# THE SANGAMON COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

## 2015 Update




City of Auburn, Village of Buffalo, Village of Cantrall, Village of Chatham, Village of Divernon, Village of Jerome, City of Leland Grove, Village of Mechanicsburg, Village of New Berlin, Village of Pawnee, Village of Rochester, Village of Sherman, Village of Southern View, City of Springfield, Village of Williamsville, and Sangamon County

Prepared by the Springfield-Sangamon County Regional Planning Commission
Advising + Planning + Evaluating + Leading

*Prepared by:*
**THE SPRINGFIELD-SANGAMON COUNTY REGIONAL PLANNING COMMISSION**
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SSC RPC Springfield Sangamon County Regional Planning Commission

# Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan


## Plan Author: Springfield Sangamon County Regional Planning Commission

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**May 2015**

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## Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force

| Name | Representing |
|---|---|
| Ashenfelter, Mike | Springfield Metro Sanitary District |
| Ashton-Hale, Robin | Village of Dawson |
| Barrows, Dave | University of Illinois at Springfield |
| Bottom, Nate | City of Springfield |
| Brennan, John | Village of Williamsville |
| Copelin, Jim | Village of Divernon |
| DeLaby, Louis | Rural Electric Convenience Cooperative |
| Fisher, Glenn | Illinois Capital Chapter of The American Red Cross |
| Foster, Mike | Village of Spaulding |
| Franke, Tim | Abraham Lincoln Capital Airport |
| Fustin, Ken (alt. Kenny Scarlette) | City of Springfield |
| Garrison, Tracy | Sangamon County GIS Department |
| Gordon, Judy | Village of Southern View |
| Harrison, Trustin – Vice Chair | Sangamon County Department of Zoning |
| Hill, Joe | Village of Rochester |
| Holler, Phil | Village of Cantrall |
| Hoots, Diane | State of Illinois Central Management Services |
| Horsley, Jonathan | Village of Illiopolis |
| Jarrett, Fretchen | Ameren |
| Kent, Gael | Village of Rochester |
| Lael, Dale | Village of Jerome |
| LaMantia, Paul | City of Leland Grove |
| Luckey, Tim | Village of Curran |
| Marx, Richard | City of Auburn |
| McCarthy, Patrick | Village of Chatham |
| McFadden, Brian | Sangamon County |
| Meadows, Rick | City Water Light & Power |
| Metcalf, Kenneth | Village of Mechanicsburg |
| Michaud, Greg - Chair | Citizen Member |
| Miller, Daniel | Village of Buffalo |
| Miller, Marcus | Springfield Park District |
| Moos, Mike | Village of Sherman |
| Nydegger, Terry | Village of New Berlin |
| Rice, Paul | Sangamon County Farm Bureau |
| Rogers, Louie | Village of Riverton |
| Russell, Bill | Sangamon County Office of Emergency Management |
| Schaver, Darrell | Springfield School District #186 |
| Skinner, David | Village of Pawnee |
| Sturm, Steve | Springfield Homebuilders Association |
| Squires, Frank | Springfield Mass Transit District |
| Swafford, Robert | Ameren Illinois |
| Wade, Diana | Sangamon County Department of Public Health |
| Wright, Brian | Sangamon County Highway Department |

# MISSION STATEMENT
# Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force

(adopted November 14, 2007)

The mission of the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force is 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

Dam failure
Drought
Earthquake
Extreme heat
Flood
Mine subsidence
Severe storm
Tornado
Winter storm

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# Section 1 - Introduction

## Overview of Multi-jurisdictional Area

Sangamon County is located in Central Illinois, and consists of 877 square miles and had a population of 197,465 as projected by the 2010 Census. The County is an area of generally flat topography with prime agricultural soils resulting in robust agricultural production.

Twenty-seven (27) incorporated communities are located in Sangamon County. The primary urbanized area includes Springfield which is the location of the state capitol. Several of the smaller incorporated communities are immediately adjacent to the City of Springfield while other communities are more rural in character. The outlying unincorporated areas are agricultural.

## 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 Sangamon 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.

## Why update a Mitigation Plan?

Regular plan maintenance is a vital component of the planning process. Such maintenance ensures that the plan reflects the current conditions of the participating communities. The process requires that communities analyze socioeconomic data, assess major changes in land use and development, review goals and objectives, review mitigation projects to reduce the impact of natural hazards, and identify new mitigation projects that will continue to protect communities. A key component of the planning process is to provide an opportunity for public participation in the process.

## 2015 Update to the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan

The Springfield-Sangamon County Regional Planning Commission was awarded a grant from the Federal Emergency Management Agency (FEMA) to coordinate the update of the Plan. The following tasks were identified to ensure an effective and comprehensive process:

Task 1: Organization of Task Force
Task 2: Public involvement
Task 3: Risk assessment
Task 4: Goal setting

Task 5: Mitigation actions and strategy
Task 6: Draft plan
Task 7: Final Plan and Adoption of Plan

This document is the 2015 Update to the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan.

