
Siren	X			X	X	X			X	X	X	X		X	
Weather Radio										X	X				
Storm Spotters	X				X	X				X	X	X		X	X
Local Weather Station	X				X										
Watershed Repairs									X						
Road Treatment	X	X		X	X	X	X	X	X	X	X	X	X	X	X

Preventative measures that already exist or are being implemented may be found in the table below marked with an X. There are still many documents that have not yet been compiled for the villages in regards to hazard mitigation.

References: 2007 Illinois Natural Hazards Mitigation Plan
http://iema.illinois.gov/iema/planning/Documents/Plan_IllMitigationPlan.pdf

CHAPTER 2 – RISK ASSESSMENT

HAZARD VULNERABILITIES AFFECTING HANCOCK COUNTY

The Hancock County Hazard Mitigation Steering Committee met on August 11, 2009, to determine the risk by natural hazard for each jurisdiction in Hancock County with additional meetings on September 10 & 22 to continue working in this area. Steering Committee members reviewed the 2007 Illinois State Hazard Mitigation Plan, both for methodology and risk assessment for Hancock County. Additionally, historical data for weather related events in Hancock County were reviewed by jurisdiction.

The steering committee initially opted to follow the approach used by the Illinois Natural Hazard Mitigation Planning Committee (Severe-High-Elevated-Guarded-Low) but subsequently opted to simplify by merging into three categories (High-Moderate-Low) when assessing risk for each natural hazard. Scale of each risk by jurisdiction was done by consensus of the committee after reviewing historical data, potential magnitude of loss to both property and life, and local knowledge of the topography of the jurisdiction. During the discussion, the representative from the jurisdiction reflected specific knowledge to which the group deferred, especially in the categories of drought and flood. Specifically mentioned by several jurisdictions was the water supply in a drought situation, and well as the rural areas that are dependent upon their own wells. The ratings determined by the committee are listed below.

Figure 22: Overall Summary of Hancock County's Vulnerability to Natural Hazards

Jurisdiction	Severe Storms (Lightning, Hail)	Flooding	Winter Storms	Drought	Extreme Temps	Earthquake	Dam Failure	Tornado	Flash Floods
Hancock County	HIGH	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	HIGH	HIGH
Augusta	MODERATE	---	HIGH	LOW	MODERATE	LOW	---	MODERATE	HIGH
Basco	HIGH	---	HIGH	LOW	MODERATE	LOW	---	HIGH	
Bowen	HIGH	---	HIGH	MODERATE	MODERATE	LOW	---	HIGH	MODERATE
Carthage	HIGH	---	HIGH	HIGH	MODERATE	LOW	MODERATE	MODERATE	MODERATE
Dallas City	HIGH	HIGH	HIGH	LOW	MODERATE	LOW	---	HIGH	HIGH
Elvaston	HIGH	---	HIGH	LOW	MODERATE	LOW	---	HIGH	MODERATE
Ferris	HIGH	---	HIGH	LOW	MODERATE	LOW	---	HIGH	LOW
Hamilton	HIGH	MODERATE	HIGH	LOW	MODERATE	LOW	LOW	HIGH	MODERATE
La Harpe	HIGH	---	HIGH	MODERATE	MODERATE	LOW	HIGH	HIGH	LOW
Nauvoo	HIGH	LOW	HIGH	LOW	MODERATE	LOW	---	HIGH	LOW
Plymouth	HIGH	---	HIGH	LOW	LOW	LOW	---	HIGH	MODERATE
Pontoosuc	MODERATE	HIGH	LOW	LOW	LOW	LOW	---	LOW	LOW
Warsaw	HIGH	HIGH	HIGH	MODERATE	MODERATE	LOW	HIGH	HIGH	HIGH
West Point	HIGH	---	HIGH	MODERATE	MODERATE	LOW	---	HIGH	MODERATE

Illinois Hazard Rating By County Based on Criteria and Methodology. Established at the Illinois Natural Hazard Mitigation Planning Committee Meeting on March 10, 2004.

Community ratings provided by Steering Committee and/or community members on August 11, September 10 & 22, 2009.

REPETITIVE LOSS DATA

In accordance with FEMA Requirements, repetitive loss history within Hancock County was reviewed. The information, proved by the Illinois Emergency Management Agency, included all of the repetitive loss data as of April 30, 2009.

Of the fourteen repetitive loss properties identified in Hancock County, three are located in unincorporated areas and all but one are single family dwellings. Seven of these properties are located within the jurisdiction of Dallas City. One was a non-residential property, and the six are listed as single family. Note that Dallas City is split between Hancock and Henderson Counties so it is possible that one or more of the identified repetitive loss properties is located in Henderson. Dallas City chose to participate in the Hancock Mitigation Planning process rather than Henderson’s.

The remaining four properties are located in the jurisdiction of Pontoosuc, all listed as single family. All these properties will remain vulnerable until they are mitigated to protect against the natural hazards that caused the losses. In both Dallas City and Pontoosuc, this is predominantly flooding, and elevation or buyout would be the most effective mitigation effort.

2007 ILLINOIS NATURAL HAZARD MITIGATION PLAN RATINGS FOR HANCOCK COUNTY

The historical occurrence of natural hazards is one of four main criteria that were used in the Illinois Natural Hazard Mitigation Plan to create hazard ratings for each county in the state. Based upon Historical frequency and probability, vulnerability, severity of impact, and a population criterion, the plan includes a rating for each type of natural hazard for each county. Ratings (from low to high) of low, guarded, elevated, high and severe were assigned based upon the aforementioned criteria. Hancock County was given the following ratings:

Figure 23: Hancock County Hazard Ratings

Hazard Ratings for Hancock County Assigned in the 2007 Illinois Natural Hazard Mitigation Plan						
Severe Storms	Floods	Winter Storms	Drought	Extreme Heat	Earthquake	Tornado
Severe	Elevated	High	Guarded	Elevated	Guarded	High

Source: 2007 Illinois Natural Hazard Mitigation Plan

Also in the 2007 Illinois Natural Hazard Mitigation Plan was a recommended assessment of vulnerability levels defined by the percentage of people affected.

Figure 24: Vulnerability Levels

Vulnerability (percentage of people)

Factors:

- 1) The relationship of where people live in or near the hazard area.
- 2) The percentage of people that will be adversely affected should the hazard occur.

Low (6)	Less than 10% of the total population of the jurisdiction
Medium (12)	10% to 25% of the total population of the jurisdiction
High (18)	More than 25% of the total population of the jurisdiction

FEDERAL DISASTER DECLARATION HISTORY SINCE 1981

Most of the federally declared disasters that Hancock County has been a part of since 1981 have been flood events.

FEMA DR#735 – Hancock County was one of several counties that were a part of this 1985 disaster which was the result of flooding, severe storms and ice jams. This disaster also affected counties along the Kankakee, Wabash, and Illinois rivers.

FEMA DR #871 – Hancock County was one of thirty Illinois counties that were a part of this 1990 declaration. Heavy rain in May and June caused widespread flooding across the state.

FEMA DR #997 – This 1993 known as the Great Flood of 1993 prompted a disaster declaration encompassing thirty-nine Illinois counties.

FEMA DR#1112 – Flooding in 1996 resulted in a federal disaster declaration for several central and southern Illinois counties, including Hancock County.

FEMA DR #1368 – In April of 2001 heavy flooding devastated ten Illinois counties. In May a federal disaster was declared for the ten counties affected, including Hancock County. In all over \$1.2 million in federal and state disaster assistance was extended to residents of the ten counties. Disaster housing grants accounted for \$506,000 while the Small Business Administration (SBA) made \$711,000 in low-interest in disaster loans. 45 families in Hancock County were approved for disaster housing grants which totaled \$33,392.

FEMA DR#1416 – This May 2002 disaster declaration was the result of several tornadoes, severe storms and flooding. Nearly two thirds of the state's counties were a part of this declaration which encompassed all of central and southern Illinois, including Hancock County. Disaster assistance for this event topped \$10.3 million.

FEMA DR#1469 – Flooding was again the cause of this May 2003 declaration. This disaster included sixteen counties in west central and southern Illinois. A total of \$4,535,866 in grants and low-interest disaster loans were approved for those affected by the disaster.

FEMA DR#1771 – The flooding of June 2008 caused massive damage across the state. In total eighteen Illinois counties, including Hancock, were part of this disaster declaration. Individual assistance extended in this disaster is in excess of \$15 million.

2008 JUNE FLOOD

(The following is an excerpt from the 2009 Long Term Recovery Council Final Report Aftermath of the Floods of June 2008 & Recommendations for Long –term Economic Recovery, Prepared by the Office of Sustainability University of Illinois.)

Heavy rains in 2008 produced widespread flooding across the Midwest. According to statewide average precipitation totals, the period of March–June 2008 was the wettest in Iowa's recorded history and ranked as the 4th and 8th wettest in Indiana and Wisconsin, respectively. Total precipitation in June alone exceeded 14 inches in areas of southern Wisconsin, southwestern Iowa, and southeastern Indiana. These heavy rains contributed to record flooding in Illinois and along its border rivers. As a result of the June 2008 flooding, 25 Illinois counties were declared federal disaster areas per FEMA-1771-DR.

The 2008 flood peaks were either the highest or second highest on record at 12 of the 24 stations on the Mississippi River. Historic records were set at Keithsburg, Gladstone, and Burlington, Iowa exceeding the records set in 1993.

Although the flood heights experienced in 2008 for select locations along the Mississippi River were nearly as high or higher than those reached in 1993, the period of time above flood stage was much shorter. For example, the flood crest reached at Burlington in 2008 was over 0.5 feet higher than the 1993 flood crest of 25.10 feet, the previous record peak. The spring flooding that occurred (April-May) in both 1993 and 2008 were of similar duration at this location. However, the Burlington gage was above flood stage for only one month in June-September of 2008 as compared to over three months during the same time period in 1993 (Figure 4-1). In Quincy, the 2008 flood crest was 1.3 feet lower than the 1993 flood crest of 32.13 feet, the record peak at that location. The length of time above flood stage in 2008 was also shorter than in 1993.

Overall, the 1993 flood on the Mississippi River was more severe in terms of its magnitude, duration, spatial extent, and its impact on the region.

LEVEES

More than 100 levees are located along the Mississippi River from Dubuque, Iowa to Cairo, Illinois. Most of these levees were built to protect agricultural land; notable exceptions include those in the St. Louis metro and Quad Cities areas, which were built to protect urban areas.

During the 2008 June floods, a number of levees overtopped or breached. It is important to note that overtopping is not considered a failure. Levees are designed and built for a certain level of protection. When flood conditions exceed that level, the levee has provided the intended level of protection and may then be overtopped per its design. Typically levees that protect primarily agricultural areas are designed for more frequent floods than those protecting urban or more highly populated areas.

In total, 26 levees overtopped or breached along the Mississippi River between Rock Island, Illinois and St. Louis, Missouri. Six of the 26 overtopped or breached levee systems are located in Illinois. Breached or overtopped levees along the Mississippi River impacted river levels at nearby locations, as well as downstream. On June 17 across the river from Burlington, Iowa, two levees near the Illinois community of Gulfport were overtopped. This caused a sudden drop in river levels near Henderson County and further downstream. The Des Moines River flows into the Mississippi River less than 3 miles downstream from the Keokuk gage. There were multiple levee overtoppings and breaches on both sides of the Mississippi River downstream of this location. The Hunt-Lima levee system which extends into Henderson County was overtopped.

SEVERE STORMS / HAIL

(Source: Federal Emergency Management Agency)

All thunderstorms are dangerous. Every thunderstorm produces lightning. In the United States an average of 300 people are injured and 80 people are killed each year by lightning. Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms.

Facts about thunderstorms:

- Thunderstorms may occur singly, in clusters, or in lines.
- Some of the most severe occur when a single thunderstorm affects one location for an extended time.
- Thunderstorms typically produce heavy rain for a brief period, anywhere from 30 minutes to an hour.
- Warm, humid conditions are highly favorable for thunderstorm development.
- About 10% of thunderstorms are classified as severe – one that produces hail at least $\frac{3}{4}$ of an inch in diameter, has winds of 58 miles per hour or higher, or produces a tornado.

Facts about lightning:

- Lightning's unpredictability increases the risk to individuals and property.
- Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.
- "Heat lightning" is actually lightning from a thunderstorm too far away for thunder to be heard.
- Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.

Facts about hail:

- As a thunderstorm grows, updrafts will push water droplets into a region of the atmosphere which is below the freezing temperature. These water droplets collide with other droplets just before freezing, which is why some hailstones can grow to several inches in diameter. The stronger the updraft associated with a thunderstorm, the larger the hail associated with the storm will be.

The National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center keeps a database of all severe weather events. With regard to severe storms the database keeps records of thunderstorm and high wind events, hail events, and tornados. According to the NCDC the Storm Events database keeps record of all thunderstorm and wind events, as well as hail events from 1955 forward. However, the lack of damage inducing thunderstorm and high wind events before 1997 and the lack of any events before 1970 call into question the completeness of this data. The tornado events are reportedly tracked back to 1950.

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The following table displays all of the damage or injury inducing thunderstorm and high wind events in Hancock County that are listed in the NCDC Storm Events Database.

Figure 25: Thunderstorm and High Wind Events Causing Damage or Injury in Hancock County 1955-Present

Thunderstorm and High Wind Events Causing Damage or Injury in Hancock County 1955-Present

Location or County	Date	Time	Recorded Windspeed	Deaths	Injuries	Property Damage	Crop Damage
Bowen	8/18/1993	6:10 PM	0 kts.	0	0	1K	0
Hamilton	8/28/1993	3:25 AM	0 kts.	0	0	1K	0
HANCOCK (1)	1/10/1997	4:00 AM	N/A	0	1	0	0
HANCOCK (1)	4/6/1997	8:00 AM	54 kts.	0	0	1.6M	0
HANCOCK (1)	9/29/1997	11:00 AM	52 kts.	0	1	15K	0
Elvaston	4/7/1998	3:45 PM	0 kts.	0	0	1K	0
Countywide	7/26/1999	7:00 PM	0 kts.	0	0	12K	0
La Harpe	4/20/2000	3:20 AM	0 kts.	0	0	15K	0
Hamilton	5/8/2000	8:06 PM	0 kts.	0	0	1K	0
Countywide	6/13/2000	10:25 PM	0 kts.	0	0	5K	0
Carthage	7/31/2000	5:45 PM	0 kts.	0	0	6K	0
Nauvoo	6/1/2001	5:15 PM	0 kts.	0	0	40K	0
Warsaw & Hamilton	7/5/2003	9:15 PM	52 kts.	0	0	100K	10K
Dallas City	7/8/2003	12:57 PM	52 kts.	0	0	50K	5K
Augusta	7/9/2003	8:43 PM	52 kts.	0	0	40K	5K
Nauvoo, Hamilton, Carthage, Bentley	7/18/2003	6:00 AM	70 kts.	0	0	3.7M	90K
Nauvoo	8/26/2003	4:35 PM	52 kts.	0	0	0	5K
Bowen	8/28/2003	4:00 PM	55 kts.	0	0	10K	2K
Nauvoo	5/23/2004	2:18 AM	52 kts.	0	0	5K	0
Hamilton	5/24/2004	8:13 PM	65 kts.	0	0	10K	20K
Nauvoo	5/30/2004	1:35 PM	70 kts.	0	0	10K	0
Carthage	8/27/2004	12:55 AM	59 kts.	0	0	5K	10K
Carthage	8/28/2004	12:55 AM	59 kts.	0	0	3K	3K
Nauvoo	6/8/2005	12:00 PM	52 kts.	0	0	3K	0
Nauvoo	9/8/2005	3:10 PM	56 kts.	0	0	10K	0
Sutter	3/30/2006	8:30 PM	52 kts.	0	0	1K	0
Niota	6/3/2008	8:13 AM	52 kts.	0	0	5K	0K
Sutter & Carthage	7/27/2008	18:40 PM	61 kts.	0	0	10K	0K

Source: National Climatic Data Center

Notes:

(1) denotes that this storm event affected an area larger than, but including Hancock County.

Not all of the damage displayed in the records with (L) occurred in Hancock County.

The following table displays the number of hail events in Hancock County that are listed in the NCDC Storm Events Database.

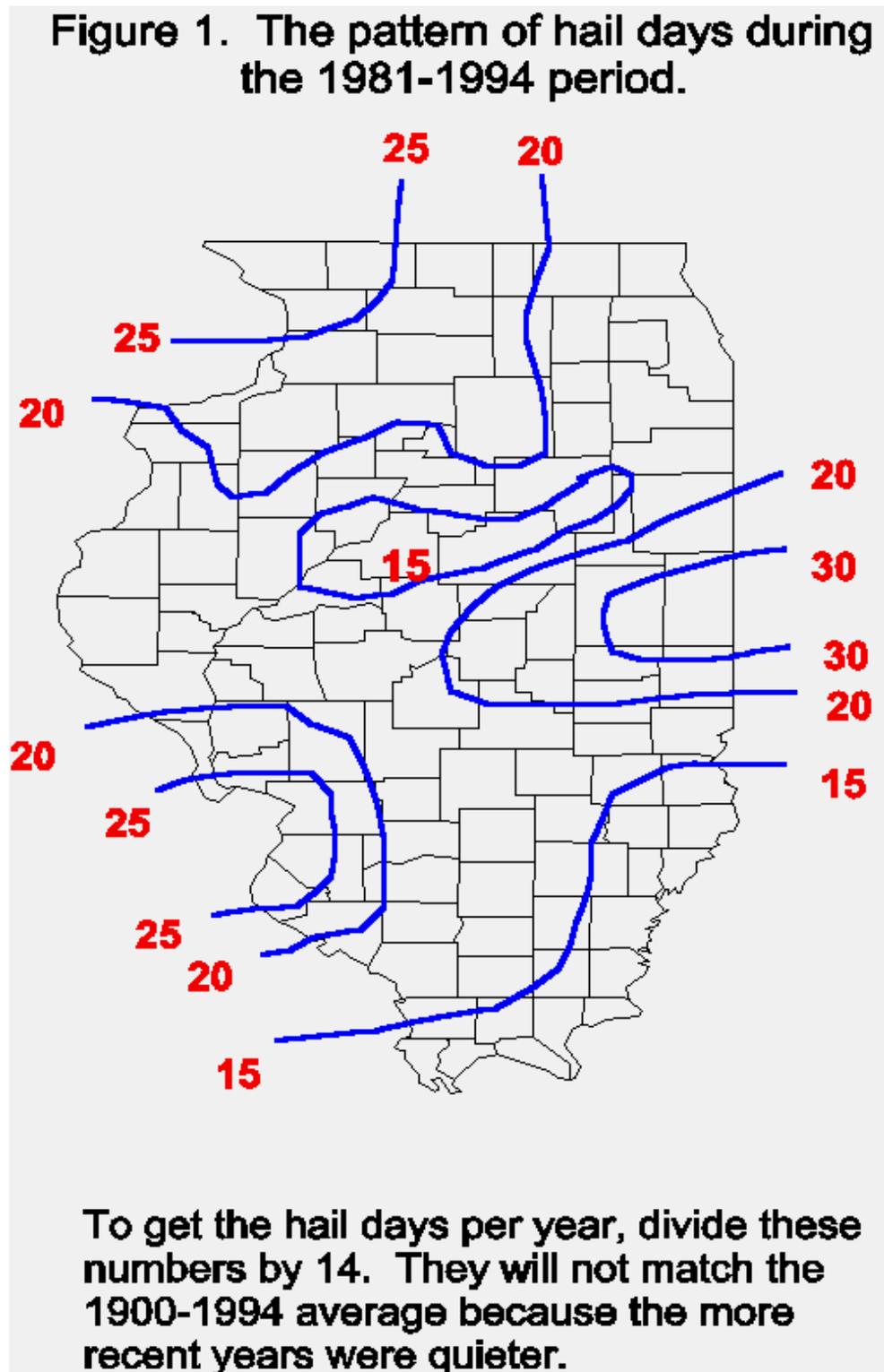
Figure 26: Number of Hail Events by Jurisdiction 1955-Present

Number of Hail Events by Jurisdiction 1955-Present

Jurisdiction	Number of Hail Events
Unspecified – Hancock County	27
Fountain Green	5
Augusta	4
Plymouth	5
Hamilton	5
Dallas City	4
Carthage	9
Bentley	4
Warsaw	2
Nauvoo	4
Niota	1
La Harpe	4
Elvaston	1
Burnside	1
Sutter	1

Source: National Climatic Data Center

Figure 27: Pattern of Hail Days



TORNADO

(Source: Federal Emergency Management Agency)

Tornadoes are nature's most violent storms. Spawned from powerful thunderstorms, tornadoes can cause fatalities and devastate a neighborhood in seconds. A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long. Every state is at some risk from this hazard.

Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible. Before a tornado hits, the wind may die down and the air may become very still. A cloud of debris can mark the location of a tornado even if a funnel is not visible. Tornadoes generally occur near the trailing edge of a thunderstorm. It is not uncommon to see clear, sunlit skies behind a tornado.

Facts about tornadoes:

- They may strike quickly, with little or no warning.
- They may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel.
- The average tornado moves southwest to northeast, but tornados have been known to move in any direction.
- The average forward speed of a tornado is 30 MPH, but may vary from stationary to 70 MPH.
- Waterspouts are tornadoes that form over water.
- Tornadoes are most frequently reported east of the Rocky Mountains during spring and summer months.
- Peak tornado season in the southern states is March through May; in the northern states, it is late spring through early summer.
- Tornadoes are most likely to occur between 3 p.m. and 9 p.m., but can occur at any time.

The National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center keeps a database of all severe weather events. With regard to severe storms the database keeps records of thunderstorm and high wind events, hail events, and tornados. According to the NCDC the Storm Events database keeps record of all thunderstorm and wind events, as well as hail events from 1955 forward. However, the lack of damage inducing thunderstorm and high wind events before 1997 and the lack of any recorded events before 1970 call into question the completeness of this data. The tornado events are reportedly tracked back to 1950.

The following table displays all of the damage or injury inducing tornado events in Hancock County that are listed in the NCDL Storm Events Database.

Figure 28: Tornadoes Causing Injuries or Property Damage 1955-Present

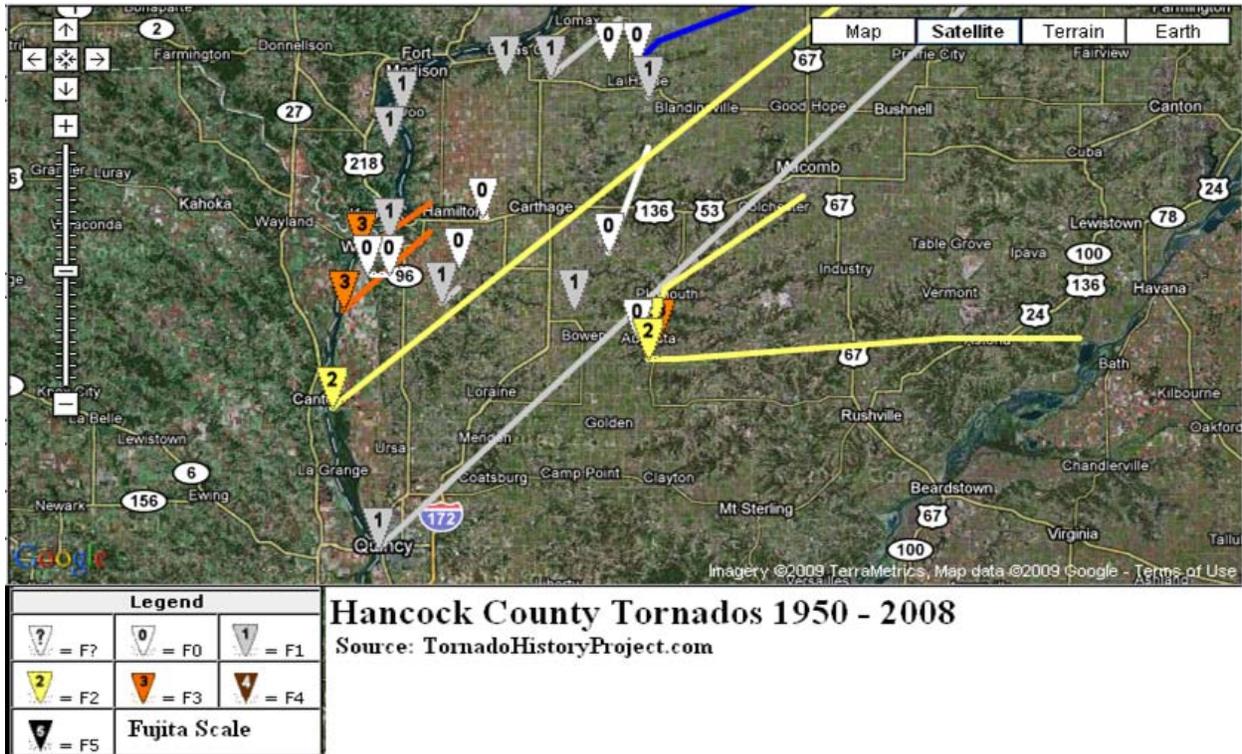
Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 HANCOCK	04/23/1955	1930	Tornado	F1	0	0	3K	0
4 HANCOCK	05/09/1957	1910	Tornado	F1	0	0	3K	0
9 HANCOCK	05/08/1973	2000	Tornado	F1	0	0	0K	0
10 HANCOCK	06/02/1973	1600	Tornado	F1	0	0	0K	0
11 HANCOCK	06/16/1973	1940	Tornado	F1	0	0	0K	0
13 HANCOCK	09/30/1973	1700	Tornado	F3	0	0	0K	0
15 HANCOCK	04/13/1974	1840	Tornado	F3	0	0	2.5M	0
16 HANCOCK	04/13/1974	1900	Tornado	F2	0	10	2.5M	0
31 HANCOCK	06/21/1981	1914	Tornado	F1	0	0	2.5M	0
32 HANCOCK	06/21/1981	1947	Tornado	F1	0	0	3K	0
42 HANCOCK	04/29/1984	2050	Tornado	F0	0	0	0K	0
52 HANCOCK	06/30/1986	0140	Tornado	F1	0	1	25K	0
55 HANCOCK	03/08/1990	1515	Tornado	F2	0	0	250K	0
56 HANCOCK	06/13/1990	1815	Tornado	F0	0	0	0K	0
57 HANCOCK	06/16/1990	1600	Tornado	F1	0	0	25K	0
113 St Mary	04/30/1997	01:03 PM	Tornado	F0	0	0	0	0
115 Warsaw	04/30/1997	12:50 PM	Tornado	F0	0	0	400K	0
116 Warsaw	04/30/1997	12:52 PM	Tornado	F0	0	0	400K	0
117 Warsaw	04/30/1997	12:54 PM	Tornado	F1	0	0	400K	0
140 Warsaw	04/08/1999	05:35 PM	Tornado	F3	0	0	15.0M	0
141 La Harpe	04/08/1999	06:35 PM	Tornado	F0	0	0	0	0
235 Tioga	05/10/2003	05:49 PM	Tornado	F2	0	0	400K	0
315 Warsaw	06/02/2007	19:45 PM	Tornado	F0	0	0	5K	0K
340 Sutter	04/10/2008	17:30 PM	Tornado	F1	0	0	100K	0K
341 Basco	04/10/2008	17:33 PM	Tornado	F0	0	0	20K	0K
342 Elvaston	04/10/2008	17:35 PM	Tornado	F0	0	0	30K	0K

Source: National Climatic Data Center – Storm Events Database

Note: 1 - "HANCOCK" in all capital letters refers to an unspecified location within Hancock County

Figure 29: Tornadoes Causing Injuries or Property Damage 1950-Present

Information about tornado activity in Illinois is posted at the Illinois State Climatologist Web site <http://www.isws.illinois.edu/atmos/statecli/>. Information posted includes tornado climatology; tornado maps, statistics, research and links to other sites. Below are excerpts from the Illinois State Climatologist web site.



Fujita Tornado Scale

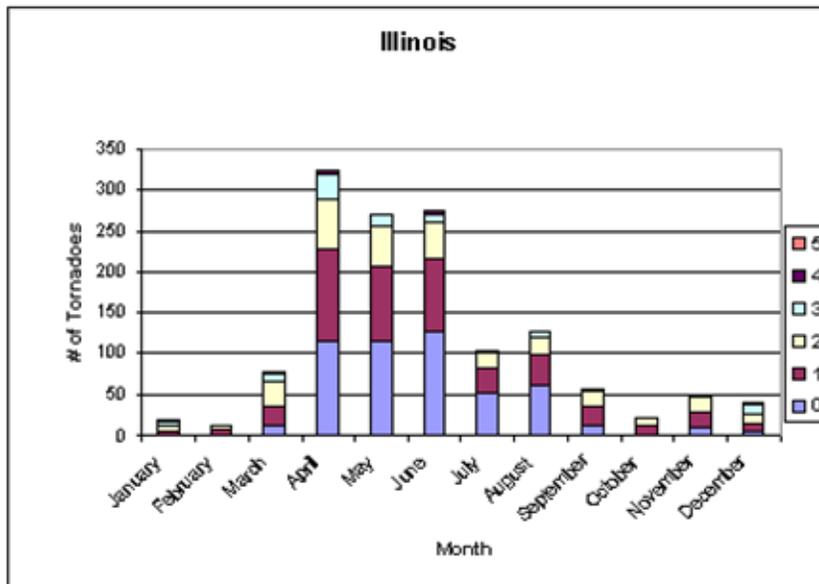
Tornadoes were typically classified using the Fujita or F-scale, the higher the number the worse the damage. In recent years, the F-scale was changed to the EF-scale or "Enhanced Fujita"-scale. This was based on refinements to the original scale and is described in more detail by the NWS [here](#) and [here](#). Below is the original scale.

Figure 30: Fujita Tornado Scale

F-0	40-72 mph	Light damage: some damage to chimneys; tree branches broken; sign boards damaged.
F-1	73-112 mph	Moderate damage: peels off some roofing; mobile homes pushed off foundation; moving cars blown off road.
F-2	113-157 mph	Considerable damage: roofs torn off houses; mobile home demolished; large trees snapped or uprooted; cars lifted off ground.
F-3	158-205 mph	Severe damage: roofs and walls blown down; trains overturned; most trees uprooted; cars lifted and tossed.
F-4	207-260 mph	Devastating damage: well-constructed buildings leveled; cars tossed some distance;
F-5	261-318 mph	Incredible damage: massive destruction; car-size objects thrown as far as 100 meters; most buildings leveled and swept away; incredible phenomena will occur.

Historically, most tornadoes in Illinois have occurred in April through June.

Figure 31: Tornado F-Scale versus Month by F scale in Illinois



WINTER STORMS

Winter storms in Hancock County consist of snow and ice and at times result in blizzard conditions. Winter storms can produce flooding, storm surge, closed highways, blocked roads, downed power lines and hypothermia.

Snowfalls are generally measured in inches but at times have reached over one foot. Blowing snow reduces visibility and is the cause of many vehicle accidents.

A heavy snowstorm is one that produces at least 6" of snow within 48 hours.

A blizzard is a winter storm with sustained winds or frequent gusts of 35 mph or greater and considerable falling or blowing snow reducing visibility to less than ¼ mile for three hours or longer. Drifting is a major concern with roadways being blocked and buildings and driveways becoming inaccessible.

Freezing rain and sleet create slippery roadways and sidewalks causing dangerous conditions and can weigh down tree limbs and power lines causing damage and power outages.

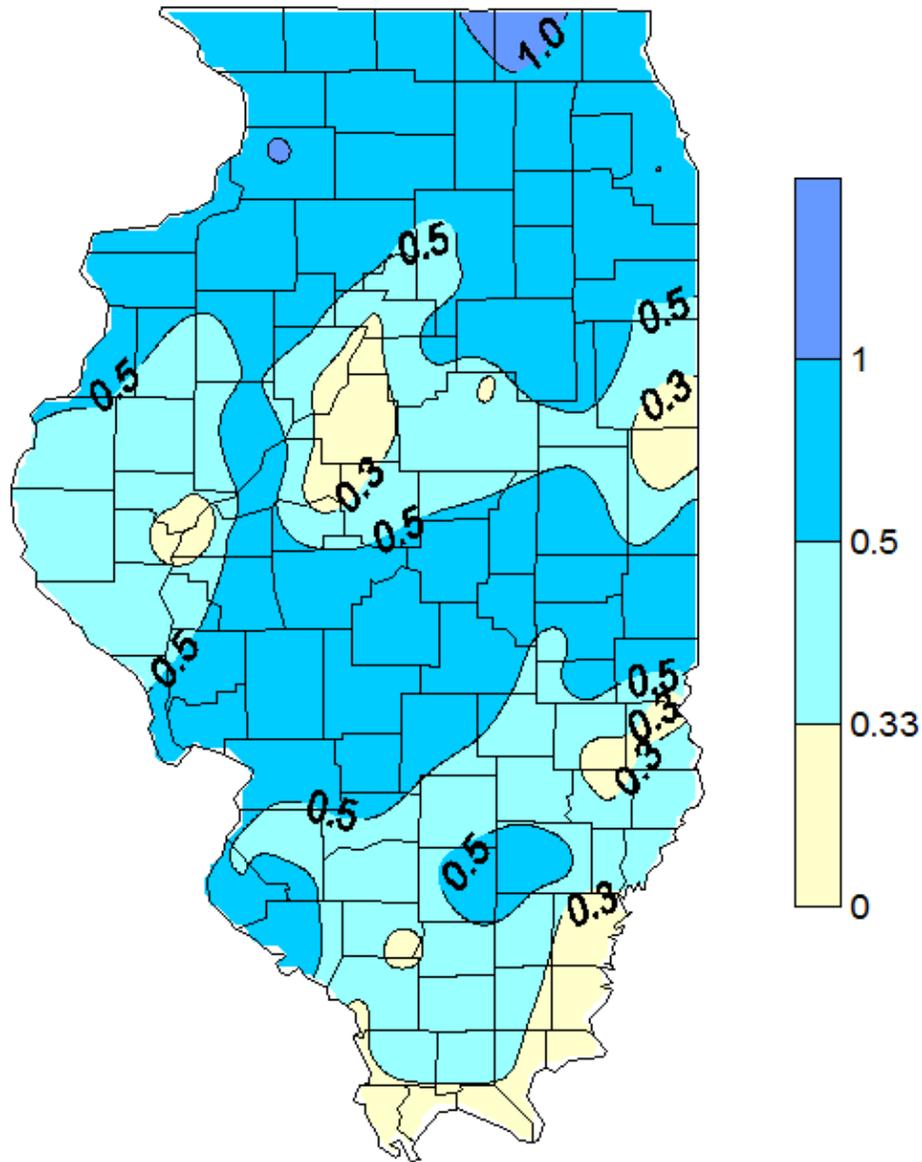
Freezing rain is rain that freezes when it hits the ground, trees, power lines and buildings, creating a coating of ice.

Sleet is rain that turns to ice pellets before reaching the ground and creates slippery conditions.

Winter storms in Illinois can be severe and cause extensive damage. Information about winter storms in Illinois can be found at the Illinois State Climatologist web site

<http://www.isws.illinois.edu/atmos/statecli/Winter/winter.htm>. Figure is a graphic from the web site showing the historical snowfall data.

Figure 32: Average Snowfall



Average number of days with 6 or more inches of snowfall per winter (1971-2000)

"0.33 days per winter" means one storm every 3 years, on average
"0.5 days per winter" means one storm every other year, on average

Illinois State Water Survey, copyright 2003

From 1995 through 2008 there were 76 snow or ice events in Hancock County or 5.4 per year. The following table displays the number of winter storms that have occurred in Hancock County since 1995.

Figure 33: Snow and Ice Events in Hancock County 1995 - Present

Date	Time	Type	Deaths	Injuries	Property Damage	Crop Damage
1/18/1995	6:00 PM	Heavy Snow	0	0	0	0
11/10/1995	4:00 AM	Snow/sleet/freezing Rain	0	0	0	0
11/27/1995	4:00 AM	Snow/sleet/freezing Rain	0	0	0	0
1/18/1996	4:30 AM	Winter Storm	0	0	0	0
11/14/1996	6:00 AM	Winter Storm	0	0	0	0
12/27/1996	6:00 PM	Winter Storm	0	0	0	0
1/9/1997	4:00 AM	Winter Storm	0	0	0	0
1/15/1997	4:00 AM	Winter Storm	0	0	0	0
1/24/1997	4:00 AM	Winter Storm	0	0	0	0
2/3/1997	8:00 PM	Winter Storm	0	0	0	0
4/10/1997	6:00 AM	Heavy Snow	0	0	0	0
12/9/1997	5:00 PM	Heavy Snow	0	0	0	0
12/24/1997	11:00 AM	Heavy Snow	0	0	0	0
1/8/1998	10:00 AM	Winter Storm	0	0	0	0
3/8/1998	12:00 PM	Heavy Snow	0	0	0	0
12/30/1998	5:00 PM	Winter Storm	0	0	0	0
1/1/1999	5:17 AM	Winter Storm	0	0	0	0
3/5/1999	3:00 PM	Winter Storm	0	0	0	0
3/8/1999	4:00 PM	Winter Storm	0	0	0	0
12/15/1999	4:00 AM	Winter Storm	0	0	0	0
12/16/1999	7:00 PM	Winter Storm	0	0	0	0
12/19/1999	3:00 PM	Winter Storm	0	0	0	0
12/23/1999	2:00 PM	Winter Storm	0	0	0	0
1/3/2000	3:00 PM	Winter Storm	0	0	0	0
1/17/2000	8:00 AM	Winter Storm	0	0	0	0
1/29/2000	3:00 PM	Winter Storm	0	0	0	0
2/17/2000	7:00 PM	Winter Storm	0	0	0	0
12/1/2000	2:00 AM	Snow	0	0	0	0
12/10/2000	10:00 PM	Winter Storm	0	0	0	0
12/13/2000	8:00 AM	Snow	0	0	0	0
12/15/2000	1:00 PM	Ice Storm	0	0	0	0
12/18/2000	4:00 AM	Snow/blowing Snow	0	0	0	0
12/20/2000	7:00 AM	Snow	0	0	0	0
12/28/2000	10:00 AM	Snow	0	0	0	0
1/26/2001	2:00 AM	Snow/blowing Snow	0	0	0	0
1/28/2001	10:00 AM	Ice Storm	0	0	0	0
2/8/2001	11:00 PM	Winter Storm	0	0	0	0
4/14/2001	5:00 PM	Snowmelt Flooding	0	0	0	0

Figure 33: Snow and Ice Events in Hancock County 1995 - Present

Date	Time	Type	Deaths	Injuries	Property Damage	Crop Damage
1/30/2002	5:00 AM	Winter Storm	0	0	0	0
3/1/2002	5:00 PM	Winter Storm	0	0	0	0
1/2/2003	1:00 AM	Winter Storm	0	0	0	0
1/15/2003	11:00 PM	Winter Storm	0	0	0	0
2/14/2003	4:00 PM	Winter Storm	0	0	0	0
11/24/2004	1:45 PM	Heavy Snow	0	0	15K	0
1/5/2005	3:00 AM	Ice Storm	0	0	80K	0
12/8/2005	3:00 AM	Winter Weather/mix	0	0	0	0
1/20/2006	6:00 PM	Ice Storm	0	0	15K	0
2/15/2006	9:00 PM	Winter Weather	0	0	10K	0
3/21/2006	2:00 AM	Winter Weather	0	0	10K	0
11/30/2006	6:30 PM	Winter Storm	0	0	0	0
12/1/2006	12:00 AM	Winter Storm	0	0	0	0
1/12/2007	7:15 AM	Ice Storm	0	0	0	0
1/20/2007	7:00 PM	Winter Weather	0	0	0	0
2/6/2007	5:25 AM	Winter Weather	0	0	0	0
2/12/2007	10:15 PM	Winter Storm	0	0	0	0
2/16/2007	3:45 PM	Winter Weather	0	0	0	0
2/24/2007	7:45 AM	Ice Storm	0	0	0	0
12/1/2007	7:00 AM	Ice Storm	0	0	0	0
12/6/2007	2:20 PM	Winter Weather	0	0	0	0
12/10/2007	10:00 PM	Ice Storm	0	0	0	0
12/15/2007	3:00 AM	Winter Weather	0	0	0	0
12/22/2007	9:30 PM	Winter Weather	0	0	0	0
12/28/2007	5:00 AM	Winter Weather	0	0	0	0
12/31/2007	11:00 AM	Winter Weather	0	0	0	0
1/29/2008	1:00 PM	Winter Weather	0	0	0	0
1/31/2008	12:45 PM	Winter Weather	0	0	0	0
2/1/2008	12:00 AM	Winter Storm	0	0	0	0
2/1/2008	12:00 AM	Winter Weather	0	0	0	0
2/3/2008	2:30 PM	Winter Weather	0	0	0	0
2/6/2008	5:00 AM	Winter Weather	0	0	0	0
2/25/2008	6:00 PM	Winter Weather	0	0	0	0
2/28/2008	4:00 PM	Winter Weather	0	0	0	0
11/30/2008	1:30 AM	Winter Weather	0	0	0	0
12/16/2008	9:00 AM	Winter Weather	0	0	0	0
12/18/2008	6:30 PM	Ice Storm	0	0	0	0
2/20/2009	11:00 PM	Winter Weather	0	0	0	0

Source: National Climatic Data Center

DROUGHT

(Source: Illinois State Climatologist Office)

Drought is a complex physical and social phenomenon of widespread significance, and despite all the problems droughts have caused, drought has been difficult to define. There is no universally accepted definition because: 1) drought, unlike flood, is not a distinct event, and 2) drought is often the result of many complex factors acting on and interacting within the environment. Complicating the problem of drought is the fact that drought often has neither a distinct start nor end. It is usually recognizable only after a period of time and, because a drought may be interrupted by short spells of one or more wet months, its termination is difficult to recognize.

Drought is also a temporary feature of the climate of Illinois, and we know it occurs only when less than adequate precipitation exists for an extended period of time. Because of the complex nature of droughts, there are many definitions, often reflecting a specific area of concern of an individual, a city, or a region.

The most commonly used drought definitions are:

1. Meteorological or Climatological Drought – a period of well-below-average precipitation that spans from a few months to a few years.
2. Agricultural Drought – a period when soil moisture is inadequate to meet the demands for crops to initiate and sustain plant growth.
3. Hydrological Drought – a period of below-average stream flow and/or depleted reservoir storage.

How are droughts measured? The Illinois State Climatologist Office website shows a method for estimating drought conditions on a state-wide basis.

Figure 34: Severity of Precipitation Drought Expressed as Percent of the State-wide Average Precipitation

Drought Duration	Moderate Drought	Severe Drought
3 months	45 to 60%	less than 45%
6 months	56 to 70%	less than 56%
12 months	70 to 80%	less than 70%
24 months	78 to 90%	less than 78%

According to the National Drought Mitigation Center there have been 82 reported impacts from droughts affecting Hancock County from 1970 to the present. These impacts fall into several categories. There were 37 agricultural impacts, 14 water/energy impacts, 5 environmental impacts, 4 social impacts, 1 fire impact and 20 other impacts. It should be noted that a single drought event can have multiple impacts which fall into different impact categories. Hancock County was affected in many including crop damage, drinking water issues, and barge traffic congestion.

Hancock County was one of several counties affected by the drought of 2005-06. This drought started in June of 2005 and continued through March of 2006. The drought affected Bureau, Carroll, Hancock, Henderson, Henry, Jo Daviess, McDonough, Hancock, Putnam, Rock Island, Stephenson, Warren, and Whiteside counties. In total the drought did \$228.5 million in crop damage. The NCDRC provides descriptions of this drought:

“The drought that began back in June 2005 continued through December 2005 and into January 2006. Since the growing season was now over, the main impacts on the drought were hydrologic. A report on the hydrologic conditions is supplied by the service hydrologist. Stream flows began the month with most locations reporting near normal (25th to 74th percentile) conditions. A few locations reported above normal (76th to 90th percentile) conditions and a few locations reported below normal (10th to 24th percentile) conditions. From the 2nd through the 6th most locations reported below normal conditions, with a few locations reporting much below normal (less than 10th percentile) conditions and a few locations reporting near normal conditions. After the 6th most locations returned to the same conditions they experienced when the month began. Aside from some minor day to day fluctuations, these conditions persisted through the end of the month. December's precipitation was below normal. Total precipitation for the month was 1.26 inches, or 0.61 inches below normal and 67% of normal. The six-month precipitation total was 11.71 inches, or 7.05 inches below normal and 62% of normal. December was the eleventh consecutive month with below normal precipitation. During this eleven-month period total precipitation has been 21.85 inches, or 13.08 inches below normal and 63% of normal. According to the U.S. Drought Monitor maps (<http://drought.unl.edu/dm/>), the drought conditions for the HSA did not change much during the month. By the end of the month, the eastern two-thirds of the HSA were in the Extreme Drought (D3) category. The western one-third of the HSA was in the Severe Drought (D2) or Moderate Drought (D1) category. According to the NOAA/NWS Climate Prediction Center, parts of the HSA have been extremely dry over the past year. In the northwest Illinois climate division the yearly precipitation total for 2005 was in the lowest 1% of all annual precipitation totals for 1895 through 2005. In the east central Iowa climate division the total for 2005 was in the lowest 4% of all annual precipitation totals for the same time period. Conditions have also been dry, albeit not as severe, over the past three years. In the northwest Illinois climate division the three-year precipitation total for 2003 through 2005 was in the lowest 4% of all three-year precipitation totals for 1897 through 2005. In the east central Iowa climate division the total for 2003 through 2005 was in the lowest 10% of all three year precipitation totals for the same time period. “The drought that began back in June 2005 continued through March 2006 but shrunk considerably in size and scope by the start of April 2006. This shrinkage was due to a persistent wet pattern that had set up during March 2006 and continued into April 2006. Since the growing season had yet to begin, the drought was essentially hydrologic in nature. A report of the hydrologic conditions is supplied by the service hydrologist. River Conditions Monthly stream flows for March averaged near normal (25th to 75th percentile) to below normal (10th to 24th percentile). All basins averaged below normal except for the lower Cedar-Iowa River basins and the entire Rock River basin, which averaged near normal. Stream flows began the month with most locations reporting stream flows that were below normal (10th to 24th percentile) or much below normal (less than 10th percentile). A few locations reported near normal (25th to 75th percentile) conditions and one location reported a record low flow for the day. Stream flows gradually decreased until moderate rainfall fell on the 5th. On the 6th, stream flows began increasing in response to this rainfall. Stream flows then remained nearly steady or increased slightly through the 13th when most locations reported near normal conditions. Some locations reported below normal (10th to 24th percentile) flows while other locations reported above normal (76th to 90th percentile) flows. Stream flows then gradually decreased into the late parts of the month but then rose on the last day of the month. On the 30th most locations reported below normal conditions while some locations reported near or much below normal flows. Moderate rainfall on the 30th resulted in flow increases on the 31st. On that day, half of the locations reported below or much below normal flows and half of the locations reported near or above below normal flows. Source: U.S. Geological Survey, WaterWatch Web site (<http://water.usgs.gov/waterwatch/>). Drought According to the U.S. Drought Monitor maps, minimal changes in the drought situation occurred during the month. Severe drought conditions (D2) continued to cover much of the HSA with moderate drought conditions (D1) across northwestern portions of the HSA.”