## Community Participation in 2008 Plan Development and the 2015 Plan Update

The criteria that would constitute satisfactory participation in the planning process were established at the first meeting of the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force in 2007. Figure 1 shows the required participation elements established. The 2015 Task Force determined that the same criteria should be maintained for the Plan update.

**Figure 1 Criteria for Participating Communities**

| |
|---|
| Attended a minimum of 4 meetings (2/3 of 6 total meetings) |
| Submitted a list of relevant community documents |
| Confirmed hazards that affect community |
| Submitted a description of critical facilities at risk |
| Submitted a description of land use patterns |
| Developed goals for the community |
| Developed mitigation actions for the community |
| Prioritized mitigation actions |
| Hosted opportunities for public involvement |
| Reviewed and commented on draft plan |

Of the 27 incorporated municipalities in the County, 15 participated in this Plan Update along with Sangamon County. The Villages of Pleasant Plains and Thayer participated in the 2008 plan but did not participate in the plan update process. The Village of Grandview which did not meet the participation requirements for the 2008 Plan also did not participate during the update. The Villages of Mechanicsburg and Spaulding, and the City of Leland Grove did not participate in the 2008 Plan, but opted to become part of the planning process for the update. The Villages of Curran, Dawson, Illiopolis, Riverton and Spaulding originally signed on to the Plan Update but did not satisfy participation requirements. However, all other communities met these requirements.

Socio-economic data on the communities is shown in Figure 2. The communities of Auburn, Chatham, New Berlin, Pawnee, Riverton, Rochester, and Sherman have experienced growth as was projected in the 2008 plan (see Figure 2). It was projected that Curran and Divernon would have slight growth, but those municipalities have decreased slightly in population along with Illiopolis and Southern View. Jerome had some sizeable growth due to an annexation project, but it is not expected that this growth will continue due to the unavailability of land to be annexed adjacent to its borders. Mechanicsburg did not participate in the 2008 planning process, but did experience a growth in population. The populations of Buffalo, Cantrall, and Dawson have remained stable and the trend is expected to continue into 2019. The population of unincorporated Sangamon County has decreased, as was projected, and will continue to do so as land is annexed into the municipalities to accommodate new development in

communities. Some of the decrease is also attributable to the annexation of developed land that is contiguous to the City of Springfield, particularly around Lake Springfield, as a condition of providing city public water services.

While the communities of Curran, Dawson, Illiopolis, Riverton and Spaulding did not meet the participation requirements for the plan update, the socioeconomic data for those communities is included for purposes of tracking shifts in socioeconomic data that have occurred since the 2008 Plan was adopted.

**Figure 2 Socioeconomic Data of Communities (Updated)**

| Community | Population in 2008 | Population in 2010* | Anticipated Population in 2019** | Number of Housing Units* | Median Household Income (2014)** | Number of Students in Schools*** |
|---|---|---|---|---|---|---|
| Auburn | 4,317 | 4,771 | 4,703 | 1,868 | $50,669 | 1,189 |
| Buffalo | 491 | 503 | 535 | 209 | $71,560 | 575 |
| Cantrall | 139 | 139 | 148 | 55 | $87,138 | 647 |
| Chatham | 10,260 | 11,500 | 13,153 | 4,499 | $78,963 | 3,822 |
| Curran | 249 | 212 | 235 | 95 | $60,011 | 0 |
| Dawson | 466 | 509 | 235 | 95 | $60,011 | 0 |
| Divernon | 1,201 | 1,172 | 1,374 | 538 | $62,851 | 306 |
| Illiopolis | 916 | 891 | 848 | 384 | $61,357 | 357 |
| Jerome | 1,414 | 1,656 | 1,588 | 884 | $46,338 | 0 |
| Leland Grove | 1,592 | 1,503 | 1,540 | 717 | $103,078 | 0 |
| Mechanicsburg | 456 | 590 | 634 | 242 | $56,003 | 0 |
| New Berlin | 1,030 | 1,346 | 1,401 | 554 | $56,685 | 885 |
| Pawnee | 2,647 | 2,739 | 2,861 | 1,136 | $59,049 | 604 |
| Riverton | 3,048 | 3,455 | 3,526 | 1,431 | $56,685 | 1,540 |
| Rochester | 2,893 | 3,689 | 3,793 | 1,401 | $84,551 | 2,323 |
| Sangamon County (Unincorporated) | 37,106 | 35,876 | 36,544 | 15,390 | $59,990 | 1,495 |
| Sherman | 2,871 | 4,148 | 4,591 | 1,541 | $82,647 | 652 |
| Southern View | 1,695 | 1,642 | 1,576 | 795 | $42,285 | 236 |
| Spaulding | 559 | 873 | 918 | 323 | $71,561 | 0 |
| Springfield (City of) | 111,454 | 116,250 | 116,454 | 55,729 | $46,367 | 18,211 |
| Williamsville | 1,439 | 1,476 | 1,651 | 575 | $75,123 | 788 |
| **TOTAL** | **186,243** | **194,940** | **198,558** | **88,579** | **$1,358,530** | **33,630** |

***2010 Census (except unincorporated Sangamon County, which used ESRI Community Analyst)**
****ESRI Community Analyst**
*****Great Schools & other website search 1/22 -23/15**

Major employers for each participating community are shown below.

**Figure 3 Major Employers in Participating Communities**

| Community | Major Employers |
|---|---|
| Auburn | Dickey-John Corp., Springfield Plastics, Auburn School District, Beatty Implement Co., City of Auburn |
| Buffalo | Tri-City School District |
| Cantrall | Athens Community Unit School District #213 |
| Chatham | Ball Chatham School District, Village of Chatham, RP Lumber, Co., Henry Technologies, County Market, Walgreens, Villas of Holly Brook, Reflections Memory Care, Memorial Medical Office, Goodwill Industries, MacDonald's, The Creek Pub |
| Divernon | United Community Bank, Illini Bank, Village of Divernon |
| Jerome | Shop N Save |
| Leland Grove | Illini Country Club |
| Mechanicsburg | Pryco, Village of Mechanicsburg |
| New Berlin | New Berlin School District, Brandt Consolidated, Inc., New Berlin Travel Plaza, Farmer's Elevator, Dollar Genera, Warren Boynton State Bank |
| Pawnee | Bank of Pawnee, Pawnee School District |
| Rochester | Rochester Public School District, Village of Rochester, Village Market, Rochester State Bank, Bank and Trust Company, HSHS Priority Care-Rochester, Public House 29, Beginning Steps Development Center, Silverleaf Children's Academy |
| Sangamon County (unincorporated) | Illinois Department of Natural Resources, Illinois Department of Agriculture, Illinois Department of Transportation, Agriculture |
| Sherman | Villa Health Care, Sherman Elementary School, Carter Bros. Lumber, Springfield Clinic |
| Southern View | Southern View Elementary School |
| Springfield | State of Illinois, City of Springfield, Memorial Medical Center, St. John's Hospital, Southern Illinois School of Medicine, University of Illinois-Springfield, Springfield Clinic, Springfield Public Schools, Horace Mann, Illinois National Guard, BlueCross BlueShield of Illinois |
| Williamsville | Williamsville School District, Donley, Inc., Williamsville Culver Fancy Prairie Co-op, Patterson Bros. Oil, Williamsville State Bank |

Geography and floodplain information is shown in Figure 4. All communities that participate in the National Flood Insurance Program (NFIP) recognize the mitigation value of floodplain management and are committed to continued compliance with the NFIP. Only Sangamon County participates in the Community Rating System.

**Figure 4 Geography of Participating Communities**

| Community | Square Miles of Land Area | Major Geographic Features | FEMA Floodplain | Nat'l Flood Insurance Participant* | NFIP Community Number |
|---|---|---|---|---|---|
| Auburn | 4.0 | None | Yes | Yes | 170944 |
| Buffalo | 0.3 | None | No | No | 171056 |
| Cantrall | 0.2 | None | No | No | 171046 |
| Chatham | 6.5 | Polecat Creek, Sugar Creek, Grindstone Creek | Yes | Yes | 170601 |
| Divernon | 0.9 | Brush Creek | Yes | Yes | 170949 |
| Jerome | 0.5 | Jacksonville Branch | Yes | Yes | 171004 |
| Leland Grove | 0.6 | Jacksonville Branch | Yes | Yes | 170925 |
| Mechanicsburg | 1.0 | Griffith Creek | Yes | No | 170960 |
| New Berlin | 1.1 | None | No | Yes | 171052 |
| Pawnee | 1.5 | Henkle Branch, Horse Creek | Yes | Yes | 170602 |
| Rochester | 2.5 | South Fork Sang. River, Black Branch | Yes | Yes | 170840 |
| Sangamon County (unincorporated) | 776.5 | Sang. River, Lake Spfld., Various Branches & Creeks | Yes | Yes | 170912 |
| Sherman | 3.2 | Sangamon River | Yes | Yes | 170969 |
| Southern View | 0.5 | None | No | No | 171051 |
| Springfield | 65.8 | Lake Spfld., Washington Park, Various Creeks / Branches | Yes | Yes | 170604 |
| Williamsville | 1.6 | None | Yes | Yes | 171041 |

"Yes" indicates the community participates in the National Flood Insurance Program making flood insurance available to property owners.