EXTREME TEMPERATURES

(Source: Illinois Climatologist Office-Illinois State Water Survey)

Extreme heat is a combination of high temperatures and high humidity. Conditions of extreme heat are dangerous and can cause injury and death. The Heat Index is apparent temperature or a measure of how it feels when temperature and humidity are combined. It is the result of biometeorological studies and takes into account body size, core and body surface temperatures, clothing, the skin's resistance to heat and moisture transfer away from the body. The Heat Index assumes an average-sized adult with clothing in the shade with a 5-mph wind. Being in the full sun or in an area with little air movement can increase the apparent temperature.

What makes extreme heat dangerous? The body cools itself by sweating because the evaporation of moisture has a cooling effect. High humidity reduces this evaporation and hinders the body's effort to cool itself. The dew point temperature is a useful measure of the moisture content of the atmosphere. During summer in Illinois, dew point temperatures in the 50s are generally comfortable. Most people begin to feel the humidity when dew point temperatures are in the 60s. Dew point temperatures in the 70s are rare and cause significant discomfort.

Effects of extreme heat:

- Heat cramps: muscular pains and spasms due to heavy exertion. They usually involve the abdominal muscles or legs. It is thought that the loss of water from heavy sweating causes the cramps.
- Heat exhaustion: occurs when people exercise heavily or work in a warm, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to vital organs. This results in mild shock.
- Heatstroke/Sunstroke: LIFE THREATENING. The victim's temperature control system stops working as the body quits producing sweat. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly.

The following Figure includes all the extreme temperature entries for Hancock County in the NCDC database. It should be noted that these temperature extremes affected an area larger than just Hancock County.

Figure 35: Temperature Extremes in Hancock County 1996-Present

Date	Time	Type	Deaths	Injuries
1/30/1996	8:00 PM	Extreme Cold	0	0
2/1/1996	12:00 AM	Extreme Cold	0	0
1/10/1997	4:00 AM	Extreme Windchill	0	1
1/17/1997	4:00 AM	Extreme Windchill	0	0
7/25/1997	4:00 AM	Excessive Heat	0	0
7/19/1999	4:00 AM	Excessive Heat	1	0
8/31/2000	4:21 AM	Excessive Heat	0	0
12/16/2000	2:00 PM	Extreme Windchill	0	0
12/21/2000	4:00 AM	Extreme Windchill	0	0
12/23/2000	10:00 PM	Extreme Windchill	0	0
2/2/2007	4:00 AM	Extreme Cold/wind Chill	0	0
1/14/2009	23:00 PM	Extreme Cold/wind Chill	0	0

Source: National Climatic Data Center

Note: (1) - The person who passed away was not a Hancock County resident, they lived in Kewanee.

EARTHQUAKE

(Source: 2007 Illinois Natural Hazard Mitigation Plan)

Earthquakes occur when rocks forming the earth's crust slip past each other along a fault. This slippage occurs when the buildup of stresses gets to the point that they are greater than the strength of the locked up section of rocks along the fault plane. When faulting takes place, the sudden release of energy produces vibrations or seismic (shock) waves that radiate from the main fault movements. These waves cause the shaking or "quaking" that lasts tens of seconds to a few minutes, depending on the magnitude of the event (energy released) and what kinds of rocks they travel through and the stiffness or lack of stiffness of the soils at a site. Where the faulting starts, at some depth below the Earth's surface, is the hypocenter (focus) of an earthquake. The point on the surface directly above the focus is the epicenter.

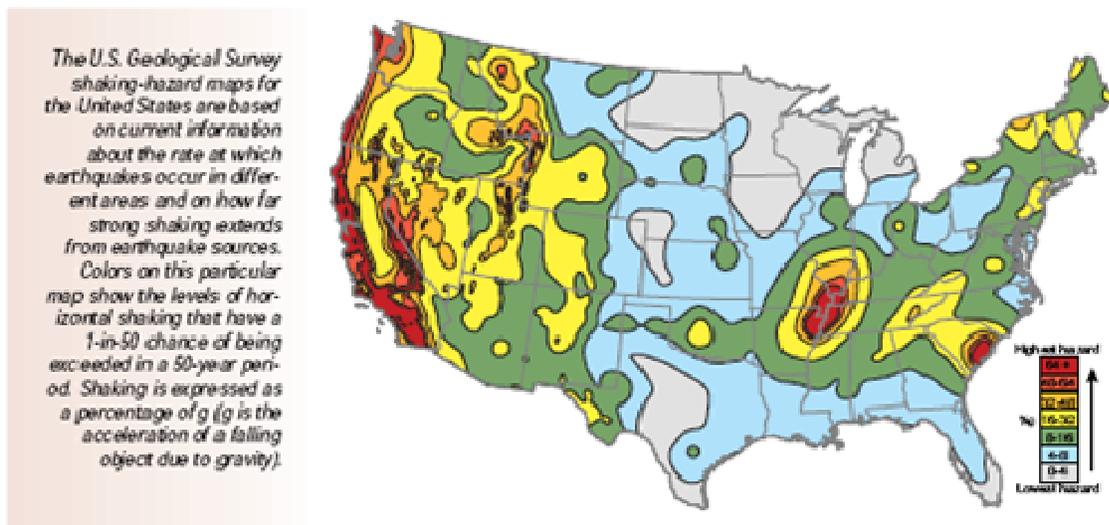
There are two ways to measure earthquakes.

The magnitude is a calculation of the seismic energy released and is measured through ground vibrations with a seismograph. The familiar Richter Scale is one way of reporting magnitude. The increments of magnitude are logarithmic. An increase of 0.2 on the Richter Scale indicates a doubling of the amount of energy released. For example, a magnitude 7 earthquake releases about 32 times more energy than a magnitude 6 earthquake. A single magnitude number is calculated for each earthquake event.

The intensity relates to the effects of an earthquake and is based on descriptions provided by people experiencing the event rather than readings from an instrument. The intensity decreases when moving away from the epicenter. The type of soil influences intensity which will be stronger through the thick, loose, saturated soils found along river valleys. The Modified Mercalli Intensity Scale is used in the United States to report earthquake intensities. Many intensities are indicated for each earthquake event based on distance from the epicenter and soil type.

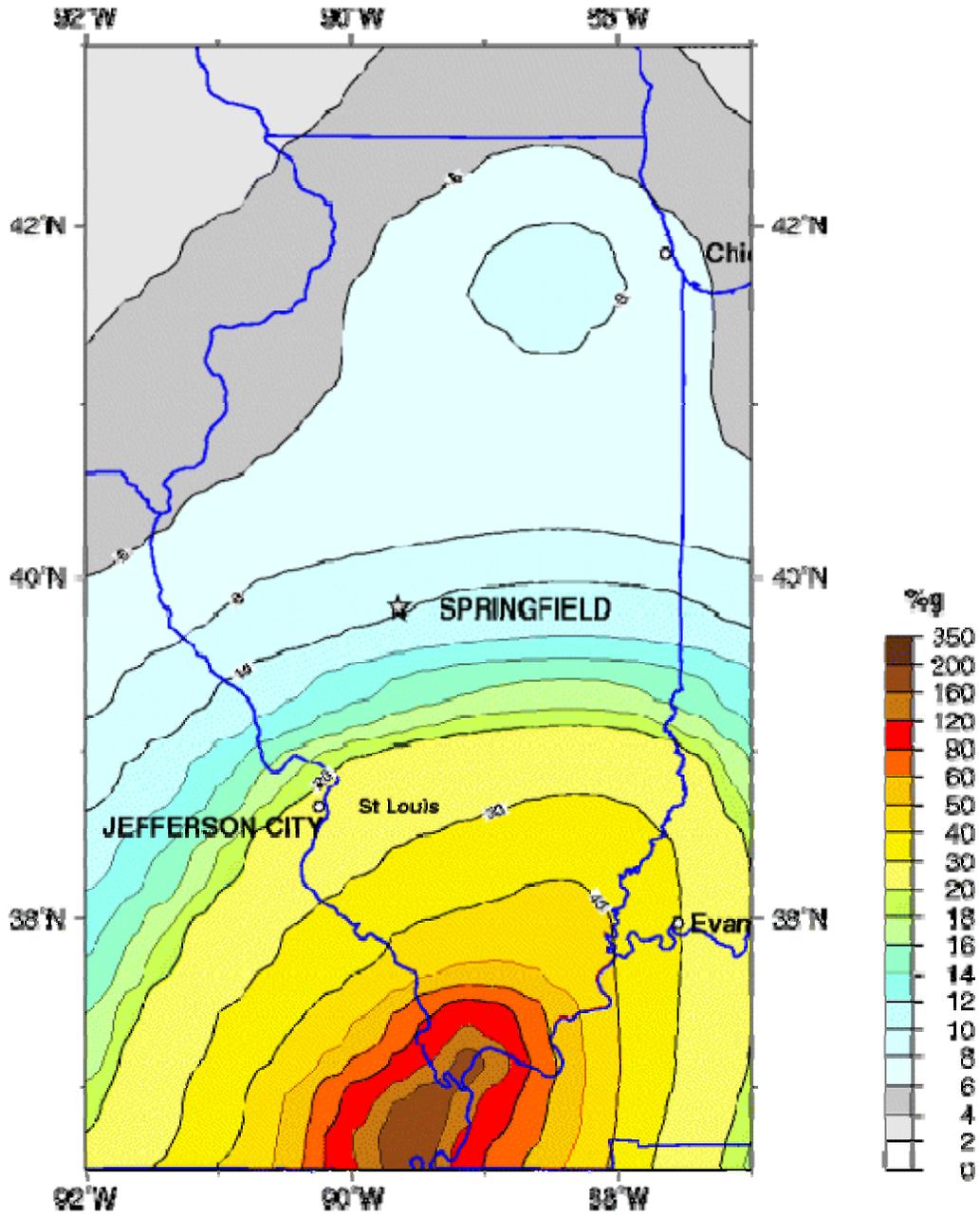
There is no record of significant earthquake damage in Hancock County.

Figure 36: Shaking Hazard Map



(Source: U.S. Geological Survey)

Figure 38: Illinois Seismic Map



Peak Acceleration (%g) with 2% Probability of Exceedance in 50 Years
site: NEHRP B-C boundary
National Seismic Hazard Mapping Project (2008)

FLOOD

(Source: *Illinois Natural Hazard Mitigation Plan.*)

Except for fire, the most common hazard in the United States is flooding with thousands occurring each year from oceans, rivers, lakes, small stream, gullies, creeks, culverts, dry streambeds or low-lying ground. The standard definition of a flood is “A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters, (2) the unusual and rapid accumulation or runoff of surface waters from any source, or (3) mudflows or the sudden collapse of shoreline land.” A simpler definition is too much water in the wrong place. Since water circulates from clouds to the soil to streams to rivers to the oceans and returns to the clouds, a scientific definition of a flood is an imbalance in the “hydrological system” with more water flowing through the system than the system can draw off.

Floods are not all alike:

Riverine Floods: Develop slowly, sometimes over a period of days or weeks.

Flash Floods: Develop quickly, sometimes in just a few minutes. Usually flash floods are the result of intense storms dropping large amounts of rain within a brief period.

Overland Floods: Occurs outside a defined river or stream (e.g., ponding in a low lying area).

Aquifer Flood: Water is expelled from a subterranean geologic formation to the surface causing flooding in the immediate area.

Subterranean Flood: Water floods into tunnels that are normally dry.

Snow melt filling rivers too quickly, heavy rainfall associated with slow-moving, low-pressure or frontal storm systems or storm surge create excess water. This water accumulates and overflows onto adjacent lands not normally covered by water. These floods can occur any time of the year, any time of the day or night and in any part of the country. Flooding can be local, impacting a neighborhood or community, or very large, affecting entire river basins and multiple states. The severity of floods is determined by the amount of rainfall or other water source, duration, topography, ground cover, frozen soil, wet or saturated soil that can't hold any more water, full reservoirs, high rivers or stream levels, ice-covered rivers or urbanizations (lots of buildings, parking lots and roads). The majority of scientists believe that global warming causes extremes in weather that have increased flooding. Human activity influences the frequency and severity of floods.

Figure 39: Flooding Events in Hancock County since 1955

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
170 Warsaw	07/11/2000	03:40 AM	Flash Flood	N/A	0	0	0	0
226 Carthage	05/12/2002	02:15 AM	Flash Flood	N/A	0	0	0	0
227 Countywide	05/12/2002	12:10 AM	Flash Flood	N/A	0	0	0	0
228 Countywide	06/11/2002	02:35 PM	Flash Flood	N/A	0	0	0	0
229 Carthage	06/13/2002	05:05 AM	Flash Flood	N/A	0	0	0	0
230 Nauvoo	06/13/2002	05:05 AM	Flash Flood	N/A	0	0	0	0
231 La Harpe	06/13/2002	05:50 AM	Flash Flood	N/A	0	0	0	0
240 Hamilton	07/08/2003	07:20 PM	Flash Flood	N/A	0	0	100K	20K
316 La Harpe	06/22/2007	04:50 AM	Flash Flood	N/A	0	0	OK	OK

Figure 39: Flooding Events in Hancock County since 1955

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
317 La Harpe	06/22/2007	06:32 AM	Flash Flood	N/A	0	0	OK	OK
319 La Harpe	06/22/2007	21:45 PM	Flash Flood	N/A	0	0	OK	OK
343 Hamilton	04/25/2008	06:19 AM	Flash Flood	N/A	0	0	OK	OK
365 Sutter	12/27/2008	04:35 AM	Flash Flood	N/A	0	0	OK	OK
372 Dallas City	05/15/2009	04:57 AM	Flash Flood	N/A	0	0	OK	OK
375 Warsaw	06/01/2009	18:45 PM	Flash Flood	N/A	0	0	OK	OK
379 Niota	08/27/2009	20:15 PM	Flash Flood	N/A	0	0	OK	OK
88 Carthage	05/16/1995	1947	Flash Flooding	N/A	0	0	0	0
109 Countywide	02/20/1997	04:00 PM	Flood	N/A	0	0	0	0
111 Multi-county, including Hancock	04/08/1997	06:00 AM	Flood	N/A	0	0	0	0
164 Multi-county, including Hancock	06/02/2000	08:30 AM	Flood	N/A	0	0	0	0
194 Multi-county, including Hancock	05/01/2001	01:00 AM	Flood	N/A	0	0	0	0
236 Multi-county, including Hancock	05/20/2003	01:03 AM	Flood	N/A	0	0	6.0M	0
259 Multi-county, including Hancock	05/24/2004	10:50 AM	Flood	N/A	0	0	0	0
264 Multi-county, including Hancock	06/01/2004	12:00 AM	Flood	N/A	0	0	0	0
266 Multi-county, including Hancock	08/27/2004	04:48 PM	Flood	N/A	0	0	0	6K
269 Multi-county, including Hancock	09/16/2004	04:30 AM	Flood	N/A	0	0	0	10K
270 Multi-county, including Hancock	10/23/2004	10:00 PM	Flood	N/A	0	0	0	0
271 Multi-county, including Hancock	11/01/2004	10:19 AM	Flood	N/A	0	0	0	0
273 Multi-county, including Hancock	12/07/2004	08:11 AM	Flood	N/A	0	0	0	0
274 Multi-county, including Hancock	01/04/2005	12:00 AM	Flood	N/A	0	0	0	0
276 Multi-county, including Hancock	01/12/2005	10:56 PM	Flood	N/A	0	0	0	0
277 Multi-county, including Hancock	02/14/2005	12:30 AM	Flood	N/A	0	0	0	0
318 La Harpe	06/22/2007	12:05 PM	Flood	N/A	0	0	OK	OK
320 Dallas City	06/23/2007	05:30 AM	Flood	N/A	0	0	OK	OK
339 Warsaw	04/01/2008	00:00 AM	Flood	N/A	0	0	OK	OK
345 Tioga	05/01/2008	18:00 PM	Flood	N/A	0	0	OK	OK
346 Niota	06/01/2008	00:00 AM	Flood	N/A	0	0	OK	OK
369 Dallas City	04/30/2009	05:33 AM	Flood	N/A	0	0	OK	OK
370 Durham	05/01/2009	08:30 AM	Flood	N/A	0	0	100K	OK
373 Durham	05/15/2009	20:00 PM	Flood	N/A	0	0	250K	OK
192 Multi-county, including Hancock	04/14/2001	05:00 PM	Snowmelt Flooding	N/A	0	0	0	0
130 Countywide	05/23/1998	11:37 PM	Urban/sml Stream Fld	N/A	0	0	0	0
142 Hamilton	04/08/1999	07:00 PM	Urban/sml Stream Fld	N/A	0	0	0	0
166 Carthage	06/26/2000	12:45 AM	Urban/sml Stream Fld	N/A	0	0	0	0
167 Countywide	07/04/2000	01:39 PM	Urban/sml Stream Fld	N/A	0	0	0	0
168 Niota	07/04/2000	12:38 PM	Urban/sml Stream Fld	N/A	0	0	0	0

Figure 39: Flooding Events in Hancock County since 1955

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
172 Carthage	07/31/2000	05:45 PM	Urban/sml Stream Fld	N/A	0	0	0	0
189 Countywide	02/24/2001	09:00 AM	Urban/sml Stream Fld	N/A	0	0	0	0
213 Carthage	08/22/2001	07:24 PM	Urban/sml Stream Fld	N/A	0	0	0	0
214 Augusta	08/22/2001	10:15 PM	Urban/sml Stream Fld	N/A	0	0	0	0
217 Carthage	10/21/2001	07:00 PM	Urban/sml Stream Fld	N/A	0	0	0	0
218 Carthage	10/21/2001	09:40 PM	Urban/sml Stream Fld	N/A	0	0	0	0

HAZUS FLOOD HAZARD ANALYSES

The Federal Emergency Management Agency (FEMA) has developed and supports the use of HAZUS-MH methodology (<http://www.fema.gov/plan/prevent/hazus>) which uses Geographic Information Systems (GIS) tools and fiscal data to assess risk in terms of potential losses for a given flood event or other natural disaster scenario. This analysis helps to identify potential impacts of natural hazards for planning and mitigation. Flood Insurance Rate Maps (FIRMs) show the expected extent of flooding inundation. However, the risk exposure is a combination of the extent and depth of flooding combined with social and economic impacts. The HAZUS analyses conducted for Hancock County combines the computational power of HAZUS-MH with updated information for essential facilities and flood hazards to provide a solid, consistent framework to quantify the county's risk. The information generated can be used for planning mitigation efforts in order to reduce risk and for planning emergency response. Furthermore, the objective HAZUS-MH output will provide a baseline for evaluating success in reducing natural hazard risk exposure when conducting future assessments.

The HAZUS-MH assessment is highly data dependent; the accuracy of the analyses depends on a number of important datasets including essential facilities and general building stock inventories. Use of the national datasets is considered a Level 1 HAZUS-MH analysis. The Hancock County HAZUS work included an update of the Essential Facilities database and use of updated flood data for the Mississippi River. The HAZUS analysis was performed to investigate impact of the 1% annual chance flood (a.k.a. the 100-year flood).

The Mississippi River along the western border of Hancock County presents the county's greatest flood hazard. Mississippi River flood elevations were determined by the January 2004 Upper Mississippi River System Flow Frequency Study (UMRSFFS) (USACE, 2004). The UMRSFFS was developed by five Corps of Engineer Districts (St. Paul, Rock Island, Omaha, Kansas City, St. Louis) and coordinated through representatives from seven federal agencies and seven states. In the HAZUS analyses for flooding from the Mississippi River, a flood depth grid was manually generated and then input to HAZUS-MH for analysis. The flood depth grid was created using 1% annual chance flood elevations at cross sections from the 2004 U.S. Army Corps of Engineers (USACE) Upper Mississippi River Flow Frequency Study (UMRSFFS). The elevations at cross sections were made into a grid, and ground elevations were subtracted from this grid, creating a flood depth grid. The ground elevations were derived from topographic information supplied by the USACE specifically for their Mississippi River study.

For areas outside of the Mississippi River flood plain, HAZUS-MH generated the flood depth grid for a 1% annual chance flood for streams draining 5 square miles or more, based on the United States Geological Survey (USGS) 1/3 ArcSecond National Elevation Dataset (NED), or 10 meter Digital Elevation Model (DEM).

Essential facility data are an example of site-specific information used in HAZUS-MH for analysis. Essential facility data include schools, medical care facilities, emergency operation centers, police stations, and fire stations. The HAZUS-MH MR3 database was updated using community feedback from meetings, updated database information from HAZUS-MH MR4, and the National Geospatial-Intelligence Agency dataset. The HAZUS-MH MR4 (Maintenance Release 4, August 2009) database was modified using community feedback from meetings, and the National Geospatial-Intelligence Agency dataset. Locations of these facilities were confirmed using community feedback and Internet mapping services such as Google Maps.

The default HAZUS-MH MR4 General Building Stock (GBS) database used in the analysis includes residential, commercial, industrial, agricultural, religious, government, and educational buildings. Default databases in HAZUS include square footage by occupancy, building count by occupancy, and

general occupancy mapping. These data for residential structures are derived from the Census 2000. Data for non-residential structures are derived from Dun & Bradstreet (D&B). Information in the default HAZUS-MH database was adjusted for regional differences using information from three reports from the Department of Energy (DOE). Characteristics such as number and size of garages, type of foundation, and number of stories are modified by region. U.S. Census Bureau data that are publically distributed do not include specific housing information; rather, the data provided are aggregated to the census tract (which has about 4000 people), thus reducing the scale and resolution of flood damage estimates which are building specific.

Loss estimates from HAZUS-MH are based on both site-specific analysis as well as aggregate analysis. Aggregate loss estimates, including general building stock analysis, are based on the assumption that structures are evenly distributed across census blocks. It is possible to have underestimates of damage in some areas as well as overestimates of damage in other areas. These damage estimates are more reliable over larger areas than at the census block level. This analysis is meant to assess the risk of flood hazard at the county level in order to serve as a planning aid. Performing a flood analysis at the census block level with small numbers of buildings makes damage analysis estimates sensitive to rounding errors.

Damages to aggregate building stock are based upon regional models that categorize each building into a structural class. It is assumed that each structural class will respond in a similar way to specific flooding depths. Loss estimates for aggregate structural losses need to be viewed as averages for a group of similar buildings rather than as exact estimates to individual structures.

The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software, which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific flood.

Results of the HAZUS-MH flood analyses are presented in the following tables.

ESSENTIAL FACILITIES LIST

Figure 39 identifies the essential facilities that were used for the analysis. A complete list and map of the essential facilities are included in the Appendix.

Figure 39: Essential Facilities List

Facility	Number of Facilities
Medical Care Facilities	8
Emergency Centers	1
Fire Stations	13
Police Stations	9
Schools	22

ESSENTIAL FACILITIES DAMAGE

The HAZUS-MH analysis identified the Dallas City Rural Fire Protection District station, located within the unincorporated community of Niota, to be at risk for moderate flooding damages. A map of the essential facilities potentially at risk to flooding is shown in Figure X.

Figure 40: 1% Annual Chance Flood Boundary and Essential Facilities at Risk



Essential facilities located within the flood boundary are at risk for damages similar to those of other buildings located within the flood risk area. These damages include structural failure, water damage, and loss of facility functionality. Not only is the structure vulnerable to damage, the contents and staff are also at great risk. A complete list of all the essential facilities is included in Appendix X. A map of the essential facilities is included in Appendix X.

GENERAL BUILDING STOCK

HAZUS estimates that there are 12,148 buildings in Hancock County, which have an aggregate total replacement value of 1,387 million dollars (2006 dollars). Table X.2 and Table X.3 present the relative distribution of the replacement value with respect to the general occupancies for Hancock County and by the 1% Annual Chance Flood Scenario, respectively.

Figure 41: Building Exposure by Occupancy Type for Hancock County

Occupancy	Exposure (\$1000)	% of Total
Residential	992,247	71.5%
Commercial	60,150	11.5%
Industrial	35,328	2.60%
Agricultural	106,588	7.70%
Religion	52,699	3.80%
Government	10,963	0.80%
Education	29,060	2.10%
Total	1,387,035	100.00%

Figure 42: Building Exposure by Occupancy Type for the 1% Annual Chance Flood Scenario

Occupancy	Exposure (\$1000)	% of Total
Residential	210,574	77.90 %
Commercial	26,905	9.90 %
Industrial	2,773	1.00 %
Agricultural	16,265	6.00%
Religion	10,743	4.00%
Government	1,377	0.50%
Education	1,785	0.70%
Total	270,422	100.00%

GENERAL BUILDING STOCK DAMAGE

The HAZUS Flood Model methodology for estimating direct physical damage (e.g., repair costs) to the general building stock is fairly simple and straightforward. For a given census block, each occupancy class (and foundation type) has an appropriate damage function assigned to it (i.e., 1-story, no basement), and computed water depths are used to determine the associated percent damage. This percent damage is multiplied by the full (and depreciated) replacement value of the occupancy class in question to produce an estimate of total full (and depreciated) dollar loss. The “damage states” are derived from the percent damage (e.g., 1-10% damage is considered slight, 11-50% damage is considered moderate, and 51-100% is considered substantial damage).

HAZUS estimates that about 19 buildings will be at least moderately damaged. This is more than 8% of the total number of buildings in the scenario. An estimated 3 buildings will be completely destroyed. Table X.4 below summarizes the expected damage by general occupancy for the buildings in Hancock County.

Figure 43: Expected Building Damage by Occupancy

	1-10		11-20		21-30		31-40		41-50		Substantially	
	Count	%	Count	%								
Occupancy	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Agriculture	0	0.00	1	50.0	0	0.00	1	50.0	0	0.00	0	0.00
Commercial	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Education	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Government	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Industrial	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Religion	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Residential	1	5.56	0	0.00	2	11.1	4	22.2	8	44.4	3	16.7
Total	1		1		2		5		8		3	

BUILDING-RELATED LOSSES

The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The total building-related losses were approximately 23.17 million dollars. Table X.5 below provides a summary of the losses associated with building damages.

Figure 44: Building-Related Economic Loss Estimates (Millions of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
Building Loss						
	Building	6.55	1.00	0.09	0.81	8.45
	Content	3.68	2.85	0.13	2.06	8.72
	Inventory	0.00	0.07	0.02	0.22	0.31
	Subtotal	10.23	3.92	0.24	3.09	17.48

SHELTER REQUIREMENTS

HAZUS estimates the number of households that are expected to be displaced from their homes due to the flood and the associated potential evacuation. HAZUS also estimates the number of displaced people that will require accommodations in temporary public shelters. The model estimates 160 households will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, 35 people (out of a total population of 20,121) will seek temporary shelter in public shelters.

DEBRIS GENERATION

HAZUS estimates the amount of debris that will be generated by the flood. The model breaks debris into three general categories: 1) Finishes (dry wall, insulation, etc.), 2) Structural (wood, brick, etc.) and 3) Foundations (concrete slab, concrete block, rebar, etc.). This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 2,573 tons of debris will be generated. Of the total amount, Finishes comprises 44% of the total, and Structure comprises 31% of the total. If the debris tonnage is converted into an estimated number of truckloads, it will require 103 truckloads (@25 tons/truck) to remove the debris generated by the flood.

Bibliography: *Upper Mississippi River System Flow Frequency Study Final Report*. January 2004, U.S. Army Corps of Engineers, Rock Island.

NATURAL HAZARDS –PROBABILITY AND ASSESSING VULNERABILITY

Hancock County, Illinois is a risk for multiple types of natural hazards, including floods, severe storms, tornados, severe winter storms, extreme temperature days, earthquake and drought. While natural hazards are unpredictable by nature, an analysis of historical data can provide insight as to the likelihood of those events occurring in the future. In addition, assessing the damage to building related to those events in a critical part of the planning process. The probability and vulnerability for flooding is included in the HAZUS Analysis.

The remaining Natural Hazards are assessed for probability below. Methodology for the probability analysis is tabulating the number of past events and dividing by the number of years the data covers. Data is available for different types of natural hazards over a varying number of years so for each type of natural hazard, a separate analysis is required.

Figure 45: Hancock County Natural Hazard Probability

Hazard	Extreme Temperature	Severe Storm / Hail	Drought	Earthquake	Winter Storm / Ice	Tornados
Number of Events*	12	105	82	0	76	26
Years of Data	13	55	38	55	14	55
Annual Probability	92%	100%+	100%+	0%+	100%+	47%

*Source: National Climate Data Center –Storm Events Database

As can be seen from the table, while earthquakes remain a low (but possible) risk for Hancock County, nearly every other natural hazard that affects the area has a high likelihood of occurrence. While these events are almost guaranteed to occur, their magnitude directly relates to the severity of vulnerability. While all extreme temperature days pose risk to life (either heat or cold), a small percentage of snow and ice events pose a widespread threat to life and property. According to the Illinois State Water Survey Map, the Hancock County only experiences a snow event of 6 inches or more on average every other year.

Drought, while common on a short term basis, varies in its impact. Of the 82 events cited above, only 14 had a significant water/energy impact, which represents the greatest threat to life and property, through shortages of potable water and water available to fight fires. Of those 82, however, 37 did have an agricultural impact, which represents one of the largest industries in Hancock County. The economic impacts of these events are significant.

The number of severe storms/tornados/hail that has directly caused risk to life and property is more difficult to totally assess, since many small damages go unreported. There have been 26 documented tornados in Hancock County since 1950 that have had property damage estimates ranging from \$1,000 to \$10,000,000 in property damage. Because of the added risk to life presented by tornados, the vulnerability should be considered high.

Hancock County has had no documented experience with earthquakes, but there always exists a possibility, however remote, that significant damage could be experienced from earthquakes.

POTENTIAL LOSS ESTIMATES

Two of the above natural hazards, extreme temperature and drought, have little to no impact on buildings in the county. A comprehensive analysis of the potential losses of flooding is included in the

HAZUS analysis. To maintain consistency, total property exposure in the county is retrieved from the HAZUS data, which estimates there are 9,466 buildings in Hancock County, which represents a replacement cost of \$1,103,782,000. With these figures as a base, below are calculated loss estimates by type of event.

SEVERE STORMS/TORNADO

Severe storms present a risk to life and property from the presence of strong winds, lightening and hail. Additionally, in severe wind situations, damage to real property (i.e. Buildings) can occur directly from the wind and flying debris. For estimation purposes, if one third of the county was affected by a severe storm event, and 2% of the buildings sustained damage, a loss estimate could be calculated as follows:

$$\text{\$1,103,782,000(replace value of buildings) X .33(33\% of the county) X .02 (2\% of buildings affected)} \\ =\text{\$7,284,961(Replacement Value of buildings exposed to damage)}$$

The potential loss from tornados is often more severe in damage, but on a smaller scale geographically. If a tornado affected 10% of the land area of the county(assuming equal dispersion of buildings on land), and in that 10% area 50% of the buildings were damaged at 75% of value, a potential loss could be estimated as follows:

$$\text{\$1,103,782,000(replace value of buildings) X .1 (10\% of County) X .5 (50\% of Buildings) X .75 (75\% Damage to Buildings)} = \text{\$41'391,825 Damage Estimate}$$

Regardless of building damage, the potential of damage to the electrical supply infrastructure is a primary concern during a severe storm event. In addition to potential damage from wind, lightening and falling trees, lives and businesses can be disrupted for significant periods of time due to storm damage.

WINTER STORMS

Severe winter storms have the potential to paralyze a community, from power outages, immobilization, and potential vehicle accidents. Hancock County has experienced several ice storms in recent years that have left significant portions of the county without power for significant periods of time. Hancock County does, however, experience on average 6 winter storms per year. Since 1995, property damage estimates from winter storms have totaled only \$100,000 from three separate events. The bulk of this damage, \$80,000 was recorded for a severe ice storm that occurred in the early morning hours January 5, 2005. If an average were taken of the average property damage from the Winter Storms since 1995, and average property loss assessment could be calculated as follows:

$$\text{\$100,000 (total reported property loss)/84 (\# of winter storms)}= \text{\$1190 (average loss)}$$

Additional expenses for winter storms include snow removal, road treatment, labor hours and other public expenditures related to severe winter storms.

CHAPTER 3 – MITIGATION STRATEGY

HANCOCK COUNTY LOCAL HAZARD MITIGATION GOALS AND OBJECTIVES

After having reviewed the risk assessments for each hazard and the results of the citizen survey, documented existing plans and ordinances, identified critical facilities, and confirmed socioeconomic data the Task Force met to formulate goals and objectives for the plan.

Goal 1. Protect Life and property

Objective 1.a. Implement procedures and actions that will protect life and property in the event of a natural hazard. This includes making homes, businesses, infrastructure, and other types of property less prone to natural hazard damage.

Objective 1.b. Identify areas that have been repeatedly damaged in natural hazards and suggest alternative locations or other actions that might limit that susceptibility.

Objective 1.c. Increase awareness about insurance availability for catastrophic hazards.

Objective 1.d. Encourage procedures designed to minimize risk by supporting development plans that take natural hazards into account.

Goal 2. Public Awareness

Objective 2.a. Design and implement natural hazard education programs for the citizens of Hancock County

Objective 2.b. Create natural hazard mitigation resources (brochures, websites, etc.) for the public

Goal 3. Natural Systems

Objective 3.a. Preserve Natural Resources in such a way that they serve natural hazard mitigation purposes.

Objective 3.b. Encourage the implementation of natural hazard mitigation planning with watershed protection, land use planning, and other planning issues.

Goal 4. Partnerships and Implementation

Objective 4.a. Develop communication and coordination systems for the various agencies potentially involved in natural hazard mitigation.

Objective 4.b. Maintain and improve communication and cooperation between residents, government, and the private sector

Objective 4.c. Incorporate natural hazard mitigation into community plans and regulations

Goal 5. Emergency Services

Objective 5.a. Create policies that ensure the protection of critical facilities like clinics, police stations, and fire departments.

Objective 5.b. Ensure that different emergency agencies coordinate with one another.

MITIGATION ACTIONS – PRIORITIES AND IMPLEMENTATION

The list of project samples were presented to the Steering Committee. It was suggested to the community representatives that the list be used as a basis for discussion with community leaders on projects that would be appropriate for their village or city. The project ideas came from people who had spent several months considering the subject of natural hazards. Of course, communities were not limited to the projects on the list.

The projects were prioritized within the county by using the following method. It is important to recognize that the implementation of all actions is desirable regardless of prioritized order. Actions assigned to Priority A have a permanent or more far-reaching affect than actions under Priority B, although both address the most significant natural hazards in the County. Priority C actions all address the less significant natural hazards. Priority J actions are ready for implementation within the next year and can be accomplished within existing budgets. All actions will aid in the mitigation effort and should be implemented as opportunities arise.

Project Prioritization Method

Priority A projects permanently eliminate property damages and/or eliminate or reduce injuries and deaths in a specific area OR have a high probability to systematically reduce property damages, injuries and deaths across a wide area. Priority A projects address the most significant natural hazards – extreme heat, flood, severe storm, tornado, and winter storm.

Priority B projects reduce property damages in a specific area OR have the potential to reduce property damages, injuries and deaths across a wide area OR educate the public on disaster preparedness and mitigation. Priority B projects address the most significant natural hazards – extreme heat, flood, severe storm, tornado, and winter storm.

Priority C projects eliminate or reduce property damages, injuries and deaths from the less significant natural hazards OR educate the public on disaster preparedness and mitigation related to the less significant natural hazards – dam failure, drought, earthquake and mine subsidence.

Priority J projects can “just be done” without requiring outside funding and are able to be implemented within one year of Plan adoption. These can be one-time projects or ongoing projects and may address any hazard.

COST/BENEFIT ANALYSIS

A cost/benefit analysis will be needed for any of these projects to be implemented. A cost/benefit analysis will be performed at the time of project selection. The committee assigned preliminary cost/benefit assessments to each identified project, using general terms of **high**, **medium**, and **low** related to both the cost and benefit. A **high** rating on cost means it is unlikely the jurisdiction could accomplish the project without outside funding, while a **high** rating on benefit relates to how well the project would mitigate the situation. A **low** cost rating, conversely, means that is likely the jurisdiction can accomplish the project without outside funding.

JURISDICTIONAL PROJECT GRID

In the project grid below, whenever Hancock County is listed alone, the implication is that the project would apply to unincorporated areas. Specific municipalities are listed if their representatives identified the project as needed in their respective communities. Whenever 'ALL' is included under community it signifies value for that project to all incorporated municipalities in the county.

In the following Project Grid, the codes under Hazard are: **F = Flood**; **FF = Flash Flooding**; **T = Tornado**; **SS = Severe Storms**; **ET = Extreme Temperatures**; **E = Earthquake**; and **D = Drought**. The codes under Benefit / Cost are: **H = High**; **M = Medium**; and **L = Low**. Whenever **ESDA Director** is cited under **Lead / Contact**, the implication is that person will be assisted by the municipal employees assigned that role as well who meet regularly with the County ESDA Director.

Figure46: Hancock County / Jurisdictional Project Grid

Goal	Community	Project Type	Hazard	Possible Funding	Project	Priority	Lead / Contact	Proposed Schedule	Benefit / Cost
4a	Hancock County	Coordination	All	Local	Establish Multi-Jurisdictional Long Term Recovery / Mitigation Committee to coordinate and guide long term recovery efforts and mitigation activities within the county. Responsibilities will include, but are will not be limited to: 1) Host annual Mitigation Plan Meeting as required by FEMA; 2) Meet quarterly to review progress, identify new funding streams and projects being initiated within the county; 3) coordinate and lead the long term economic recovery of the county from the floods of 2008.	J	County Board Chair	2010	H/L
1b	Hancock County; Pontoosuc; Dallas City; Hamilton; Warsaw	Buyout / Elevation	F	FEMA/DC EO	Facilitate and support buyout/elevation projects for severe repetitive loss properties throughout the county.	A	County Board / FEMA	2010	H/H
1a	Hancock County; Elvaston; West Point; Ferris; Carthage; Warsaw	Emergency Management	T / SS	Funding Search	Establish a county wide early warning system for natural hazards.	B	ESDA Director	2010-2011	H/H

Figure46: Hancock County / Jurisdictional Project Grid

Goal	Community	Project Type	Hazard	Possible Funding	Project	Priority	Lead / Contact	Proposed Schedule	Benefit / Cost
2a	Hancock County; All	Education	All	Local	Develop and conduct a citizen awareness campaign regarding protection from natural hazards	B	ESDA Director / Public Health Dept / Extension / Red Cross	2010-2015	H/L
5b	Hancock County; All	Emergency Management	All	Funding Search	Identify and implement an improved emergency response communication system	B	ESDA Director / Emergency Responders	2010-2012	H/H
1d	Hancock County; West Point; Dallas City; Nauvoo	Shelter	T / SS / ET	FEMA / Federal	Develop multipurpose shelter facilities for areas of dense rural population.	A	County Board / Townships / Village Board / City Council / ESDA Director	2010-2015	H/H
3b	Hancock County (Hunt Drainage District; Niota)	Infrastructure	F	Funding Search	Establish and implement inspection and maintenance policies and procedures for the levee system throughout the county.	B	County Board / Drainage District	2010-2012	H/M
1b	Hancock County; All	Policy	F / FF	Funding Search	Identify and permanently mark roadways that flood frequently with appropriate signage.	B	County Highway Department / Village & City Public Works / Township Highway Commissioners	2011	H/M
1a	All	Policy / Social Service	All	Funding Search	Establish "check-in" policy and procedure for vulnerable populations in the event of extreme weather and/or power outage.	J	Social Service Agencies / Public Health Dept	2010	H/L
3b	Hancock County	Infrastructure	F / FF	Funding Search	Evaluate/Update Watershed/Drainage System throughout the county and establish and adopt policies and procedures	B	County Board / Drainage District	2013	H/H

Figure46: Hancock County / Jurisdictional Project Grid

Goal	Community	Project Type	Hazard	Possible Funding	Project	Priority	Lead / Contact	Proposed Schedule	Benefit / Cost
1a	Hancock County; All	Emergency Management	All	Funding Search	Assess current placement of portable defibrillators throughout the county and fill gaps; encourage countywide training on their usage; map locations	B/C	ESDA / Emergency Response Agencies	2012-2015	H/M
4c	Hancock County; All	Policy / Planning	All	Funding Search	Establish and maintain a Comprehensive Plan for the county, incorporating mitigation activities and Brownfield assessment into the planning.	J	County Board	2013	M/M
3b	Hancock County; Carthage	Infrastructure	D	Local	Map water mains to establish points where connections may be made to ensure potable water throughout the county.	J	Water Providers / ESDA Director / City Public Works	2012	M/L
4b	Hancock County; All	Emergency Management	All	Local	Establish an enhanced Mutual Aid Agreement throughout the county.	J	ESDA Director / Emergency Response Agencies	2010	M/L
4b	Hancock County; All	Policy / Emergency Management	All	Local	Update NIMS Training for elected and appointed officials.	J	ESDA Director / County Officials	2010	H/L
4a	Hancock County; All	Policy	All	Local	Establish policies and procedures for documenting volunteer hours in disaster response.	J	ESDA Director	2010-2011	H/L
1c	Hancock County; All	Policy	F	Local	Maintain NFIP Participation Status; adopt or amend floodplain management regulations to comply with NFIP requirements and review periodically	J	County Board / City Councils / Village Boards	Ongoing	H/L
4c	Hancock County; Hamilton; Nauvoo; Warsaw	Policy	All	Local	Review and update Building Codes to ensure that newly constructed dwellings, infrastructure, and public facilities are designed and built to be disaster resistant.	B/C	County Board / City Councils / Village Boards	2010-2015	H/L
4c	Hancock County; All	Infrastructure	T / SS	Local	Tree Program – removal of old trees, pruning / topping	B	County Board / City Councils / Village Boards	Ongoing	M/M

Figure46: Hancock County / Jurisdictional Project Grid

Goal	Community	Project Type	Hazard	Possible Funding	Project	Priority	Lead / Contact	Proposed Schedule	Benefit / Cost
1a	Hancock County; All	Infrastructure	All	Funding Search	Backup generator: inventory existing stock, determine both new and replacement needs and cost	B	County Board	2011-2015	H/H
4b	Hancock County; All	Infrastructure	All	Funding Search	Reverse 911 contact system for public notification by Sheriff's Department	B	County Board	2013	H/H
3a	Hancock County; Hamilton; Carthage; Elvaston	Infrastructure	FF	Local	Dredging of small streams	J	County Board / City Councils / Village Boards / Public Works Dept	Ongoing	M/M
1a	Hancock County; Carthage; Nauvoo; Hamilton	Policy / Infrastructure	T / SS	Local	Require the construction of storm shelters in existing and new mobile home developments	A	County Board / City Councils / Village Boards	2012	H/H
1a	Hancock County; All	Policy	All	Local	Establish animal management system	J	County Board / City Councils / Village Boards / Humane Society	2011-2012	H/L
2a,b	Hancock County; All	Education	All	Local	Educate public and disseminate information regarding all hazards to population through town hall meetings, presentations to groups, and displays	B/C	ESDA Director	Ongoing	H/L
4b	Hancock County; All	Emergency Management	All	Local	Encourage the use of NOAA all-hazard radios in residences and business throughout unincorporated area	B	ESDA Director	Ongoing	H/L
4b	Hancock County; All	Education	All	Local	Provide information to local cable and public radio and television stations regarding emergency warning and public service announcements	B/C	ESDA Director	Ongoing	H/L
2a,b	Hancock County; All	Education	All	Local	Distribute information regarding hazards and safety procedures to all school districts annually	B/C	ESDA Director	Ongoing	H/L

Figure46: Hancock County / Jurisdictional Project Grid

Goal	Community	Project Type	Hazard	Possible Funding	Project	Priority	Lead / Contact	Proposed Schedule	Benefit / Cost
1	Hancock County	Infrastructure	SS / FF	Local	Identify and prioritize needed improvements to county maintained roads that flood in heavy rainstorms, blocking or impairing road use and through access by vehicular traffic	J	County Highway Dept	2011	H/L
3a	Hancock County	Policy	F / FF	Local	Research potential funding sources to acquire information regarding boundaries of the floodway and floodplain throughout unincorporated areas of the county	J	ESDA Director	Ongoing	H/L
4c	Hancock County; All	Policy	T / SS / E	Local	Adopt building regulations that require wind-resistant and earthquake-resistant construction measures for critical facilities that house vulnerable populations or that house volatile liquids or hazardous waste	B/C	County Board / City Council / Village Board	2012-2014	H/L
4b	Hancock County	Education	T / SS	Local	Maintain and educate Storm Spotter program volunteers	B	ESDA Director	Ongoing	H/L
1a	Hancock County; All	Infrastructure	T / SS / ET	Local	Identify existing buildings as heating / cooling / storm shelters for vulnerable populations; create map(s) and make available to public	B	ESDA Director / City Council / Village Board	2011	H/L
4a	Hancock County; All	Emergency Management	All	Local	Adopt policies and procedures delineating chain of command for emergency situations.	B/C	ESDA / Village Board	2010	H/L
4a	Hancock County; All	Education	All	Local	Educate employees, officials and community volunteers on the protocol developed for emergency situations.	J	ESDA / County Health Dept / Extension	2010	H/L
1a	Hancock County; All	Education	All	Local	Develop public education campaign to inform residents on what to do and where to go in the event of an emergency.	J	ESDA / County Health Dept / Extension	2010-2015	H/L
4a	Hancock County; All	Emergency Management	All	Local	Participate in county-wide Mutual Aid Agreement and Multi-jurisdictional Hazard Mitigation Implementation Committee.	J	Village Board / ESDA	2010 on	M/L
4c	Carthage	Infrastructure	D	Local	Map water mains to establish points where connections may be made to ensure continuous potable water.	J	Public Works	2010-2012	H/L

Figure46: Hancock County / Jurisdictional Project Grid

Goal	Community	Project Type	Hazard	Possible Funding	Project	Priority	Lead / Contact	Proposed Schedule	Benefit / Cost
4c	Carthage	Infrastructure	All	Funding search	Work with Carthage Veterinary Services / Professional Swine / Carl Sandburg to integrate future needs of campus area with community needs, such as heating/cooling centers.	C	ESDA / City Council	2010-2015	M/L
1b	Hamilton	Infrastructure	F	Funding Search	Elevate approach of Hwy 136 at Keokuk Bridge	B	State and Federal Legislators / City Council	2010-2015	H/H

CHAPTER 4 – MONITORING, EVALUATING, MAINTENANCE STRATEGY

A crucial element of the Hancock County Hazard Mitigation Plan is the maintenance and implementation of the plan. The Hancock County Emergency Services Director will be responsible for the record keeping and maintenance of the plan. This responsibility will include calling and facilitating the annual plan meeting, surveying the participating jurisdictions for progress on jurisdictional goals, and maintaining detailed records for plan updates.

There are currently regular meetings held with all municipal ESDA Coordinators attending, and maintenance will become a regular agenda item. One such meeting will be designated as the annual meeting of the planning committee. At that time the Hancock County ESDA Director will facilitate discussion surrounding the progress of established goals from the FEMA approved plan, assist with the identification of new and emerging project ideas from each of the communities, and facilitate discussion of new issues that may have arisen of the past year that affect the plan. Additional municipal representatives will be encouraged to attend, especially members of the respective governing boards, so that communication can be eased.

Records of these annual meetings will be maintained within the Hancock County ESDA office, and compiled for plan updates within the five year update time frame. In addition to maintaining records for the plan updates, the ESDA Director will also serve as a resource for the participating jurisdictions to identify potential funding streams for identified projects within the plan, and referring communities to resources and assistance to moving projects from plan to completion.

Under the current Flood Map, the communities of Hamilton, Warsaw, Nauvoo, Elvaston, La Harpe, Dallas City and Pontoosuc, as well as Hancock County, participate in the National Flood Insurance Program (NFIP). Maintaining active status in NFIP will be a portion of the plan maintenance strategy. Jurisdictions adopting the plan are required to maintain active status to continue to be covered by the plan. This continued participation will be monitored by the ESDA Director.