# Section II Planning Process

## How the Plan Was Prepared

Preparation of the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Update was facilitated by the Springfield Sangamon County Regional Planning Commission and developed through the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force. The Task Force met six times: the first Tuesday of the month starting in August through December 2014, and March 2015, except for the November meeting which was held the first Wednesday, November 5, 2014. The final meeting was held on May 5, 2015. A synopsis of each meeting and any intervening activities follows.

October 10, 2013 — Letters sent to the mayors of all communities regarding the need to update the plan. Mayors were asked to return the enclosed "Notice of Intent" forms indicating if the community would participate in the update process. Technical partners and citizens were identified and letters of invitation to participate were sent.

June 11, 2014 — Invitations to participate in the plan were sent to all communities in Sangamon County. Communities that had not returned the "Notice of Intent" form also received the invitation. The invitation included a draft resolution for adoption by the municipality. Mayors were asked to appoint an individual to participate in the plan update and complete the "Contact Information Form" that was included in the invitation. Invitations to participate on the Task Force were also sent to technical partners and citizens that had been identified.

August 5, 2014 — Task Force Meeting 1

This was the initial meeting of the Task Force. An overview of the Disaster Mitigation Act of 2000, the status of the 2008 Sangamon County Plan, the planning process and funding to be used to update the plan, community participation requirements, mission statement, and schedule were discussed. Content for a citizen survey was also discussed. Homework assignment: Task Force members were asked to review and provide updates to the information specific to their communities for the following sections of the existing plan: major employers, existing community documents, and critical facilities.

September 2, 2014 — Task Force Meeting 2

The mission statement established in the 2008 Plan was evaluated and approved with no changes. The citizen survey was reviewed and approved with modifications. The Task Force discussed each hazard in Sangamon County and completed the Risk Priority Index (RPI). Communities were asked to begin reviewing the goals that were included in the 2008 plan in preparation for the October meeting. Homework assignment: Task Force members were asked to review and provide updates to the information specific to their communities for the following sections of the existing plan: land use worksheet, building permit worksheet, and Risk Priority Index (RPI).

October 7, 2014 — Task Force Meeting 3

The Task Force reviewed the 2008 goals to determine if the goals were still applicable and made recommendations to keep, modify or eliminate

the goals. Adoption of the final goals was deferred to the next meeting so that communities could thoroughly review the suggested changes and discuss with community officials as needed.

November 5, 2014 Task Force Meeting 4

The Task Force continued its discussion regarding the goals. Proposed changes to the goals were considered. A thorough discussion of the proposed changes occurred and suggested modifications were incorporated into the goals.

December 2, 2014 Task Force Meeting 5

The Task Force reconsidered two (2) goals for clarification. Consensus was achieved. Ron Davis from the Illinois Emergency Management Agency made a presentation regarding past and present sources of funding of community hazards mitigation actions that are included in plans.

March 3, 2015 Task Force Meeting 6

The Task Force reviewed mitigation items that had been submitted to date. Communities identified mitigation efforts for which working together would be beneficial.

May 5, 2015 Task Force Meeting 7

Presentation of finalized draft plan, public hearing and adoption of draft by Task Force members.

**The Planning Team**

The Plan Author, the Springfield Sangamon County Regional Planning Commission, received a planning grant through the Hazard Mitigation Grant Program to prepare this plan and coordinated plan preparation and participation. Molly Berns, Senior Planner-Land Use served as Plan Project Manager to coordinate the completion of the Plan update.

All communities in Sangamon County were invited to participate in the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan. To confirm their intent to be a part of the plan each participating community submitted a resolution passed by their Board of Trustees/City Council authorizing the Planning Commission to prepare the plan on their behalf. The President/Mayor then appointed a representative to the Task Force. Copies of these documents are in Section VI.

Following is a list of the communities, with those participating shown in bold.

| | | | |
|---|---|---|---|
| **Auburn** | Dawson | **Mechanicsburg** | **Southern View** |
| Berlin | **Divernon** | **New Berlin** | Spaulding |
| **Buffalo** | Grandview | **Pawnee** | **Springfield** |
| **Cantrall** | Illiopolis | Pleasant Plains | Thayer |
| **Chatham** | **Jerome** | Riverton | Virden |
| Clear Lake | **Leland Grove** | **Rochester** | **Williamsville** |
| Curran | Loami | **Sherman** | **Sangamon County** |

*Note: The communities of Curran, Dawson, Illiopolis, Riverton, and Spaulding initially opted to participate in the Task Force, but failed to meet the participation requirements.*

Figure 5 contains a map showing the jurisdictions of participating and non-participating communities.