The ESDA Director will also provide assistance and guidance to each jurisdiction in additional planning processes, ensuring that the components of newly developed plans and ordinances are consistent with the components of the Multi-Jurisdictional Hazard Mitigation Plan. This will provide a resource for jurisdictions in planning activities such as comprehensive planning, strategic planning, or other plans that may be developed by participating jurisdictions.

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APPENDIX

DOCUMENTS	PAGES
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APPENDIX A: JURISDICTIONAL PARTICIPATION

A.1 INITIAL LETTER OF INVITATION

Dear Mayor / Village President:

As part of the recovery from the flooding in June of 2008, Hancock County and the incorporated municipalities within the county have been directed to develop a **Hazard Mitigation Plan**. This plan, to be approved by FEMA, is required to be in place before the county or municipalities within the county can receive funding for Mitigation projects, such as buyout programs. Hancock County has chosen to sponsor a Multi-jurisdictional Hazard Mitigation Plan. Funding for the plan has been requested from FEMA, and we are informed that it is forthcoming. There is a requirement for local matching dollars which will be provided through in-kind participation and travel of county staff, local officials, and the community at large.

In order for the planning process to move forward, every jurisdiction in the county who wishes to be covered by the resulting Plan must participate in the planning process, and their governing body must formally adopt the Plan. And while this effort has been guided by the flooding this summer, the plan will cover all possible hazards, natural and manmade, so do not limit your participation based on how you or your community fared with the most recent natural disaster. These requirements around participation are required by the Disaster Mitigation Act of 2000 (DM2K) in order for any municipality or unit of local government to apply for Disaster Mitigation Funding once a federally declared disaster occurs within their Community.

We would like you (or your designee) to participate on the Steering Committee for this process. This participation will be counted toward the requirements on behalf of your organization or jurisdiction. The first meeting is scheduled for **January 29, 2009 at 7:00 pm**, at the **Hancock County Extension Office in Carthage**. The meeting will run until approximately 8:30. At this initial meeting, the committee will learn more about the planning process requirements, hazard mitigation in general, public participation opportunities, and timeline for process. Enclosed is an information sheet on hazard mitigation planning for your information.

Please RSVP to Kristin Huls, 217-357-2150 or khuls@illinois.edu by January 26, 2009. I look forward to working with you on this vital project to move Hancock County forward in preparing to meet the challenges posed by hazards, both natural and manmade. Thank you in advance for your commitment to participation and prompt reply.

Jack Curfman

Director, Hancock County Emergency Services

A.2 SAMPLE PARTICIPATION RESOLUTION

WHEREAS, adopting a natural hazards mitigation plan would benefit the City/Village of _____ by identifying activities that could mitigate the impact of hazards events on the citizens of the City/Village and provide eligibility for the City/Village to receive federal hazard mitigation grant funding; and

WHEREAS, the City/Village of _____ has limited resources to undertake the preparation of a hazards mitigation plan; and

WHEREAS, Hancock County has received a grant from the Federal Emergency Management Agency to prepare a multi-jurisdictional hazards mitigation plan for Hancock County; and

WHEREAS, University of Illinois Extension is preparing a multi-jurisdictional hazards mitigation plan in accordance with 44 FEMA requirements at 44.C.F.R. 201.6; and

WHEREAS, University of Illinois Extension will provide opportunities for public participation and comment during the planning process and prior to adoption;

NOW THEREFORE, the _____ City Council / Village Board authorizes Hancock County on behalf of the City/Village of _____ to prepare the Hancock County Multi-jurisdictional Local Hazards Mitigation Plan which shall be reviewed and considered for adoption by the _____ City Council / Village Board upon completion. A representative from the City/Village of _____ will be appointed by the Mayor/Village President to participate in meetings, provide information needed for the plan, facilitate opportunities for public involvement, and act as a liaison between the multi-jurisdictional hazards mitigation planning steering committees and the City Council / Village Board.

ADOPTED this _____ day of _____, 2009 at the meeting of the _____ City Council / Village Board.

(Signature)

Mayor/Village President, City/Village of _____

A.3 SAMPLE CONTACT FORM

HANCOCK COUNTY MULTI-JURISDICTIONAL LOCAL HAZARD MITIGATION PLANNING STEERING COMMITTEE

CONTACT INFORMATION – CITY / VILLAGE OF _____

_____, Mayor / Village President

(print name)

Address: _____

Phone: _____ Email: _____

REPRESENTATIVE(S) APPOINTED TO MULTI-JURISDICTIONAL HAZARDS MITIGATION PLANNING STEERING COMMITTEE:

Primary:

Name: _____

Address: _____

Phone: _____ Email: _____

Additional:

Name: _____

Address: _____

Phone: _____ Email: _____

The above names person(s) is/are authorized to represent the City/Village of _____ on the Hancock County Multi-Jurisdictional Local Hazard Mitigation Planning Steering Committee and will participate in all activities associated with development of the Plan.

(signature)

_____, Mayor/Village President

A.4 STEERING COMMITTEE ATTENDANCE LOG

Hancock County Local Hazard Mitigation Planning Committee - Participation by Jurisdiction		Steering Committee														Issue Groups					Public Meetings				
		1/29	2/5	2/26	3/5	7/2	8/11	9/15	10/13	11/10	1/19	3/23	8/25 (RHS)	8/25 (T-1)	8/25 (AHS)	8/26 (ECH)	8/26 (T-2)	8/28 (LU)	8/28 (PS)	9/10 Aug	9/22 Car	9/28 Ham	10/6 Dal	3/23 Car	
Hancock County																									
Elgin Berry	X	X		X		X																			
Dale Bolton	X	X	X	X				X		X															
Jack Curfman	X	X	X	X	X	X		X		X											X				
Randy White	X	X	X	X																					
Augusta																									
Cyndia Avise	X	X	X	X	X	X		X		X															
David McQuaid	X																								
Basco																									
Stanley Davidson			X	X		X															X				
Bowen																									
Dave Campbell				X		X																			
Carthage																									
Kathy Dougherty	X	X	X	X		X		X		X											X				
Jim Nightingale		X																							
Dallas City																									
Ruth Higgins	X	X				X		X		X															
Elvaston																									
Sandy Printy								X		X															
Ferris																									
Charles Vass				X																					

Hancock County Local Hazard Mitigation Planning Committee - Participation by Jurisdiction		Steering Committee														Issue Groups					Public Meetings				
		1/29	2/5	2/26	3/5	7/2	8/11	9/15	10/13	11/10	1/19	3/23	8/25 (MHS)	8/25 (T-1)	8/25 (AHS)	8/26 (ECH)	8/26 (T-2)	8/28 (U)	8/28 (FS)	9/10 Aug	9/22 Car	9/28 Ham	10/6 Dal	3/23 Car	
Hamilton																									
Jean Massey	X	X	X	X	X				X	X	X											X			
Walt Sellens	X																								
Steve Woodruff	X										X											X			
LaHarpe																									
Ken Brown	X																								
Daniel Carpenter	X	X		X				X		X														X	
Willie Shutwell	X	X	X	X	X	X	X	X	X	X	X													X	
Nauvoo																									
Don Faulkner		X	X	X		X			X																
John McCarty	X																								X
Lee Noe																									
Plymouth																									
David Ellis					X			X		X															
Scott Ross										X															
Pontoosuc																									
Bob Durand	X	X			X	X	X	X	X	X	X													X	
Warsaw																									
Gary Huston	X	X																							
Brandon Norris	X								X															X	
Gary Treatch									X																X

Hancock County Local Hazard Mitigation Planning Committee - Participation by Jurisdiction																								
Representatives in Attendance	Steering Committee										Issue Groups							Public Meetings						
	1/29	2/5	2/26	3/5	7/2	8/11	9/15	10/13	11/10	1/19	3/23	8/25 (MHS)	8/25 (T-1)	8/25 (AHS)	8/26 (ECH)	8/26 (T-2)	8/28 (U)	8/28 (FS)	9/10 Aug	9/22 Car	9/28 Ham	10/6 Dal	3/23 Car	
West Point																								
Larry Wood				X				X		X									X					
Others																								
Frank Scanlan					X																			
Wanda Scanlan					X																			

A.5 SAMPLE STEERING COMMITTEE MINUTES

Hancock County Hazard Mitigation Plan
Steering Committee Meeting
Extension Office
Tuesday, October 13, 2009
6:00 pm

Present: Daniel Carpenter, Willow Shutwell, Jean Massey, Dave Ellis, Sandy Printy, Kathy Dougherty, Earl Bricker, Kristin Huls, Ruth Higgins, Bob Durand, Cyndia Avise, Jack Curfman, Brandon Norris

- Surveys were handed out for libraries and city halls in the communities.
- Copies of the letters that were sent to churches were handed out.
- There was discussion about the press release that would be sent out to media outlets to inform the public about the October 25 survey dissemination.
- Chamber email lists were also identified as a tool for increasing participation in the survey.
- Samples of Sangamon and Champaign Counties Mitigation Actions were handed out.
- Cyndia presented several resources that she received at the IEMA Conference in September.

A.6 SAMPLE ADOPTION RESOLUTION

RESOLUTION _____

WHEREAS, the Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan has been prepared by the University of Illinois Extension working with the Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan Steering Committee; and,

WHEREAS, the Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan has been prepared in accordance with FEMA requirements at 44 C.F.R. 201.6; and,

WHEREAS, the Village / City of _____ is a local unit of government that has afforded the citizens an opportunity to comment and provide input to the Plan and the actions in the Plan; and,

WHEREAS, the _____ Village Board / City Council has reviewed the Plan and affirms to participate in the Workgroup that will review the Plan every year and update it no less than every five years;

NOW THEREFORE, BE IT RESOLVED by the _____ Village Board / City Council that the Village / City of _____ adopts the Hancock County Multi-jurisdictional Natural Hazards Mitigation Plan as this jurisdiction's Multi-hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this _____ day of _____, 2010 at the meeting of the _____ Village Board / City Council.

_____, President

APPENDIX B: MEDIA

B.1 PRESS RELEASES

For Immediate Release

Contact: Earl Bricker

dbricker@illinois.edu

(217-223-8380 – office; 217-740-7107 – cell)

Hancock County Receives FEMA Grant

Grant Allows Implementation of Multi-jurisdictional Natural Hazards Mitigation Plan

Public Participation Important

Hancock County has been awarded a Hazard Mitigation Planning grant in the amount of \$42,500 from the Federal Emergency Management Agency (FEMA). University of Illinois Extension will facilitate development of the plan. The Illinois State Water Survey will play an important role in identifying the level of risk for the identified hazards.

The advantages of having a hazard mitigation plan include protecting citizens and property from the effects of hazards such as tornadoes, flooding and winter storms. Any community that has a hazard mitigation plan that is compliant with the Disaster Mitigation Act of 2000 is eligible for hazard mitigation grant money from FEMA. The purpose of this plan is to reduce the loss of life and property due to natural disasters by identifying mitigation measures that can be implemented prior to a disaster.

Hazard mitigation refers to long-term or permanent measures to reduce disaster damages to people or property through avoiding the hazard risk or reducing the vulnerability. By reducing potential damages, communities increase their safety and economic stability.

Why develop a hazard mitigation plan?

- Preserve the life, health and safety of residents.
- Provide hazard identification information to assist residents, homeowners, businesses and local government to make future building, growth and developmental decisions.

- Identify the vulnerabilities of buildings, structures and infrastructures to determine necessary mitigation measures for damage protection.
- Detail a strategy for prioritizing and implementing hazard mitigation measures.
- Speed a community's recovery after a disaster.
- Save valuable tax dollars by planning ahead.

FEMA places a great deal of importance on public participation in the development of these plans. A steering committee has been created, with representatives from each community in the county that chooses to participate. Steering committee meetings are held monthly and the public is welcome to attend. Technical partners and other stakeholders are being engaged through a series of small focus groups around specific issues such as transportation, economic development and so on.

Most importantly, so that anyone can have the opportunity to provide information and opinions, four community meetings will be held in locations around the county so that citizens can attend and help identify the issues around various hazards and ways that they can be addressed. **The first meeting will be held September 10, 2009 starting at 6:00 p.m. in the Southeastern High School cafeteria.** Other community meetings scheduled include:

- Tuesday, September 22; 6:00 p.m. – U of I Extension Office, Carthage
- Monday, September 28; 6:00 p.m. – Hamilton Community Center
- Tuesday, October 6; 6:00 p.m. – Dallas City Senior Center

Who should get involved with hazard mitigation planning? Local Officials; Community Planners; Emergency Managers; Floodplain Administrators; Building Departments and Housing Offices; General Public; Businesses and Nonprofit Organizations; Schools and Universities.

"The development and maintenance of a Hazard Mitigation Plan is important to the welfare of all of us in Hancock County," said County ESDA Director Jack Curfman. "Any one of us could be affected by a future natural disaster, and this plan will help the county and participating communities to identify these hazards and find ways to mitigate their effects on our communities and families. We hope that people turn out to help us write the most complete and useful plan possible."

For more information call Kristin Huls at (217) 357-2150 or email khuls@illinois.edu.

For Immediate Release

Contact: Earl Bricker

dbricker@illinois.edu

(217-223-8380 – office; 217-740-7107 – cell)

County Disaster Planning Group Needs Input

Public Survey Will Be Available Next Week

Hancock County was recently awarded a Hazard Mitigation Planning grant from the Federal Emergency Management Agency (FEMA). A Steering Committee composed of representatives from participating municipalities has been meeting for several months, guiding the process of collecting information about various needs and potential projects to include in the final report.

Hazard mitigation refers to long-term or permanent measures to reduce disaster damages to people or property through avoiding the hazard risk or reducing the vulnerability. By reducing potential damages, communities increase their safety and economic stability. The purpose of this plan for the county and participating communities is to reduce the loss of life and property due to natural disasters by identifying mitigation measures that can be implemented prior to a disaster. Who should get involved with hazard mitigation planning? Local Officials; Community Planners; Emergency Managers; Floodplain Administrators; Building Departments and Housing Offices; General Public; Businesses; Nonprofit Organizations; Schools and Universities. And you.

FEMA places a great deal of importance on public participation in the development of these plans. There have been community meetings held around the county, as well as a series of focus groups targeted at specific populations. Now there will be an opportunity for anyone living in Hancock County to provide information by completing a brief survey.

Churches have been asked to help in this effort by having surveys for their members on Sunday, October 25. Paper copies of these surveys are also available at City Halls, Village Offices and libraries. For those with Internet access, an online version can be accessed by going to: <http://cads.extension.uiuc.edu> and clicking on the link to 'surveys.'

"The development and maintenance of a Hazard Mitigation Plan is important to the welfare of all of us in Hancock County," said County ESDA Director Jack Curfman. "Any one of us could be affected by a future natural disaster, and this plan will help the county and participating communities to identify these hazards and find ways to mitigate their effects on our communities and families. We hope that people will contribute by completing a survey so we can write the most complete and useful plan possible."

For more information call Kristin Huls at (217) 357-2150 or email khuls@illinois.edu.

For Immediate Release

Contact: Earl Bricker

dbricker@illinois.edu

(217-223-8380 – office; 217-740-7107 – cell)

**Hazard Mitigation Plan Ready for Review
Public Hearing Scheduled for Tuesday, March 23**

The final draft of a local hazard mitigation plan for Hancock County will be available for public viewing starting Thursday, March 18. Copies will be provided to the participating municipalities for citizens to view at the various Village Offices and City Halls. In addition, there will be a copy available for viewing or download from the website of University of Illinois Extension – Hancock County (<http://www.extension.uiuc.edu/hancock>).

On Tuesday, March 23, there will be a public hearing for comments on the draft plan which will be followed by a meeting of the Planning Steering Committee for additional comments and adoption of the draft so that it can be transmitted to the Federal Emergency Management Administration (FEMA) for their review and approval. The public hearing will start at 5:30 and the Steering Committee at 6:00 pm. Both meetings will take place at the University of Illinois Extension Office in Carthage. For more information call Kristin Huls at (217) 357-2150 or email khuls@illinois.edu.

Hazard mitigation refers to long-term or permanent measures to reduce disaster damages to people or property through avoiding the hazard risk or reducing the vulnerability. By reducing potential damages, communities increase their safety and economic stability.

The advantages of having a hazard mitigation plan include protecting citizens and property from the effects of hazards such as tornadoes, flooding and winter storms. Any community that has a hazard mitigation plan that is compliant with the Disaster Mitigation Act of 2000 will be eligible for hazard mitigation grant money from FEMA. The purpose of this plan is to reduce the loss of life and property due to natural disasters by identifying mitigation measures that can be implemented prior to a disaster.

"The development and maintenance of a Hazard Mitigation Plan will contribute greatly important to the welfare of all of us in Hancock County," said County ESDA Director Jack Curfman. "Any one of us could be affected by a future natural disaster, and this plan will help the county and participating communities to identify these hazards and find ways to mitigate their effects on our communities and families."

Facilitated by University of Illinois Extension, this process has taken the better part of a year. The Illinois State Water Survey has also contributed a significant piece of the plan by identifying the level of risk for the identified hazards.

FEMA places a great deal of importance on public participation in the development of these plans. In addition to the steering committee, with representatives from each participating community in the county that chooses to participate, participation has come through surveys,

attending focus groups, and community meetings. County Emergency Services and Disaster Assistance (ESDA) Director Jack Curfman and others designated by county municipalities as the local ESDA coordinator have provided great levels of assistance and commitment to this planning effort.



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TUESDAY SEPTEMBER 22, 2009 Last modified: Wednesday, February 11, 2009 4:43 PM CST

Agencies plan for 'what-ifs' of natural, manmade disasters

By Doug Endres, Staff writer

Representatives of municipalities, the county board, Emergency Services and Disaster Agency, University of Illinois Extension members and others met last week for the second meeting of a steering committee setting up a hazardous mitigation plan for Hancock County.

A hazard mitigation plan refers to long-term measures to reduce disaster damages, either natural or man-made, by reducing vulnerability. Communities increase their economic stability and security by reducing potential damages.

University of Illinois Extension Communication Specialist John Camp is helping get the group started. County ESDA director Jack Curfman and county board member Randy White are co-chairing the steering committee. Kristin Huls, the county economic director, is the University of Illinois Extension coordinator.

The steering committee drew up a list of all organizations and groups who are effected by disasters or who help during disasters. These were broken into several broad categories. Representatives from each broad grouping are being invited to future meetings to provide detailed information to the committee as part of the planning process.

Once the risk assessment step is completed, the committee determines a mitigation strategy and a maintenance strategy on how to update the plan every five years.

The final steps in the process is approval of the plan by FEMA, the Illinois Emergency Management Agency, and the county board and municipalities within the county.

Benefits of the plan are not for future disasters. Passage of the plan means an easier time for residents affected by the Flood of 2008 in receiving funding for things like home buyouts. A mitigation plan is required as a condition of receiving Pre-Disaster Mitigation or Hazard Mitigation Grant Program funding. The plan must be approved by the Federal Emergency Management Agency to receive funds through FEMA.

A hazard mitigation plan helps communities in several other ways. It helps preserve the safety and health of its residents. It identifies infrastructures that are vulnerable to natural or man-made disasters and identifies ways to minimize potential damages. It details the communities strategy for implementing hazard mitigation measures. It helps speed recovery after a disaster.

Ultimately, these measures should help save lives and tax dollars.

www.journalpilot.com

Public input wanted on ESDA hazard mitigation plan

For the Journal-Pilot

Hancock County has been awarded a Hazard Mitigation Planning grant in the amount of \$42,500 from the Federal Emergency Management Agency (FEMA). University of Illinois Extension will take the lead in developing the plan. The Illinois State Water Survey will help determine the level of risk for the identified hazards.

Four community meetings are planned around the county so that citizens can attend and help identify various hazards and ways that they can be addressed. The first meeting is 6 p.m. Thursday, Sept. 10, in the Southeastern High School cafeteria in Augusta.

Other community meetings scheduled are:

Tuesday, Sept. 22, 6 p.m. - U of I Extension Office, Carthage
Monday, Sept. 28, 6 p.m. - Hamilton Community Center

Tuesday, Oct. 6, 6 p.m. - Dallas City Senior Center

Who should get involved with hazard mitigation planning? Help is needed from local officials, community planners, emergency managers, floodplain administrators, building departments and housing offices, general public, businesses and nonprofit organizations, schools and universities.

"The development and maintenance of a Hazard Mitigation Plan is important to the welfare of all of us in Hancock County," said County ESDA Director Jack Curfman.

"Any one of us could be affected by a future natural disaster, and this plan will

help the county and participating communities to identify these hazards and find ways to mitigate their effects on our communities and families. We hope that people turn out to help us write the most complete and useful plan possible."

The advantages of having a hazard mitigation plan include protecting citizens and property from the effects of hazards such as tornadoes, flooding and winter storms. Any community that has a hazard mitigation plan that is compliant with the Disaster Mitigation Act of 2000 is eligible for hazard mitigation grant money from FEMA. Having a plan can reduce the loss of life and property if a disaster hits, because recovery measures are planned out before the disaster.

Hazard mitigation refers to long-term or permanent measures that look ahead to possible disasters and what could happen, Curfman said. The potential harm to people or property may be reduced by finding ways to avoid the hazard risk or reducing the area's vulnerability to it. By reducing potential damages, communities increase their safety and economic stability.

Why develop a hazard mitigation plan?

- Preserve the life, health and safety of residents.
- Get information of possible hazards to residents, homeowners, businesses and local government so they can make decisions about future building, growth and development to avoid those risks.

vulnerabilities of buildings, structures and infrastructures to see what can be done to avoid damage.

- Set out a strategy for priorities and carrying out the hazard mitigation measures.

- Speed a community's recovery after a disaster.
- Save tax dollars by planning ahead.

FEMA places a great deal of importance on public participation in the development of these plans. A steering committee has been created, with representatives from each community in the county that chooses to participate. Steering committee meetings are held monthly and the public is welcome to

attend. Technical partners and other stakeholders are being engaged through a series of small focus groups around specific issues such as transportation, economic development and so on.

For more information, call Kristin Huls at 217/357-2150, or email khuls@illinois.edu.



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SATURDAY MARCH 20, 2010 Last modified: Tuesday, March 16, 2010 5:19 PM CDT

Hazard mitigation plan ready for public review starting March 18

By Earl Bricker of the mitigation steering committee

The final draft of a local hazard mitigation plan for Hancock County will be available for public viewing starting Thursday, March 18.

Copies will be provided to the participating municipalities for citizens to view at the various village offices and city halls, and at the Hancock County Clerk's office in the courthouse. In addition, there will be a copy available for viewing or download from the website of University of Illinois Extension - Hancock County (<http://www.extension.uiuc.edu/hancock>).

On Tuesday, March 23, a public hearing for comments on the draft plan will be followed by a meeting of the Planning Steering Committee for additional comments and adoption of the draft. The final plan will be transmitted to the Federal Emergency Management Administration (FEMA) for their review and approval.

The public hearing will start at 5:30 p.m. and the Steering Committee meets at 6 pm. Both meetings are at the University of Illinois Extension Office in Carthage. For more information call Kristin Huls at 217/357-2150 or email khuls@illinois.edu.

"The development and maintenance of a Hazard Mitigation Plan will contribute greatly to the welfare of all of us in Hancock County," said County Emergency Services and Disaster Assistance (ESDA) Director Jack Curfman.

"Any one of us could be affected by a future natural disaster, and this plan will help the county and participating communities to identify these hazards and find ways to mitigate their effects on our communities and families."

Hazard mitigation refers to long-term or permanent measures to reduce disaster damages to people or property through avoiding the hazard risk or reducing the vulnerability. By reducing potential damages, communities increase their safety and economic stability.

The advantages of having a hazard mitigation plan include protecting citizens and property from the effects of hazards such as tornadoes, flooding and winter storms. Any community that has a hazard mitigation plan that is compliant with the Disaster Mitigation Act of 2000 will be eligible for hazard mitigation grant money from FEMA. The purpose of this plan is to reduce the loss of life and property due to natural disasters by identifying mitigation measures that can be implemented prior to a disaster.

Facilitated by University of Illinois Extension, this process has taken the better part of a year. The Illinois State Water Survey has also contributed a significant piece of the plan by identifying the level of risk for the identified hazards.

FEMA places a great deal of importance on public participation in the development of these plans. In addition to the steering committee, with representatives from each participating community in the county that chooses to participate, participation has come through surveys, attending focus groups, and community meetings.

County ESDA Director Curfman and others designated by county municipalities as the local ESDA coordinator have provided great levels of assistance and commitment to this planning effort.

APPENDIX C: PUBLIC PARTICIPATION

C.1 HANCOCK LOCAL HAZARD MITIGATION PLANNING PARTICIPATION SUMMARY

PARTICIPATION EVENTS	# ATTENDING
Surveys Collected	325
Steering Committees Held	11 (total headcount 130)
Public Meetings Held	4
Public Meeting Attendance	34
Focus Groups Held	8
Focus Group Invitees	160
Focus Group Attendance	44
Final Public Meeting Held	March 23, 2010
Final Public Meeting Attendance	11

C.2 COMMUNITY SURVEY

Citizens of Hancock County –

Tornados, severe storms, floods, and other natural hazards in Hancock County have caused death, injuries, and millions of dollars in property damage in the last 60 years. Mitigation of natural hazards means reducing the damage to property and hardship to people that can result from them occurring.

Your input is needed in the development of a plan to lessen the impact of natural hazard events on residents and communities of Hancock County. The information gathered from this survey will assist the Steering Committee working on this plan to determine activities that should be implemented to protect lives and property in the event of a natural hazard event. **Your experiences and ideas are a very important part of this effort.**

Please complete this survey and either leave it where you got it (church, library, city/village office) or return it to: *University of Illinois Extension, 550 N. Madison, Carthage 62321*. You can mail it or drop it off in person during regular business hours (8 am–12 pm; 1–4:30 pm, M-F). Or if you prefer, you can complete this survey online by going to <http://cads.extension.uiuc.edu/> and look for the link to **Surveys**. Please complete either a paper survey or the online version, but not both, so that we'll have the most reliable information.

Thanks in advance for your time in completing and returning this survey. But don't stop there – encourage your friends, family, neighbors and co-workers to do the same. That is, of course, as long as they are also Hancock County residents.

If you have any questions about the survey, the process, or the reasons behind this project, do not hesitate to contact me (309-221-0240; lepc@mchsi.com) or Earl Bricker, a University of Illinois Extension staff member working with us to develop this plan (217-740-7107; dbricker@illinois.edu).

Best wishes for a great fall,

Jack Curfman

Director, Emergency Services & Disaster Assistance

COMMUNITY SURVEY

1. What is your zip code? _____
2. Do you live in a community with others (in town) or in the country? ___ town ___ country
3. In the past 10 years, have you or someone in your household experienced a natural disaster within Hancock County such as severe storms, floods, winter storms, extreme temperatures, tornado, drought, earthquake, mine subsidence, or other natural disasters TO THE EXTENT THERE WAS HARM TO PEOPLE (YOU, A FAMILY MEMBER) OR YOUR PROPERTY?

₁ Yes (go to question #4) ₂ No (go to question #5)

4. Which of the following types of natural hazards events have you or someone in your household experienced TO THE EXTENT THERE WAS HARM TO YOU, A FAMILY MEMBER OR YOUR PROPERTY? (please check all that apply)

₁ Severe storm (wind, lightning) ₂ Flood ₃ Winter storm (ice, hail, etc.)

₄ Extreme temperatures (heat, cold) ₅ Tornado ₆ Drought

₇ Earthquake ₈ Mine Subsidence (sinking) ₉ Flash flooding

₁₀ Other (please specify): _____

5. On a scale of 1 to 5, how prepared do you feel you and your household are for the potential impacts of natural hazard events likely to occur within Hancock County?

1 <i>Not at all prepared</i>	2 <i>Somewhat prepared</i>	3 <i>Adequately prepared</i>	4 <i>Well prepared</i>	5 <i>Very well prepared</i>
<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

6. How concerned are you about the following natural hazards impacting your community and/or Hancock County? (please check the corresponding box for each hazard)

<i>Natural Hazard</i>	<i>Not concerned</i>	<i>Somewhat concerned</i>	<i>Concerned</i>	<i>Very concerned</i>	<i>Extremely concerned</i>
a. Severe storm (wind, lightning)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
b. Flood	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
c. Winter storm (ice, hail, etc.)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
d. Extreme temperatures	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
e. Tornado	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
f. Drought	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
g. Earthquake	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
h. Mine subsidence (sinking)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
i. Flash flooding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
j. Other (please specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

7. What are the most effective ways for you to receive information about how to make your household and home safer from natural disasters? (please check all that apply)

₁ newspaper stories ₂ newspaper ads ₃ television news

₄ television ads ₅ radio news ₆ radio ads ₇ schools

₈ books ₉ fact sheet/brochure ₁₀ magazine ₁₁ mail

₁₂ fire department ₁₃ Internet ₁₄ government

₁₅ Other (please specify): _____

8. To the best of your knowledge, is your property located in a designated floodplain?
₁ Yes ₂ No
9. To the best of your knowledge, is your property located in close proximity (less than 1 mile) to an earthquake fault line?
₁ Yes ₂ No
10. Do you have flood insurance? ₁ Yes ₂ No
11. Do you have earthquake insurance? ₁ Yes ₂ No
12. How vulnerable to damage is the infrastructure (streets, water, sewer, electricity, etc) that serves your home and/or community?

<i>Natural Hazard</i>	<i>Minimally Vulnerable</i>	<i>Moderately Vulnerable</i>	<i>Severely Vulnerable</i>	<i>Don't Know</i>
a. Severe storm (wind, lightning)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
b. Flood	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
c. Winter storm (ice, hail. etc.)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
d. Extreme temperatures	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
e. Tornado	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
f. Drought	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
g. Earthquake	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
h. Mine subsidence (sinking)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
i. Flash flooding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
j. Other (please specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉

13. How vulnerable to damage are the critical facilities (police stations, fire stations, emergency operation centers, etc.) within your community?

<i>Natural Hazard</i>	<i>Minimally Vulnerable</i>	<i>Moderately Vulnerable</i>	<i>Severely Vulnerable</i>	<i>Don't Know</i>
a. Severe storm (wind, lightning)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
b. Flood	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
c. Winter storm (ice, hail. etc.)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
d. Extreme temperatures	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
e. Tornado	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
f. Drought	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
g. Earthquake	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
h. Mine subsidence (sinking)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
i. Flash flooding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉
j. Other (please specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₉₉

14. What actions do you think could be taken by individuals or the community to reduce damages and hardships caused by natural hazard events?

15. Did you consider the impact that the possible occurrence of a natural disaster would have on your home before you purchased or moved in?
- ₁ Yes ₂ No ₃ Don't recall
16. Was the presence of a natural hazard risk zone (flood zone, fault zone, etc.) disclosed to you by a real estate agent, seller, or landlord before you purchased or moved into your home?
- ₁ Yes ₂ No ₃ Don't recall
17. Would the disclosure of this type of information influence your decision to purchase or move into a home?
- ₁ Yes ₂ No ₃ Maybe
18. Would you be willing to spend money to modify or retrofit your current home from the impacts of future natural disasters? (Examples of retrofitting are: elevating a flood prone home; bolting a foundation for seismic impacts; improving home exteriors to withstand higher winds; and so on)?
- ₁ Yes ₂ No ₃ Maybe
19. Which of the following incentives would help to encourage you to spend money to retrofit your home for the possible impacts of natural disasters? (please check all that apply)
- ₁ low interest rate loan ₂ insurance premium discount ₃ mortgage discount
₄ property tax break ₅ grant funding (with cost share) ₆ none
₇ Other (please specify): _____
20. If your property were located in a designated high hazard area or had received repetitive damages from a natural event, would you consider a buyout or relocation offered by a public agency?
- ₁ Yes ₂ No ₃ Maybe

GENERAL INFORMATION

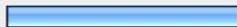
21. How old are you? _____
22. Are you...? ₁ Male ₂ Female
23. How long have you lived in Hancock County?
- ₁ Less than 1 year ₂ 1 – 4 years ₃ 5 – 9 years
₄ 10 – 19 years ₅ 20 years or more
24. Do you have access to the Internet? ₁ Yes ₂ No
25. Do you own or rent your home? ₁ Own ₂ Rent
26. What type of structure do you live in?
- ₁ single family home ₂ duplex ₃ apartment (3-4 units in structure)
₄ apartment (5 or more units in structure) ₅ condominium / townhouse
₆ manufactured home ₇ trailer
₈ Other (please specify): _____

C.3 COMMUNITY SURVEY RESULTS

Hancock County Hazard Mitigation Planning

1. What is your zip code?		
		Response Count
		325
		<i>answered question</i>
		325
		<i>skipped question</i>
		0

2. Do you live in a community with others (in town) or in the country?			
		Response Percent	Response Count
Town		71.9%	233
Country		28.1%	91
		<i>answered question</i>	324
		<i>skipped question</i>	1

3. In the past 10 years, have you or someone in your household experienced a natural disaster within Hancock County such as severe storms, floods, winter storms, extreme temperatures, tornado, drought, earthquake, mine subsidence, or other natural disasters TO THE EXTENT THAT THERE WAS HARM TO YOU, YOUR FAMILY OR YOUR PROPERTY?			
		Response Percent	Response Count
Yes (go to the next question)		46.5%	148
No (skip the next question and go directly to #5)		53.5%	170
		<i>answered question</i>	318
		<i>skipped question</i>	7

4. Which of the following types of natural hazards events have you or someone in your household experienced TO THE EXTENT THAT THERE WAS HARM TO YOU, YOUR FAMILY OR YOUR PROPERTY? (please check all that apply)

		Response Percent	Response Count
Severe storm (wind, lightning)		74.5%	114
Flood		30.7%	47
Winter storm (ice, hail, etc.)		51.0%	78
Extreme temperatures (heat,cold)		14.4%	22
Tornado		27.5%	42
Drought		5.2%	8
Earthquake		1.3%	2
Mine Subsidence		0.7%	1
Flash flooding		15.7%	24
	Other (please specify)		12
	answered question		153
	skipped question		172

5. How prepared do you feel you and your household are for the potential impacts of natural hazard events likely to occur within Hancock County?

	Not at all prepared	Somewhat prepared	Adequately prepared	Well prepared	Very well prepared	Rating Average	Response Count
State of preparation	5.0% (16)	56.5% (182)	26.1% (84)	10.6% (34)	1.9% (6)	2.48	338
	Comments:						
	answered question						338
	skipped question						

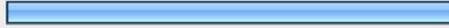
6. How concerned are you about the following natural hazards impacting your community and/or Hancock County? (please check the corresponding box for each hazard)						
	Not concerned	Somewhat concerned	Concerned	Very Concerned	Extremely concerned	Response Count
Severe storm (wind, lightning)	5.9% (19)	25.0% (80)	37.8% (121)	24.1% (77)	7.2% (23)	320
Flood	25.9% (80)	25.2% (78)	22.0% (68)	17.5% (54)	9.4% (29)	309
Winter storm (ice, hail, etc.)	4.1% (13)	24.4% (78)	32.8% (105)	30.3% (97)	8.4% (27)	320
Extreme temperatures	19.9% (61)	31.7% (97)	32.7% (100)	12.1% (37)	3.6% (11)	306
Tornado	4.7% (15)	23.3% (74)	27.4% (87)	27.8% (88)	16.7% (53)	317
Drought	22.8% (68)	42.6% (127)	24.8% (74)	7.4% (22)	2.3% (7)	298
Earthquake	44.4% (136)	32.7% (100)	15.0% (46)	4.2% (13)	3.6% (11)	306
Mine subsidence	78.2% (230)	13.9% (41)	4.8% (14)	1.7% (5)	1.4% (4)	294
Flash flooding	27.0% (80)	29.7% (88)	23.3% (69)	16.2% (48)	3.7% (11)	296
					Comments:	10
					answered question	323
					skipped question	2

7. What are the most effective ways for you to receive information about how to make your household and home safer from natural disasters? (please check all that apply)

		Response Percent	Response Count
Newspaper stories		58.4%	185
Newspaper ads		16.1%	51
Television news		72.9%	231
Television ads		27.1%	86
Radio news		51.1%	162
Radio ads		11.7%	37
Schools		20.2%	64
Books		2.8%	9
Fact sheets / brochures		31.5%	100
Magazine		6.6%	21
Mail		44.2%	140
Fire Department		20.2%	64
Internet		53.0%	168
Government agencies		14.2%	45
	Other (please specify)		17
	answered question		317
	skipped question		8

8. To the best of your knowledge, is your property located in a designated floodplain?		
	Response Percent	Response Count
Yes 	6.9%	22
No 	93.1%	296
Comments:		13
	<i>answered question</i>	318
	<i>skipped question</i>	7

9. To the best of your knowledge, is your property located in close proximity (less than 1 mile) to an earthquake fault line?		
	Response Percent	Response Count
Yes 	5.0%	15
No 	95.0%	287
Comments:		23
	<i>answered question</i>	302
	<i>skipped question</i>	23

10. Do you have flood insurance?		
	Response Percent	Response Count
Yes 	9.8%	31
No 	90.2%	284
Comments:		8
	<i>answered question</i>	315
	<i>skipped question</i>	10

11. Do you have earthquake insurance?			Response Percent	Response Count
Yes	<input type="checkbox"/>		15.7%	49
No	<input type="checkbox"/>		84.3%	264
Comments:				9
answered question				313
skipped question				12

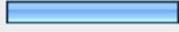
12. How vulnerable to damage is the infrastructure (streets, water, sewer, electricity, etc) that serves your home and/or community? (please check the corresponding box for each hazard)					
	Minimally vulnerable	Moderately vulnerable	Severely vulnerable	Don't Know	Response Count
Severe storm (wind, lightning)	14.3% (45)	47.0% (148)	30.5% (96)	8.3% (26)	315
Flood	48.1% (150)	27.2% (85)	15.4% (48)	9.3% (29)	312
Winter storm (ice, hail, etc.)	8.2% (26)	44.3% (141)	39.9% (127)	7.5% (24)	318
Extreme temperatures	36.1% (113)	40.9% (128)	11.8% (37)	11.2% (35)	313
Tornado	10.1% (32)	40.8% (129)	40.8% (129)	8.2% (26)	316
Drought	43.3% (135)	35.6% (111)	9.6% (30)	11.5% (36)	312
Earthquake	44.1% (138)	24.0% (75)	14.1% (44)	17.9% (56)	313
Mine subsidence	68.8% (207)	8.3% (25)	1.0% (3)	21.9% (66)	301
Flash flooding	38.0% (116)	33.8% (103)	16.7% (51)	11.5% (35)	305
Comments:					5
answered question					319
skipped question					6

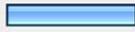
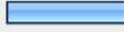
13. How vulnerable to damage are the critical facilities (police stations, fire stations, emergency operation centers, etc.) within your community? (please check the corresponding box for each hazard)					
	Minimally vulnerable	Moderately vulnerable	Severely vulnerable	Don't Know	Response Count
Severe storm (wind, lightning)	23.0% (73)	43.2% (137)	19.9% (63)	13.9% (44)	317
Flood	60.2% (189)	21.7% (68)	6.4% (20)	11.8% (37)	314
Winter storm (ice, hail, etc.)	21.3% (67)	42.2% (133)	23.2% (73)	13.3% (42)	315
Extreme temperatures	46.0% (142)	27.8% (86)	10.4% (32)	15.9% (49)	309
Tornado	17.5% (55)	37.9% (119)	31.2% (98)	13.4% (42)	314
Drought	57.4% (179)	22.1% (69)	4.8% (15)	15.7% (49)	312
Earthquake	45.4% (142)	21.4% (67)	12.1% (38)	21.1% (66)	313
Mine subsidence	66.4% (200)	7.0% (21)	1.7% (5)	24.9% (75)	301
Flash flooding	50.5% (151)	27.1% (81)	7.4% (22)	15.1% (45)	299
Comments:					3
answered question					318
skipped question					7

14. What actions do you think could be taken by individuals or the community to reduce damages and hardships caused by natural hazard events?	
	Response Count
	159
answered question	159
skipped question	166

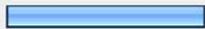
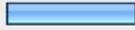
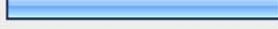
15. Did you consider the impact that the possible occurrence of a natural disaster would have on your home before you purchased or moved in?			Response Percent	Response Count
Yes			22.2%	70
No			60.1%	190
Don't recall			17.7%	56
Comments:				15
<i>answered question</i>				316
<i>skipped question</i>				9

16. Was the presence of a natural hazard risk zone (flood zone, fault zone, etc.) disclosed to you by a real estate agent, seller, or landlord before you purchased or moved into your home?			Response Percent	Response Count
Yes			8.5%	27
No			66.8%	211
Don't recall			24.7%	78
Comments:				14
<i>answered question</i>				316
<i>skipped question</i>				9

17. Would the disclosure of this type of information influence your decision to purchase or move into a home?		
	Response Percent	Response Count
Yes 	48.3%	154
No 	17.6%	56
Maybe 	34.2%	109
Comments:		5
	<i>answered question</i>	319
	<i>skipped question</i>	6

18. Would you be willing to spend money to modify or retrofit your current home from the impacts of future natural disasters? (Examples of retrofitting are: elevating a flood prone home; bolting a foundation for seismic impacts; improving home exteriors to withstand higher winds; and so on)?		
	Response Percent	Response Count
Yes 	25.7%	81
No 	23.5%	74
Maybe 	50.8%	160
Comments:		17
	<i>answered question</i>	315
	<i>skipped question</i>	10

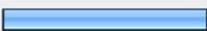
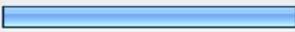
19. Which of the following incentives would help to encourage you to spend money to retrofit your home for the possible impacts of natural disasters? (please check all that apply)

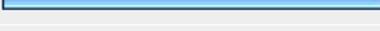
		Response Percent	Response Count
Low interest loan		39.8%	123
Insurance premium discount		60.5%	187
Mortgage discount		25.6%	79
Property tax break		73.8%	228
Grant funding (with cost share)		55.0%	170
None		15.2%	47
Other (please specify)			14
<i>answered question</i>			309
<i>skipped question</i>			16

20. If your property were located in a designated high hazard area or had received repetitive damages from a natural event, would you consider a buyout or relocation offered by a public agency?

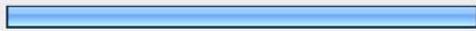
		Response Percent	Response Count
Yes		45.3%	141
No		10.3%	32
Maybe		44.4%	138
Comments:			9
<i>answered question</i>			311
<i>skipped question</i>			14

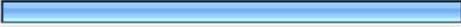
21. How old are you?		
		Response Count
		313
	<i>answered question</i>	313
	<i>skipped question</i>	12

22. Are you...?			
		Response Percent	Response Count
Male		41.0%	130
Female		59.0%	187
	<i>answered question</i>		317
	<i>skipped question</i>		8

23. How long have you lived in Hancock County?			
		Response Percent	Response Count
Less than 1 year		0.3%	1
1-4 years		6.3%	20
5-9 years		5.1%	16
10-19 years		12.0%	38
20 years or more		76.3%	241
	Comments:		4
	<i>answered question</i>		316
	<i>skipped question</i>		9

24. Do you have access to the Internet?			
		Response Percent	Response Count
Yes		89.6%	283
No		10.4%	33
Comments:			2
answered question			316
skipped question			9

25. Do you own or rent your home?			
		Response Percent	Response Count
Own		95.2%	299
Rent		4.8%	15
Comments:			0
answered question			314
skipped question			11

26. What type of structure do you live in?			Response Percent	Response Count
Single family home			93.0%	293
Duplex			1.3%	4
Apartment (3-4 units in structure)			0.3%	1
Apartment (5 or more units in structure)			0.3%	1
Townhouse / condominium			0.3%	1
Manufactured home			4.1%	13
Trailer			0.6%	2
		Other (please specify)		5
		<i>answered question</i>		315
		<i>skipped question</i>		10

C.4 COMMUNITY SURVEY: OPEN-ENDED COMMENTS

Comments from the Hancock County Community Survey in response to the question: *What actions do you think could be taken by individuals or the community to reduce damages and hardships caused by natural hazard events?*

1. be more responsible for yourself; don't depend on people to do things for you
2. new firehouse
3. trees trimmed in the county
4. have meetings to be prepared
5. we live in a rural area where our roads flood often and the gravel roads ARE NOT taken care of
6. make for better water control, ditches, field runoff
7. better drainage
8. make sure all roads are maintained properly - surfaces, culverts, bridges
9. quicker response time to icy roads and downed trees
10. tree trimming; remove old trees (part dead)
11. communication
12. have a weather radio in every home
13. store food and water if electricity is out; some source of heat
14. form committees for action - in case of a disaster make sure people have ample warning - time to prepare - everyone have to get involved in action
15. to be prepared for such situations; training
16. cut more dead trees and top trees
17. the county needs an early warning system
 - a. avoid building in risk zone; 2) early warning systems; 3) disaster preparedness
18. The Corps of Engineers, FEMA, IEMA, etc. could get on the stick and get the trash out of the Mississippi. Then they need to dredge considerably - put the dirt back, i.e. Hannibal, MO
19. communication; funding; teach preparedness
20. a CERT (community emergency response team) should be started in all counties in Illinois, in all towns
21. I think there should be more done to communicate with people in the country. Leaving a note on Casey's bulletin board doesn't help people not living in town!
22. enhanced warning systems
23. I don't know of anything right now
24. the town should come together to help those who have been affected by mother nature disasters
25. well organized volunteers to handle disaster
26. some informational meetings on how to handle natural disasters and/or fire
27. not sure
28. raise levee in Warsaw bottoms (by dredging river that can't maintain a decent channel depth)
29. be prepared!
30. install a storm warning system
31. need a storm warning system
32. move out of the flooding area
33. backup power supply for water and at least a few gas & diesel stations
34. good warning system for tornadoes or earthquakes; storing water, food, emergency supplies but they must be replaced with fresh supplies periodically which gets expensive
35. more information or education on what to do and where to go in case of disaster and more information on being prepared
36. (Build the levee up right) Mississippi river channel should be dredged

37. Store up emergency supplies/water/emergency radios, etc.
38. don't know
39. Just having a plan, letting everyone know what to do in case of any emergency. place to meet as a community, in case radio/TV were out when we should leave our homes, or stay. Somewhere all (kids, adults) would go/maybe marked with a sign. SAFE PLACE, etc
40. volunteer to help when needed
41. Build up the Illinois side of the bridge entrance into Iowa, move the water treatment plant above the dam, and educate residence on what each hazard could mean to this area.
42. Relocation of water treatment facilities in Hamilton.
43. Build flood walls for bridges between IL and IA, IL and MO so bridges are not closed during flooding.
44. More awareness
45. Many people do not understand that you need special flood insurance to be covered for this disaster. They wrongly believe that their regular homeowner's policy covers floods or water damage caused by flash flooding and sewer backups.
46. Keep yards cleaned up from unneeded junk sitting around. Tear down buildings, sheds, etc. that are ready to collapse. Tree trimming around wires, etc.
47. Better preparation and education for disaster planning
48. don't know
49. community education for awareness and plan of action
50. Have in place an EAP/EVAC plan/SHELTER LOCATIONS
51. Many problems result from loss of electricity. Keeping trees trimmed back to prevent contact with power lines will eliminate many hardships
52. homes better insulated for cold weather, as far as flooding those homes in a flood plain owners need flood insurance - possibly mandatory
53. website dedicated to this type of info
54. None
55. Raise the approach to the Hamilton/Keokuk bridge to bring it out of the flood plain.
56. Establish storm shelters and short term shelters
57. to have everyone in the community know what the plan would be before a disaster strikes.
58. just have a plan ready for action
59. don't know
60. knowledgeable and capable workers and available equipment
61. City could cut down dead trees on their properties/right of ways, as well as keep dead limbs trimmed.
62. Be prepared
63. put up an alarm or warning system
64. Move out of the flood plane
65. improve drainage ditches, streets tend to flood rapidly
66. individuals should be prepared with emergency sustinables themselves and not rely solely on community agencies to provide all. Help is needed by everyone at sometime but shouldn't be relied on as the sole way to survive a disaster.
67. more warnings
68. Buyout options
69. not sure
70. bury power lines or as many as possible
71. Working together.
72. Possibly training
73. Need suggestions and review their insurance coverage
74. I don't know...maybe a better lock/dam system?