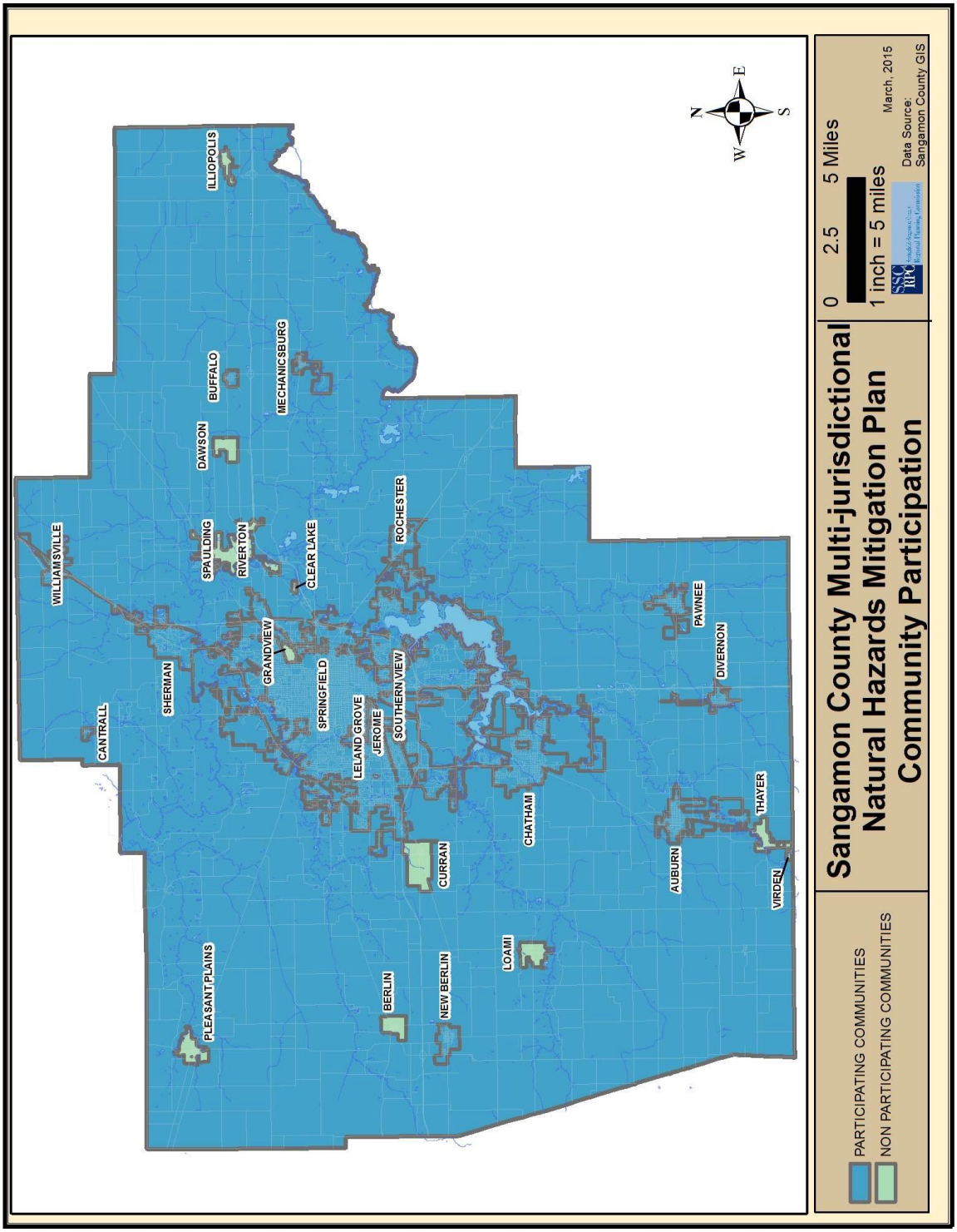
Because it was recognized that there are many people in our communities with expertise that would benefit from this planning effort, a letter of invitation to be a member of the Task Force was sent to the following agencies. Those shown in bold agreed to participate and appointed a representative using the form in Section VI.

Abraham Lincoln Capital Airport
**Ameren**
City Water, Light & Power
Greater Springfield Area Chamber of Commerce
Illinois Capital Chapter of the American Red Cross
**Illinois Emergency Management Agency**
Illinois Medical District at Springfield
Illinois Secretary of State
Lincoln Land Community College
Rural Electric Convenience Cooperative
**Sangamon County Department of Public Health**
**Sangamon County Department of Zoning**
**Sangamon County Farm Bureau**
**Sangamon County GIS**
**Sangamon County Highway Department**
**Sangamon County Office of Emergency Management**
Springfield Black Chamber of Commerce
**Springfield Department of Public Works**
**Springfield Area Home Builders Association**
Springfield, Building & Zoning Department
**Springfield Park District**
Springfield Mass Transit District
**Springfield Metro Sanitary District**
Springfield School District #186
**State of Illinois, Central Management Services**
State of Illinois, Department of Agriculture
University of Illinois at Springfield

One citizen was invited to participate and accepted.

All participants on the final Planning Team participated fully in development of the Plan by attending meetings, providing input through discussion and group exercises, reviewing documents, and voting on issues coming before the Task Force.

**Figure 5 Participating and Non-participating Jurisdictions in Sangamon County**



## 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.

| | |
|---|---|
| Plan | The existing website for the Sangamon County Multi-jurisdictional Natural Hazards Website Mitigation Plan was online August 24, 2007 and was updated by the Regional Planning Commission on a regular basis. This website has remained active and was updated with information related to the 2015 Plan Update. Information available on the website includes natural hazards profiles, pertinent documents, meeting agendas and minutes, press releases, task force member list, meeting dates, relevant links, and a contact link to the Planning Commission staff. Several communities also provided the links to the website from their community websites. The website address is www.co.sangamon.il.us/NHMP. |
| Community Websites | Each participating community with a website included information regarding the plan. |
| Press Releases | Press releases were sent to local television, radio, and print media to announce the awarding of the planning grant to the Planning Commission and prior to each task force meeting. An example of a press release is in Section VI. |
| Citizen Survey | A survey was made available on the plan website and through all the communities from July 22, 2014 through February 9, 2015. One community distributed copies of the survey to interested members of the general public. A total of 45 survey responses were received. A copy of the survey is in Section VI. |
| Task Force Meetings | Every Task Force meeting agenda included a time for public comment. No individuals who were not members of the Task Force attended the meetings. |
| Agendas | Agendas for each meeting were posted outside the Planning Commission Office and in the main hallway of the Sangamon County building as well on the Plan website. No individuals who were not members of the Task Force requested to be kept updated on the work of the Task Force. The agendas are in Section VI. |
| Newspaper Articles | The State Journal Register, the regional newspaper did not publish articles about the 2015 Plan Update. |
| Radio | No radio coverage was provided. |
| Television | WICS News Channel 20, a regional television station, provided |

| | |
|---|---|
| | coverage on July 30, 2014 about the plan update and the date of the first meeting. The story was also posted on the outlet's website. A copy of the website article is in Section VI. |
| Presentations | Reports on the progress of the plan were made to the Springfield Sangamon County Regional Planning Commission at their monthly meetings. One copy of meeting minutes is in Section VI. Communities discussed the plan at Board of Trustees/City Council meetings. One copy of meeting minutes is in Section VI. |
| Direct Mailings | As part of Sangamon County's Community Rating System project a letter is sent to every owner of floodprone property in the unincorporated areas of the County each year. A copy of the letter is in Section VI. |
| Public Notices | Public Hearing Notices were placed in the State Journal Register inviting citizens to attend the meetings on March 3, 2015 and May 5, 2015. Copies of the notices are in Section VI. |

**Participation Opportunities for Interested Parties**

Opportunities for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be included in the planning process were provided by direct invitation to serve on the Task Force (see list on page 7), by direct notification of the planning process via letter (see list in Section VI), and through the many other public participation activities listed above.

**Review and Incorporation of Existing Plans, Studies, Reports, and Technical Information**

At the first Task Force meeting community representatives were given a Documents Form to update (see Section VI) in consultation with the leaders in their community. A combined listing of documents for participating communities is shown in Figure 6.

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.

Participating communities have responded to the need to incorporate natural hazards mitigation planning into existing plans and ordinances. Since the 2008 Plan, the Villages of Sherman and Williamsville and the City of Leland Grove have adopted Comprehensive Plans; Sangamon County has updated its existing comprehensive plan; the Village of Chatham adopted a Storm Water Management Plan; and, the Villages of New Berlin and Williamsville have adopted more strict regulatory standards through the passage of drainage ordinances.

**Figure 6 Existing Community Documents for Participating Communities**

| DOCUMENT | Auburn | Buffalo | Cantrall | Chatham | Divernon | Jerome | Leland Grove | Mechanicsburg | New Berlin | Pawnee | Rochester | Sherman | Southern View | Springfield | Williamsville | Sangamon County |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Comprehensive Plan | X | X | | X | | | X | | X | X | X | X | | X | X | X |
| Subdivision Ordinance | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Zoning Ordinance | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Zoning Map | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Building Codes | X | X | | X | X | X | X | | X | X | X | X | X | X | | X |
| Land Use Plan | | | | X | | | | | X | | | X | X | X | X | |
| Existing Land Use Map | X | | | X | | | | | X | | | X | | X | X | |
| Flood Ordinance | X | | | X | X | X | X | | X | X | X | X | | X | X | X |
| Flood Insurance Rate Map | X | | | X | X | X | X | | X | X | X | X | | X | X | X |
| Flood/eng.Studies for Streams | X | | | X | | X | | | X | | | | | X | X | |
| Flood Insurance Claims List | | | | | | | | | | X | | | | | | |
| Repetitive Flood Loss List | | | | | | | | | | X | | | | X | | X |
| Elevation Certificates for Bldgs | | | | | | | | | | | | | | X | | X |
| Capital Improvement Plan | | | | | X | | | | X | | | | | X | | |
| Historic Preservation Ordinance | | | | | | | | | | | | | | X | | X |
| Stormwater Management Plan | | | | X | | X | | | X | X | X | X | X | X | | X |
| Hazard Mitigation Plan* | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Emergency Management Plan | X | X | | X | X | | | | | X | X | X | X | X | | X |
| Drainage Ordinance | X | | | X | | | | | | X | X | X | | X | X | |
| Critical Facilities Map ** | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Hazard Vulnerability Analysis | | | | X | | | | | | | | | | X | | |
| Infrastructure Map | X | X | X | X | | | | | X | X | X | X | X | X | | |
| Topographic Map*** | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Other | | | | | | | | | | | | | | X | | X |
| Community Website | X | | | X | X | X | X | X | X | X | X | X | X | X | X | X |