75. Crisis Plan
Neighboring Help
Public Awareness
Disaster Fund
76. bury power lines
improve storm sewer drainage
better snow/ice removal from streets
77. homeless shelters in the case of a natural disaster
78. City installation of storm water drainage
City Hall and Fire Station have no storm shelters
Need better coordination between emergency agencies
79. don't know
80. I don't think there is any way to reduce the damage; they are natural hazards that can happen no matter what we do. But we can be better prepared to natural hazard events, ex. better warnings for storms, heavy rains, tornados, etc. Also inform people to have a plan in effect for every event that could happen.
81. Teamwork, civic, some preparedness meetings, and good communication throughout the city.
82. stay ready; continue to be in a position to help yourself, and as many neighbors as possible
83. Keep emergency supplies on hand (food, clothing, first aid, etc) Take training
84. Not sure
85. HAVE A PLAN
86. Tree trimming over structures, replacing old and brittle power lines, backup power for water dept. fire dept. and police dept as well as 911 center
87. FEMA people that are not changing daily and don't agree with what the last person said GRRR
88. be prepared
89. Organize as a community.
90. open communication with village and surrounding areas
91. MORE BACKUP POWER GENERATORS, SHELTER SIGNAGE AND MAPS
92. Be Prepared
93. Restricted use of property in flood plain. Zoning restrictions on new construction to increase resistance to damage from tornado and earthquake.
94. Mainly the trees, a lot of the trees in our community would be a danger during storms, winter and tornado
95. be prepared
96. communicate, communicate, communicate
97. Generators and warning sirens
98. work with ESDA
99. Community action groups to back up police & fire depts.
100. Make sure that your house is prepared and weather-proofed. Have an emergency supply box with food, water, etc.
101. Communication
102. Better warning signals
Building storm cellars or special rooms in their basements or crawl spaces.
103. working together as a whole to help others out--benefits, sharing food, shelter, clothing
104. Get educated on what to do in the event of these hazards.
105. Our tax money should go to pay for the critical improvement. There needs to be a hazard event program update.
106. strategic planning for food supplies, generators, batteries, water etc.
107. Be Prepared by having Emergency Kits/plans prepared ahead of time.
108. Better informed
109. Better preparation is required, as well as "fall back" locations for the various organizations.
110. harden our electricity dist. system, the old poles and wires are very vulnerable. everything else runs on electricity (communications, heat, etc.)

111. have everyone in the community aware of procedures for the area, and create a helping hands type volunteer program for searches and rescue. Individuals can make a huge difference but when they are gathered together and equipped before the danger, then the process is much more organized and effective. Hancock county has hundreds of people who would be willing to be on a committee to volunteer if a need ever arose
112. being informed
113. don't know
114. put bridges over the creek crossings instead of the overshots we now have, all electrical and phone lines underground rather than on poles.
115. have a kit prepared and ready to go for flooding, tornado, winter storms, etc. Trim trees on power lines. Build rain gardens and terraces to help slow flooding.
116. Be prepared before it happens but if not, have a team ready to be deployed to assist others who have been impacted. A volunteer group would be best such as Boy, Girl Scouts, teen groups. These are the easiest to train and are generally available anytime.
117. Purchase of generators and supplies of bottled water, nonperishable food and necessary medications to reduce hardship in case of extended power failure.
118. My biggest concern is that the power and phone lines are so vulnerable. Communication with the outside world from an isolated spot in the country is important.
119. We could all live underground in reinforced concrete bunkers, or, just move the electrical and phone lines underground.
120. The city of Hamilton should do more to mitigate the effect that flood waters from flash flooding has on my property. At the present time, the city has built a gutter for water that routes all water from street-level flooding directly into my yard -- which imperils my property as well as my home.
121. Individuals should be urged stockpile their own supplies including food, water, and fuel.
122. Have extra water, food, batteries, heat, lighting and cooking facilities available
123. Prior planning and preparation.
124. Preparedness
125. Knowledge is power; give them the knowledge to help themselves and each other in times of need.
126. written plan in place
127. to work together as a team
128. public alarm already in place
129. Supply of food and water, medicines, copies of important documents, gas in car, plans with family, weather radio (which I don't have yet), cell phone
130. Increase the height of the Miss. Bridge approach
131. keep up on the sirens to inform people of close storms. offer weather radios at local places of businesses.
132. be better prepared
133. don't know
134. Thru ESDA there are plans in the event of a disaster that would hopefully help.
135. Preplan and pre-wire church's and other civic centers with a grid isolation transfer switches and emergency power inlet, so that heat or A/C could be maintained in a number of centers. Diversify where the county's standby mobile generators are stored.
136. trim trees, stockpile food, water, gas, lp gas.
137. Be prepared and stay vigilant
138. List of resources available and how to contact them.
139. Again each community needs a centralized well publicized shelter, not just a fire dept bldg or city hall. One that would offer a place to cook, keep dry and warm with electricity on a backup system
140. Be prepared for events by having a supply of food, alternate heat source, and adequate fuel.
141. weather radios; more focus on tree trimming; shelters
142. Making more info available @ post office, gas stations and places where people gather and can have a few minutes to sit and read i.e. churches restaurants. There is a lot of teaching @schools but nothing for outside of school time in the event of disaster.
143. All I can say is if you have a basement keep things in tubs. It's easier to carry out.

144. Individuals could take being able to take care of themselves more seriously.
City could keep drainage ditches running thru city clean so as to NOT hamper water flow.
145. Warning system, tree program
146. We have a local emergency disaster group that we formed 5 years ago with a resource directory and have had a table top exercise and physical exercise about 18 months ago.
147. Start a community wide effort to become more self-sufficient
148. Public information
149. More public warning
150. flood precautions
151. Wind/tree damages
Flood/cabin area
152. Elevate street to bridge!!! Move water intake Hamilton/Warsaw sewer pump station – rehab
153. Planning-Education
154. Hazard mitigation plan
155. Keeping themselves informed and educating themselves on what to do to minimize the effects of a hazard or ??
156. storm shelter for mobile home parks, storm siren on NE side of town, raise highway before the Mississippi River
157. Unsure
158. alerting people

C.5 ISSUE GROUPS: SAMPLE INVITATION LETTER

HANCOCK COUNTY ESDA / LEPC
EMERGENCY SERVICES & DISASTER AGENCY
LOCAL EMERGENCY PLANNING COMMITTEE
1006 Wabash Avenue, P.O. Box 278, Carthage, IL 62321
Phone: 217-357-0104 Email: lepc@mchsi.com

UNIVERSITY OF ILLINOIS EXTENSION
COMMUNITY ASSESSMENT & DEVELOPMENT SERVICES
550 N. Madison, Carthage, IL 62321



Phone: 357-2150

Email: k

August 14, 2009

(Health & Human Services Issue Group Invitees – Personalized)

Dear Friend:

Hancock County has started a process to develop strategies that will positively affect the impact of various natural hazards on our citizens and communities. Funded by a grant from the Federal Emergency Management Agency (FEMA), we have begun an aggressive schedule of meetings. We want to be finished by the end of the year so that our friends and neighbors who were affected by last year's flooding can benefit directly from this plan. The lengthy title of the project is Hancock County Local Hazard Mitigation Planning, but from this point we'll refer to it as LHMP.

FEMA emphasizes the need for as much public participation as possible in the creation of these LHMP projects. In addition to a Steering Committee composed of representatives from participating communities and a survey and community meetings in the near future, we think it is important to bring together groups of people connected to specific issue areas to make sure we are addressing all potential risks and accompanying strategies.

Specifically we would like to invite you to join others on Tuesday, August 25, from 9:00 - 10:30 am at the Hancock County Extension office in Carthage. This group will focus on issues relating to health and human services, how various natural hazards (flooding, tornados, drought, ice storm and so on) impact this area and some ideas for projects that might help alleviate that impact if implemented. We are enclosing a list of those people we are inviting to this particular gathering; if you see anyone missing, please let us know as soon as possible. Also enclosed are the questions we'll be posing to the group so you'll get a sense of what we're looking for.

Another important reason for a good attendance at this group and others like it is that your participation will count toward the matching funds that FEMA requires recipient groups to gather.

Please let us know if you'll join us on Tuesday, August 25, at the Extension Office – for that matter, please let us know regardless so we can reduce the amount of follow-up phone calls. You can call the Extension office at 217-357-2150 or if email is an option, send a message to Kristin Huls:

khuls@illinois.edu.

In closing, we truly hope you can find the time to assist in this effort. Having a mitigation plan in place will allow the county and participating communities to better compete for grants down the road that will fund identified projects. Your contribution will help immensely to develop the best, most thorough local hazard mitigation plan for us to submit and implement. Best wishes,

Jack Curfman
Hancock County ESDA Director

Earl Bricker
University of Illinois Extension

C.6 ISSUE GROUPS: SAMPLE AGENDA

Hancock County Local Hazard Mitigation Plan

Health & Human Services Issue Group

Tuesday, August 25, 9:00 – 10:30 am

1. What is the impact of the following hazards on this issue area?
 - a. Flooding
 - b. Severe storms
 - c. Tornado
 - d. Winter storm (snow, ice, etc.)
 - e. Drought
 - f. Extreme heat
 - g. Earthquake

2. What can be done to reduce (mitigate) the impact of those natural hazards on this issue area? For example, a siren in a community would help reduce the impact of a tornado on people and property. Think both specifically and generally and anything goes.
 - a. Flooding
 - b. Severe storms
 - c. Tornado
 - d. Winter storm (snow, ice, etc.)
 - e. Drought
 - f. Extreme heat
 - g. Earthquake

3. What other groups of people should we be speaking with?

C.7 ISSUE GROUPS: PROJECT GRID

(designed to both collect information and prompt discussion)

HEALTH & HUMAN SERVICES ISSUE GROUP

Name: _____

Date: _____

Natural Hazard	Effects on people/property	Possible mitigation strategies
Severe storms (thunder, wind, hail)		
Flooding		
Drought		
Extreme temperatures		
Earthquake		
Tornado		
Winter storm (snow, ice)		
Flash flooding		

Additional comments:

C.8 ORGANIZATIONS AND INDIVIDUALS INVITED TO ISSUE-BASED FOCUS GROUPS

Agriculture & Natural Resources

- Animal Control, Mike Wright
- Beef Producers, Chuck Lucie
- County Veterinarian, Dr. Steve Renard
- Farm Bureau, Carla Mudd
- Humane Society, Anissa Sadeghi
- Hunt Drainage District, Sam Zumwalt
- Hunt Drainage District, John Hofmeister
- IEPA, Todd Huston
- Kibbe Biological Station, Jim Lamer
- Pork Producers, Joe Scheetz
- Prairie Hills RC&D, Dave King
- Soil & Water Conservation District, Betty Buckert
- FSA, Dick Burling
- NRCS, Lori Bollin

Business & Economic Development

- Bank of Advance, Lyle Paben
- Dallas City Banking Center, Manager
- Carthage Chamber, Tyrone Gacoby
- Carthage Community Development, Charlie Bair
- Community State Bank of Plymouth, President
- First State Bank, Nina Boyer
- First State Bank, Kim Taylor
- First State Bank, Jeannette Ford
- Fort Madison Bank, Manager
- Hamilton Merchants Assn, Renee Lee
- Hancock County Economic Development Corp, Dave Walker
- Hill-Dodge Banking Company, Gary Uhland
- LaHarpe Golden Rule, Jeannette Ford
- Marine Bank & Trust, Tom Dale
- Marine Bank & Trust, Gary Gibbs
- Marine Bank & Trust, Susie Eddington
- Nauvoo Chamber, Dave Miller
- State Bank of Colusa, Jay Morrison
- State Bank of Nauvoo, Tim Reinhardt
- Warsaw Area Development Corporation, Mary Scott
- Western Illinois Regional Council, Shannon Duncan

Education, Health & Culture

- Augusta Eagle, Editor
- Carl Sandburg Community College, Deborah Miller
- Carthage Elementary School, Superintendent
- LaHarpe Elementary School, Superintendent
- Dallas City Elementary School, Superintendent
- Carthage Public Library, Amy Gee
- Nauvoo-Warsaw Jr. High, Principal
- Warsaw-Nauvoo High School, Principal
- Nauvoo Elementary, Principal
- Warsaw Elementary, Principal
- Greater West Central Library District, Librarian
- Hamilton CUSD, Dr. James Jackson, Superintendent
- Hamilton Public Library, Nancy Denton
- Hancock County Historical Society, President
- Hancock County Journal Pilot, Joy Swearingen
- Hancock County Quill, Dessa Rodeffer
- Illini West HS District, Superintendent
- Joseph Smith Historic Site, Lachlan Mackay
- Kibbe Museum, President
- LaHarpe Carnegie Public Library, Monica Carpenter
- Nauvoo Library, Gaby Berry
- Nauvoo New Independent, Jane Langford
- Nauvoo Restoration, Inc, / Carthage Jail, Lee Noe
- Nauvoo State Park, Reagan Ramsey
- Nauvoo School, Principal
- Regional Office of Education, John Meixner
- Southeastern CUSD, Todd Fox, Superintendent
- Warsaw Public Library, Librarian

ORGANIZATIONS AND INDIVIDUALS INVITED TO ISSUE-BASED FOCUS GROUPS (CONTINUED)

Health & Human Services

- Arnell Drug, Steve Arnell
- Hamilton-Warsaw Clinic, Manager
- Blessing Hospice, LeAnn Meeks
- Hancock County Health Dept, Teresa Beeler
- County Nursing Home, Judy Klein
- Davier Nursing Home, Lisa Trego
- Denman's, Manager
- Family Rural Health Clinic, Monica Crim
- Hancock County Sheltered Care, Vicky Carriger
- Keokuk Area Medical Equipment, Manager
- McHugh Drug, Bob McHugh
- Memorial Hospital, Kurt Krekel
- Mental Health Centers of Western Illinois, Roxie Oliver
- Montebello Manor, Rebecca Bliss
- MORE Medical Supply, Ryan Jacquot
- Nauvoo Pharmacy, Luann Haas
- Wear Drug, Craig Wear
- Western Illinois Regional Council, Kevin Wiehardt

Public Safety

- 911, Maria Hopp
- Air Evac, John Landis
- Augusta Fire Dept, Frank Avise
- Augusta Fire Protection Dist, Frank Avise
- Bowen Fire Protection Dist, Dave Campbell
- Carthage Fire Dept, Scott Carle
- Carthage Police, Gary Waddell
- County Ambulance Service / EMS, Perry Cameron
- County Sheriff, John Jefferson
- Dallas City Fire Dept, Carl Thompson
- Dallas City Police, Dennis Hillyer
- Fire Marshal, James Tunney
- Hamilton Fire Dept, Steve Helenthal
- Hamilton Police, Walter Sellens
- LaHarpe Ambulance, Eric Palmer
- LaHarpe Fire Dept, Jerry Brown
- LaHarpe Police, Justin Livingston
- National Weather Service, Donna Dubberke
- Nauvoo Ambulance, Dan Gallaher
- Nauvoo Fire Dept, Dan Gallaher
- Nauvoo Police, Don Faulkner
- Red Cross, Betty Redineus
- State Police, Mike Inman
- State Police, Capt. Bob Elliott
- Tri-County Fire Protection District, Mark Kelly
- Warsaw Fire Dept, Steve Siegrist
- Warsaw Police, Brandon Norris
- West Point Fire Protection District, Jim Hubbard

ORGANIZATIONS AND INDIVIDUALS INVITED TO ISSUE-BASED FOCUS GROUPS (CONTINUED)

Transportation

- Appanoose Township Highway Commissioner, Kevin Siemens
- Augusta Township Highway Commissioner, Aaron Miller
- Bear Creek Township Highway Commissioner, Junior Bruns
- Carthage Township Highway Commissioner, Danny Belknap
- Chili Township Highway Commissioner, Ted Knorr
- Dallas City Township Highway Commissioner, Ryan Thompson
- Durham Township Highway Commissioner, Leon Browning
- Fountain Green Township Highway Commissioner, Steve Blue
- Hancock Township Highway Commissioner, Glen White
- Harmony Township Highway Commissioner, Mark Harrison
- LaHarpe Township Highway Commissioner, Todd Stevens
- Montebello Township Highway Commissioner, Jim Reneau
- Nauvoo Township Highway Commissioner, Jim Hasten
- Pilot Grove Township Highway Commissioner, Jim Hasten
- Pontoosuc Township Highway Commissioner, Don Rosenboom
- Prairie Township Highway Commissioner, Brad Scanlan
- Rock Creek Township Highway Commissioner, Eric Martin
- Rocky Run Township Highway Commissioner, Wayne Pence
- St. Albans Township Highway Commissioner, Bob Randall
- St. Mary Township Highway Commissioner, Keith Mayall
- Sonora Township Highway Commissioner, Wayne Bollin
- Walker Township Highway Commissioner, Dave Roskamp
- Wilcox Township Highway Commissioner, Stephen Meyer
- Wythe Township Highway Commissioner, Mike Wright
- Burlington Northern Santa Fe Railroad, John Spealman
- County Engineer, Elgin Berry
- Hamilton Street Superintendent, Bill Dobbins
- Hancock County Highway Dept, Elgin Berry
- IDOT, Mike Nichols
- LaHarpe Street Superintendent, Wayne Humphrey
- Nauvoo Street Superintendent, Butch Baxter
- Scanlan Sparrow Trucking,
- Warsaw Street Superintendent, Harley Griffin

Utilities

- ABS Water Cooperative, Cindy Keyes
- Adams Telephone Coop, Jim Broemmer
- Ameren CIPS, Area Representative
- Carthage Water Superintendent, Rich Sealock
- Dallas City Water Superintendent
- Dallas Rural Water, Bill Brown
- Frontier, Area Representative
- Hamilton Water Superintendent, Tim Schilson
- LaHarpe Telephone, Mark Irish
- LaHarpe Water Superintendent, Tim Graves
- McDonough Telephone Coop
- MediaCom, Area Representative
- Nauvoo Water Superintendent, Barry Cuthbert
- Nicor, Dave Schoof
- USCellular, Sean Noonan
- Verizon, Area Representative
- Warsaw Water Superintendent, Gary Huston
- Western Illinois Electric Coop, Paul Dion



WE NEED YOUR INPUT AND IDEAS



Please try to attend one of the following meetings in a community near you and share **your ideas** about weather related incidents, natural hazards, and community preparedness.

Southeastern HS Cafeteria	Thursday, September 10	6:00 pm
(Target Communities: Augusta, Bowen, Plymouth; West Point)		
Carthage U of I Extension Office	Tuesday, September 22	6:00 pm
(Target Communities: Carthage; Basco; Bentley; Ferris)		
Hamilton Community Center	Monday, September 28	6:00 pm
(Target Communities: Hamilton; Warsaw; Nauvoo; Elvaston)		
Dallas City Senior Center	Tuesday, October 6	6:00p m
(Target Communities: Dallas City; LaHarpe; Pontoosuc; Niota; Colusa)		

For more information call Kristin Huls or Deb Pflasterer at University of Illinois Extension, 217-357-2150, or Jack Curfman, Hancock County ESDA Coordinator, 217-357-0104.

Hancock County Local Hazard Mitigation Planning

Community Meeting – Tuesday, October 6, 2009 – Dallas City Senior Center

IDEAS FOR HAZARD MITIGATION

Will this idea affect a specific community? Yes No

If yes, which one(s)? _____

What hazard will the idea mitigate?

Flood Flash Flood Severe Storms Winter Storms

Earthquake Tornado Extreme Temperatures

Please describe your idea for mitigation:

(Optional) If the Steering Committee has questions about your idea, how can they contact you?

Name _____ Phone _____

E-mail _____

If you would prefer to take this home to think it over and mail later, please send it to: *Kristin Huls, U of I Extension-Hancock, 550 N. Madison, Carthage, IL 62321.*

C.11 COMMUNITY MEETINGS: SAMPLE MINUTES

Hancock County Hazard Mitigation Plan
Public Meeting
Hamilton Community Building
September 28, 2009 – 6:00 p.m.

Present: Jean Massey, Doris Ritter, Earl Bricker, Kristin Huls, Steve Woodruff, Gary Treach, Randy White, Brandon Norris, others

- Earl presented the Mitigation PowerPoint
- Handouts were passed around including: Risk Assessment, Ideas for Hazard Mitigation, and the Survey
- Potential projects that were suggested include:
 - Building up the road near the Illinois/Iowa bridge in Hamilton
 - More early warning sirens in Warsaw (they only have one currently)
 - Emergency generators at buildings such as city hall, police stations, water departments, fire stations, etc.
 - Correcting water intake problems in Hamilton and Warsaw. One of Hamilton's intakes is too high and Warsaw's intake becomes silted in during flooding.
 - Hamilton – currently has an electric transformer that is dangerously close to their water plant (in case of lightning)
 - Storm shelters for trailer parks and/or apartment complexes

APPENDIX D: MATCH LOG

Hancock Match Log - EVENTS

		(Σ Time X Duration)	(Σ Miles Traveled X \$.55)		
Date	EVENT	# Attending	Volunteer Time \$	Travel \$	Event Total
1/29/2009	Steering Committee 1	18	\$477.88	\$295.90	\$773.78
2/5/2009	Steering Committee 2	14	\$377.82	\$202.95	\$580.77
2/26/2009	Steering Committee 3	10	\$287.82	\$151.80	\$439.62
3/5/2009	Steering Committee 4	14	\$387.82	\$191.95	\$579.77
7/2/2009	Steering Committee 5	9	\$170.00	\$178.20	\$348.20
8/11/2009	Steering Committee 6	9	\$243.82	\$130.35	\$374.17
9/15/2009	Steering Committee 7	12	\$309.88	\$199.10	\$508.98
10/13/2009	Steering Committee 8	12	\$299.88	\$196.90	\$496.78
11/10/2009	Steering Committee 9	9	\$219.88	\$132.00	\$351.88
1/19/2010	Steering Committee 10	14	\$363.88	\$210.00	\$573.88
3/23/2010	Steering Committee 11	12	\$297.82	\$181.50	\$479.32
9/10/2009	Augusta Public Meeting	12	\$240.00	\$39.60	\$279.60
9/22/2009	Carthage Public Meeting	8	\$160.00	\$26.40	\$186.40
9/28/2009	Hamilton Public Meeting	20	\$400.00	\$66.00	\$466.00
10/6/2009	Dallas City Public Meeting	8	\$160.00	\$26.40	\$186.40
3/23/2010	Public Review Meeting	12	\$297.82	\$181.50	\$479.32
8/25/2009	Health and Human Services FG	4	\$206.40	\$89.10	\$295.50
8/25 & 26/2009	Transportation FG	7	\$482.00	\$168.85	\$650.85
8/25/2009	Ag & Natural Resources FG	5	\$393.00	\$80.30	\$473.30
8/26/2009	Business & Econ Dev FG	5	\$344.64	\$61.60	\$406.24
8/26/2009	Education, Culture, Historical FG	6	\$242.94	\$176.00	\$418.94
8/28/2009	Utilities FG	3	\$150.52	\$15.40	\$165.92
8/28/2009	Public Safety FG	8	\$269.48	\$169.40	\$438.88
			\$1,531.34	\$842.60	\$2,373.94
			\$5,251.96	\$2,328.60	\$7,580.56
			\$6,783.30	\$3,171.20	\$9,954.50
Other Match					
	Copies		6,000 sides at \$0.10 per side		\$600.00
	Mileage		834 miles at \$0.55 per mile		\$458.70
			TOTAL OTHER		\$1,058.70
Donated Space					
Steering Cmte	11 Meetings at Hancock Extension				\$550.00
Public Meetings	1 Meeting Southeastern HS				\$50.00
	1 meeting Hancock Extension				\$100.00
	1 meeting Hamilton Comm Ctr				\$100.00
	1 meeting Dallas City Sr Ctr				\$50.00
Focus Groups	3 Full Days Focus Groups				\$300.00
			TOTAL SPACE		\$1,150.00
			TOTAL MATCH		\$11,104.50
			Match (Jan-July)		\$2,373.94
			Match (July-present)		\$8,730.56

APPENDIX E: SAMPLE MUTUAL AID AGREEMENT

Mutual Aid Agreement – Adams County

THIS AGREEMENT is entered into and among the various governmental and non governmental entities whose officials have subscribed hereto on the _____ day of _____, 2010.