* Participating communities adopting the 2014 Plan will have a Hazard Mitigation Plan.

** Participating communities adopting the 2014 Plan will be provided a map of critical facilities in their communities based on the information submitted during the planning process.

*** Topographic mapping is available on the county-wide GIS system

# Section III Risk Assessment

## Description of All Natural Hazards Affecting Sangamon County

The 2008 Illinois Natural Hazard Mitigation Plan identifies seven hazards that affect Sangamon County: droughts, earthquakes, extreme heat, floods, severe storms, tornados, and winter storms. The 2008 Risk Assessment Committee of the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force determined that mine subsidence and dam failure should also be addressed by the local plan. There have been many incidences of mine subsidence throughout the County and although there has never been a dam failure in the County, there are three dams with dam failure inundation areas in the County. The 2015 Task Force reviewed potential hazards and determined that no other hazards affect Sangamon County

Figure 7 shows the hazards considered by the 2008 Plan, their estimated annual probability of occurrence, the communities that could be affected, and the number of square miles that are vulnerable. In 2015 Regional Planning Commission staff verified the data related to the square miles affected for each municipality and was found to be accurate.

**Figure 7 Overall Summary of Sangamon County's Vulnerability to Natural Hazards**

| Hazard | Annual Probability | Impact Location | Square Miles Affected |
|---|---|---|---|
| Dam Failure | * | Riverton, Rochester, Springfield, Sangamon County | 30 |
| Drought | * | Countywide | 877 |
| Earthquake | * | Countywide | 877 |
| Extreme Heat | 45% | Countywide | 877 |
| Flood | 15% | Auburn, Chatham, Dawson, Divernon, Jerome, Leland Grove, Mechanicsburg, Pawnee, Riverton, Rochester, Sherman, Spaulding Springfield, Sangamon County | 87 |
| Mine Subsidence | * | Auburn, Cantrall, Chatham, Dawson, Divernon, Jerome, Leland Grove, Mechanicsburg, Pawnee, Riverton, Sherman, Southern View, Spaulding, Springfield, Sangamon County | 94 |
| Severe Storm- Thunderstorm | 83% | Countywide | 877 |
| Severe Storm- Hail | 55% | Countywide | 877 |
| Tornado | 44% | Countywide | 877 |
| Winter Storm | 75% | Countywide | 877 |

* Not enough data is available to calculate annual probability. Annual probability is based on recorded occurrences over the past 50 years (when data is available) in Sangamon County. There is no record of a dam failure or earthquake. Although droughts have occurred, no reliable records were found. A severe drought did occur in the 1950s. Mine subsidence has occurred and many of those locations have been documented, but the timeframe of occurrence is not recorded.

The 2015 Task Force also calculated a Risk Priority Index (RPI) for the seven hazards affecting the County and its participating communities. The RPI is designed to quantify the likelihood that a specific hazard would affect a region and the potential magnitude

and severity of the hazard. Figure 8 outlines the parameters of the likelihood of a future occurrence.

**Figure 8 : Future Occurrence Ranking**

| Probability | Characteristics |
|---|---|
| 4 - Highly Likely | Event is probable within the calendar year.<br>Event has up to 1 in 1 year chance of occurring. (1/1=100%)<br>History of events is greater than 33% likely per year. |
| 3 - Likely | Event is probable within the next three years.<br>Event has up to 1 in 3 years chance of occurring. (1/3=33%)<br>History of events is greater than 20% but less than or equal to 33% likely per year. |
| 2 - Possible | Event is probable within the next five years.<br>Event has up to 1 in 5 years chance of occurring. (1/5=20%)<br>History of events is greater than 10% but less than or equal to 20% likely per year. |
| 1 - Unlikely | Event is possible within the next ten years.<br>Event has up to 1 in 10 years chance of occurring. (1/10=10%)<br>History of events is less than or equal to 10% likely per year. |

While identifying the likelihood that an event will happen is important to mitigation planning, it is equally critical to estimate the potential magnitude and/or severity of the hazard. Figure 9 identifies the ranking and characteristics of magnitude/severity.