In consideration of the mutual commitments given herein, each of the Signatories to this Mutual Aid Agreement agree to render aid during a disaster to any of the other Signatories as follows:

1. The below signed parties will, upon request and whenever possible, furnish assistance with equipment, supplies, and/or personnel within the territorial limits of the other entities who are party to this agreement.
2. It is understood by the parties hereto that the primary responsibility of each is to protect its own territory and that each party hereto may maintain standby equipment within its own territory and, in the event of a call within its own territory, refuse to respond to a request for aid from the other parties.
3. Equipment and personnel at the site of an emergency/disaster shall be under the sole control and direction of the officer in command of the responding party furnishing such equipment and personnel, and such officer shall have the absolute right to remove such equipment and personnel at such time as he/she shall decides to do so. However, the chain of command of the requesting party shall be in overall command of all parties' personnel and equipment responding to such emergency/disaster, and shall direct the activities of all parties and equipment for the incident.
4. Each party hereto waives any and all claims against the other parties for loss, damage, personal injury, or death that may arise in consequences of the performance of the terms of this agreement, and no party or person shall under any circumstance, be held liable for any loss or damage by reason of any failure to effectively perform at any emergency/disaster in the territory of another party.
5. The rendering of assistance under the terms of this Agreement shall not be mandatory if local conditions of the responding units prohibit response. It is the responsibility of the responding units to immediately notify the requesting party of the inability to respond; however, failure to immediately notify the requesting party of such inability to respond shall not constitute evidence of noncompliance with the terms of this section and no liability may be assigned. No liability of any kind or nature shall be attributed to or be assumed, whether expressly or implied, by a party hereto, its duly authorized agent and personnel, for failure or refusal to render aid. Nor shall there be any liability of a party for withdrawal of aid once provided pursuant to the terms of this Agreement.
6. It is hereby understood that the responding party will be treated as contract labor / equipment and will be reimbursed (e.g. regular and overtime labor, equipment, materials and other related expenses as applicable, including loss or damage to equipment) at the adopted usual and customary rates.
7. This Agreement shall become effective when all parties have executed the agreement by signatures, and shall remain in full force and effect thereafter for the period of 10 years. Either party hereto may withdraw from this agreement by giving written notice to the other parties of its withdrawal upon a date not less than thirty (30) days prior to the date of withdrawal.

FOR ROAD DISTRICTS

Road Commissioner
Beverly Township Road District

Road Commissioner
Camp Point Township Road District

Road Commissioner
Columbus Township Road District

Road Commissioner
Ellington Township Road District

Road Commissioner
Gilmer Township Road District

Road Commissioner
Houston Township Road District

Road Commissioner
Liberty Township Road District

Road Commissioner
McKee Township Road District

Road Commissioner
Mendon Township Road District

Road Commissioner
Payson Township Road District

Road Commissioner
Riverside Township Road District

Road Commissioner
Burton Township Road District

Road Commissioner
Clayton Township Road District

Road Commissioner
Concord Township Road District

Road Commissioner
Fall Creek Township Road District

Road Commissioner
Honey Creek Township Road District

Road Commissioner
Keene Township Road District

Road Commissioner
Lima Township Road District

Road Commissioner
Melrose Township Road District

Road Commissioner
Northeast Township Road District

Road Commissioner
Richfield Township Road District

Road Commissioner
Ursa Township Road District

FOR ADAMS COUNTY

Chairman
Adams County Board

County Engineer
Adams County

Director
Adams County Emergency Services

Sheriff
Adams County

Public Health Administrator
Adams County Health Department

Ambulance Director
Adams County Ambulance

FOR DRAINAGE/LEVEE DISTRICTS

Lima Lake Drainage District

Indian Grave Drainage District

South Quincy Drainage District

Sny Island Drainage District

FOR VILLAGES:

Village Camp Point

Village of Clayton

Village of Coatsburg

Village of Columbus

Village of Golden

Village of LaPrairie

Village of Liberty

Village of Lima

Village of Loraine

Village of Mendon

Village of Payson

Village of Plainville

Village of Ursa

FOR SCHOOL DISTRICTS

Camp Point Unit School District #3

Mendon Community School District #4

Griggsville / Perry School District #4

Barry Unit School District #1

Southeastern School District #1

Payson Community School District # 1

Liberty School District # 2

Quincy School District #172

John Wood Community College

FOR PARK DISTRICTS

Bailey Park District

Beverly Township Park District

Liberty Township Park District

Quincy Park District

FOR CITY OF QUINCY

Mayor
City of Quincy

Police Chief
City of Quincy

Fire Chief
City of Quincy

Gary Sparks
Director, Administrative Services

FOR OTHER NON GOVERNMENTAL ENTITIES

Adams County Chapter
American Red Cross

Salvation Army

Blessing Hospital

Quincy Medical Group

Quincy University

APPENDIX F: ESSENTIAL FACILITIES AND FACILITIES OF LOCAL IMPORTANCE

F.1 LIST OF ESSENTIAL FACILITIES

Essential Facilities

Emergency Operations Center

<u>Community</u>	<u>Name of Facility</u>
Carthage	Emergency Service and Disaster Agency

Fire Facilities

<u>Community</u>	<u>Name of Facility</u>
Augusta	Augusta Fire Protection District
Bowen	Bowen Fire Department
Carthage	Carthage Clipper Fire Department
Colusa	Dallas City Rural Fire Protect. Dist.
Dallas City	Dallas City Rural Fire Protect. Dist.
Fountain Green	La Harpe Fire Protection District
Hamilton	Hamilton Fire Department
La Harpe	La Harpe Fire Protection District
Nauvoo	Nauvoo Fire Protection District
Niota	Dallas City Rural Fire Protect. Dist.
Plymouth	Tri-County Fire Protection District
Warsaw	Warsaw Fire Department
West Point	West Point Fire Protection District

Medical Facilities

<u>Community</u>	<u>Name of Facility</u>
Bowen	Bowen Family Practice
Carthage	Hancock County Health Department
Carthage	Memorial Hospital
Carthage	Memorial Support Services
Dallas City	Western Illinois Women's Health
La Harpe	Family Rural Health Clinic
La Harpe	La Harpe Davier Health Care Center
Warsaw	Warsaw Medical Clinic

Police Facilities

<u>Community</u>	<u>Name of Facility</u>
Augusta	Augusta Police Department
Carthage	Carthage Police Department

Carthage	Hancock Sheriff's Office
Dallas City	Dallas City Police Department
Hamilton	Hamilton Police Department
La Harpe	La Harpe Police Department
Nauvoo	Nauvoo Police Department
Plymouth	Plymouth Police Department
Warsaw	Warsaw Police Department

School Facilities

<u>Community</u>	<u>Name of Facility</u>
Augusta	Southeastern Junior/Senior High School
Bowen	Southeastern Elementary School
Carthage	Carl Sandburg College
Carthage	Carthage Middle School
Carthage	Carthage Primary School
Carthage	Education Commons
Carthage	Hancock County Learning Center
Carthage	Illini West H.S. Superintendent's Office
Carthage	Illini West High School
Dallas City	Dallas City Elementary School
Hamilton	Hamilton Elementary School
Hamilton	Hamilton High School
Hamilton	Hamilton Junior High School
Hancock County	West Hancock Junior High School
La Harpe	La Harpe Elementary School
La Harpe	La Harpe High School
La Harpe	La Harpe Junior High School
Nauvoo	Nauvoo-Colusa Junior High School
Nauvoo	Nauvoo Elementary School
Nauvoo	Saints Peter & Paul School
Warsaw	Warsaw Elementary School
Warsaw	Warsaw High School

F.3 LIST OF FACILITIES OF LOCAL IMPORTANCE

Places of Large Assembly

<u>Community</u>	<u>Name of Facility</u>
Augusta	Augusta Senior Citizens Club
Augusta	Hancock County Fair Grounds
Basco	Community Center
Carthage	Charger Community Center Auditorium
Hamilton	Hamilton Community Center
Hamilton	Wildcat Springs Campground
La Harpe	La Harpe Community Club House
Nauvoo	LDS Temple
Nauvoo	Nauvoo State Park Campground
Nauvoo	Nauvoo Pageant Site (July only)
Plymouth	Plymouth Community Center
Warsaw	Bolt Community Center

Vulnerable Populations

<u>Community</u>	<u>Name of Facility</u>
Augusta	Hancock County Shelter Care Home
Hamilton	Montebello Healthcare Center

Other Community Identified Structures

<u>Community</u>	<u>Name of Facility</u>
Augusta	Augusta Farmers Co-op
Bowen	Chem Gro Inc
Bowen	Ursa Farmers Co-op
Carthage	Mental Health Centers of Western IL
Carthage	West Central FS, Inc.
Hamilton	Monterosa Mobile Home Park
Hamilton	Rivercross Mobile Home Park
Nauvoo	Colusa Grain Elevator
Nauvoo	Joseph Smith Historical Site
Nauvoo	LDS Visitor Center
Nauvoo	Nauvoo State Park Ranger Station
Nauvoo	Temple Visitors Center
West Point	FS Fertilizer

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APPENDIX H: MAPS OF PARTICIPATING JURISDICTIONS

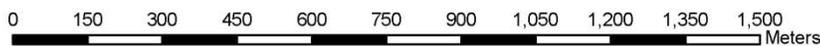
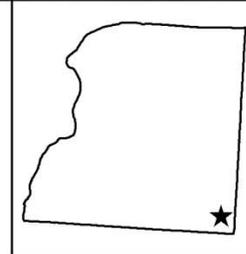
Augusta, Hancock County



- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
 - Primary Road
 - Ramp
 - Secondary Road
 - Local Neighborhood Road, Rural Road, City Street
 - Alley/Private Drive/Service Drive
 - Vehicular Trail (4WD)
 - Airport or Airfield
 - Railroad Feature (Main, Spur, or Yard)

- Ferry Crossing
- Powerline
- Perennial Shoreline
- Intermittent Shoreline
- Stream/River
- Canal, Ditch or Aqueduct
- Lakes/Rivers

1:12,760



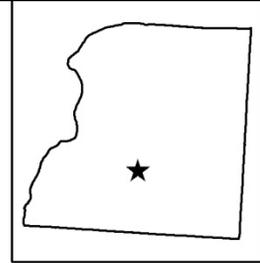
All data from 2008 US Census TIGER/Line
 except
 2007 land cover raster data from 1995,
 2005 DOQQ imagery data from 1995,
 2003 DEM elevation data from 1995
 Datum and Projection:
 WGS84, UTM Zone 16N
 Map produced by:
 University of Illinois U.C. Extension CADS
 January 2009

Basco, Hancock County

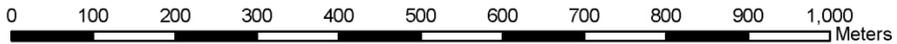


- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
 - Primary Road
 - Ramp
 - Secondary Road
 - Local Neighborhood Road, Rural Road, City Street
 - Alley/Private Drive/Service Drive
 - Vehicular Trail (4WD)
 - Airport or Airfield
 - Railroad Feature (Main, Spur, or Yard)
 - Ferry Crossing
 - Powerline
 - Perennial Shoreline
 - Intermittent Shoreline
 - Stream/River
 - Canal, Ditch or Aqueduct
 - Lakes/Rivers

1:7,952



All data from 2008 US Census TIGER/Line except
 2007 land cover raster data from USGS
 2005 DOQQ imagery data from USGS
 2003 DEM elevation data from USGS
 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
 University of Illinois U.C. Extension C-205
 January 2009

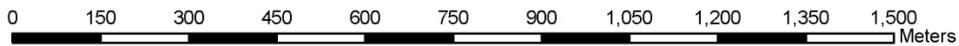
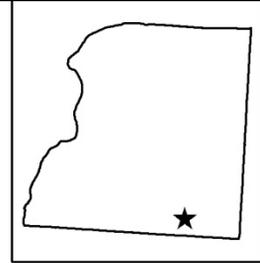


Bowen, Hancock County



- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
 - Primary Road
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 - Ferry Crossing
 - Powerline
 - Perennial Shoreline
 - Intermittent Shoreline
 - Stream/River
 - Canal, Ditch or Aqueduct
 - Lakes/Rivers

1:11,073



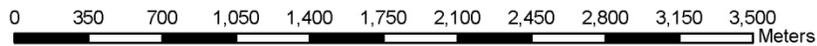
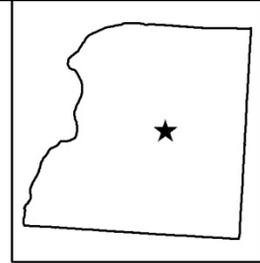
All data from 2008 US Census TIGER/Line except
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 2003 DEM elevation data from USGS
 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
 University of Illinois U.C. Extension C-205
 January 2009

Carthage, Hancock County



- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
 - Primary Road
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 - Ferry Crossing
 - Powerline
 - Perennial Shoreline
 - Intermittent Shoreline
 - Stream/River
 - Canal, Ditch or Aqueduct
 - Lakes/Rivers

1:30,839



All data from 2008 US Census TIGER/Line
 except
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 2005 DOQQ imagery data from USGS
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 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
 University of Illinois UIC Extension C-05
 January 2009

Elvaston, Hancock County

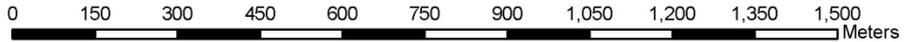


- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
 - Primary Road
 - Ramp
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 - Ferry Crossing
 - Powerline
 - Perennial Shoreline
 - Intermittent Shoreline
 - Stream/River
 - Canal, Ditch or Aqueduct
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1:11,835



All data from 2008 US Census TIGER/Line except
 2007 land cover raster data from USGS
 2005 DOQQ imagery data from USGS
 2003 DEM elevation data from USGS
 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
 University of Illinois U.C. Extension C-205
 January 2009



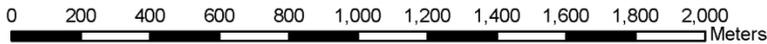
Ferris, Hancock County



- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
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 - Secondary Road
 - Local Neighborhood Road, Rural Road, City Street
 - Alley/Private Drive/Service Drive
 - Vehicular Trail (4WD)
 - Airport or Airfield
 - Railroad Feature (Main, Spur, or Yard)

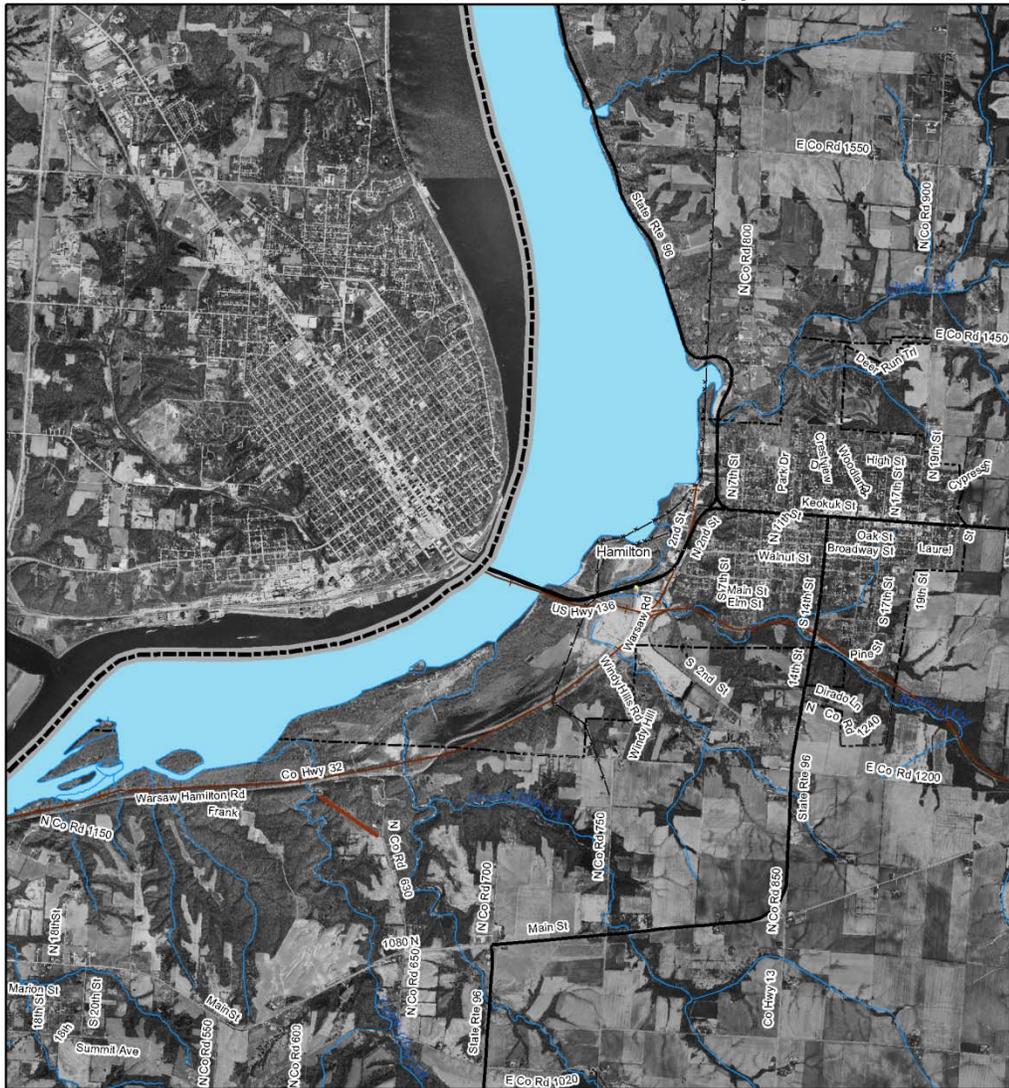
- Ferry Crossing
- Powerline
- Perennial Shoreline
- Intermittent Shoreline
- Stream/River
- Canal, Ditch or Aqueduct
- Lakes/Rivers

1:18,767



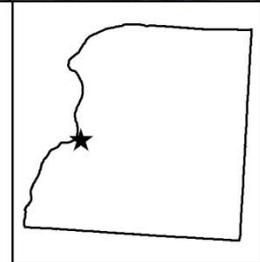
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 2005 DOQQ imagery data from USGS,
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 Datum and Projection
 WGS84, UTM Zone 18N
 Map produced by
 University of Illinois U.C. Extension C-205
 January 2009

Hamilton, Hancock County

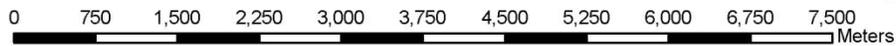


- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
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 - Perennial Shoreline
 - Intermittent Shoreline
 - Stream/River
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1:59,728



All data from 2008 US Census TIGER/Line
 2007 land cover raster data from USGS
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 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
 University of Illinois U-C Extension CADS
 January 2009

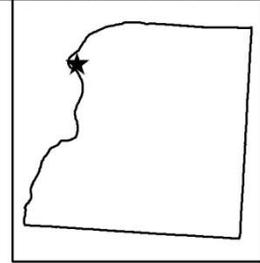


Nauvoo, Hancock County

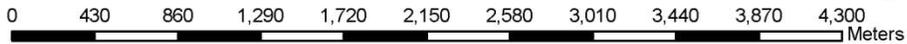


- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
 - Primary Road
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 - Powerline
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 - Stream/River
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 - Lakes/Rivers

1:33,759



All data from 2008 US Census TIGER/Line
 2007 land cover raster data from USGS
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 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
 University of Illinois U.C. Extension CADS
 January 2009



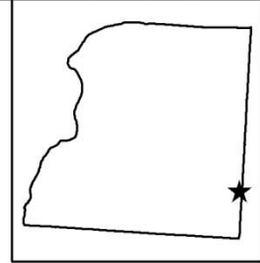
Plymouth, Hancock County



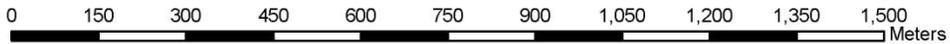
- Legend**
- County Boundary Line
 - Places-Municipalities
 - School
 - Airport or Airfield
 - Golf Course
 - Government Center
 - Hospital/Hospice/Urgent Care Facility
 - Primary Road
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- Ferry Crossing
- Powerline
- Perennial Shoreline
- Intermittent Shoreline
- Stream/River
- Canal, Ditch or Aqueduct
- Lakes/Rivers

1:11,185



All data from 2008 US Census TIGER/Line
 ewc08t
 2007 land cover raster data from USGS
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 2003 DEM elevation data from USGS
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 January 2009

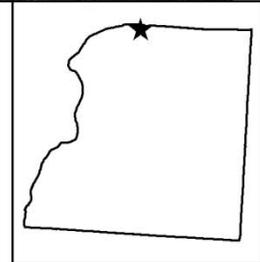


Pontoosuc, Hancock County

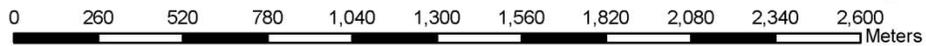


- Legend**
- County Boundary Line
 - Places-Municipalities
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 - Powerline
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1:20,020



All data from 2008 US Census TIGER/Line
 w0014
 2007 land cover raster data from ISSS
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 2003 DEM elevation data from ISSS
 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
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 January 2009

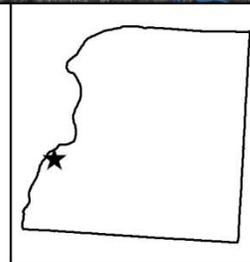


Warsaw, Hancock County

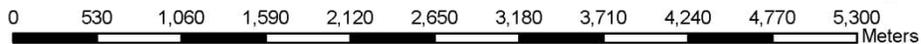


- Legend**
- County Boundary Line
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 - Ferry Crossing
 - Powerline
 - Perennial Shoreline
 - Intermittent Shoreline
 - Stream/River
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 - Lakes/Rivers

1:40,947



All data from 2008 US Census TIGER/Line
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 2005 DOQQ imagery data from USGS
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 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
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 January 2009

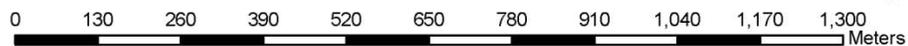
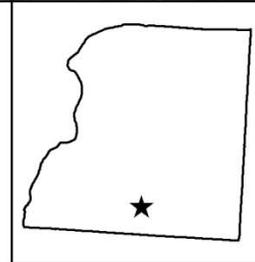


West Point, Hancock County



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 - Ferry Crossing
 - Powerline
 - Perennial Shoreline
 - Intermittent Shoreline
 - Stream/River
 - Canal, Ditch or Aqueduct
 - Lakes/Rivers

1:10,234



All data from 2008 US Census TIGER/Line
 w0204
 2007 land cover raster data from USGS
 2005 DOQQ imagery data from USGS
 2003 DEM elevation data from USGS
 Datum and Projection
 WGS84 UTM Zone 18N
 Map produced by
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 January 2009