**Figure 9: Hazard Magnitude**

| Magnitude/Severity | Characteristics |
|---|---|
| 8 - Catastrophic | Multiple deaths.<br>Complete shutdown of facilities for 30 or more days.<br>More than 50% of property is severely damaged. |
| 4 - Critical | Injuries and/or illnesses result in permanent disability.<br>Complete shutdown of critical facilities for at least 14 days.<br>More than 25% of property is severely damaged. |
| 2 - Limited | Injuries and/or illnesses do not result in permanent disability.<br>Complete shutdown of critical facilities for more than seven days.<br>More than 10% of property is severely damaged. |
| 1 - Negligible | Injuries and/or illnesses are treatable with first aid.<br>Minor quality of life lost.<br>Shutdown of critical facilities and services for 24 hours or less.<br>Less than 10% of property is severely damaged. |

Finally, the RPI was calculated by multiplying the probability by the magnitude/severity of the hazard. Using these values, the planning team was then asked to rank the hazards. Figure 10 identifies the RPI and ranking for each hazard of Sangamon County.

**Figure 10: Risk Priority Index for Sangamon County Hazards**

| Hazard | Probability | Magnitude/ Severity | Risk Priority Index | Rank |
|---|---|---|---|---|
| Severe Storm | 4-Highly Likely | 2-Limited | 8 | 1 |
| Winter Storm | 4-Highly Likely | 2-Limited | 8 | 1 |
| Tornado | 4-Highly Likely | 2-Limited | 8 | 1 |
| Drought | 3-Likely | 2-Limited | 6 | 2 |
| Flood | 3-Likely | 2-Limited | 6 | 2 |
| Extreme Heat | 4-Highly Likely | 1-Negligible | 4 | 3 |
| Mine Subsidence | 2-Possible | 2-Limited | 4 | 3 |
| Dam Failure | 1-Unlikely | 2-Limited | 2 | 8 |
| Earthquake | 1-Unlikely | 1-Negligible | 1 | 9 |

The Task Force was unable to differentiate between the likelihood and degree of magnitude/severity as Sangamon County tends to have an equal number of severe and winter storms. Tornados are also highly likely to occur, but the severity of tornados is limited. As a result, the Task Force ranked severe storms, winter storms and tornados as having the same RPI.

The 2013 Illinois Hazard Mitigation Plan (IHMP) calculated a hazard rating for each county based on a methodology established by the Illinois Natural Hazard Mitigation Planning Committee. The methodology analyzed data and quantified a rating for each hazard using data in four categories: historical/probability (frequency); vulnerability (percentage of people); severity of impact (injuries, fatalities, personal property and infrastructure); and population. The ratings for Sangamon County are shown in Figure 11.

**Figure 11 Sangamon County Hazard Rating in the Illinois HMP**

| Severe Storm | Floods | Severe Winter Storms | Drought | Extreme Heat | Earthquake | Tornado |
|---|---|---|---|---|---|---|
| Severe | High | High | Elevated | Elevated | Elevated | High |

| Key: | |
|---|---|
| Severe | =49-60 |
| High | =37-48 |
| Elevated | =25-36 |
| Guarded | =13-24 |
| Low | =0-12 |

The value of structures in each community is shown in Figure 12. In 2008, the Risk Assessment Committee determined that obtaining the value of each structure would be a monumental task that could not realistically be accomplished. Therefore, the Committee decided that the value of critical facilities would be estimated using the replacement cost based on square footage. The value of all other structures would be the market value calculated from the assessed value as shown on County property tax records.The same methodology was utilized to determine the value of critical structures for the 2015 update to the Plan. Two communities joined the planning process and three communities experienced an increase in the number of critical facilities from those identified in the 2008 Plan. The estimated value of new critical facilities was determined by utilizing Marshall Swift estimating software.

Property tax data from the Sangamon County Tax Assessor's Office was utilized to identify the property tax increase factor for Class 60 – Improved Commercial properties resulting in the estimated value of critical facilities and other structures as of December 2013. The 2013 estimated value of critical facilities and other structures were calculated for all communities using the same method.

**Figure 12. Total Structures Per Community (Participating and Non-participating)**

| Community | Critical Facilities | | | Other Structures | Total Value of all Structures |
|---|---|---|---|---|---|
| | # of Structures | Estimated Value of Critical Facilities 2008 Plan | Estimated Value of Critical Facilities (Dec. 2013) | Estimated Value of Other Structures (Dec. 2013) | |
| Auburn | 19 | $38,725,812 | $41,404,350 | $167,366,220 | $208,770,570 |
| Buffalo | 5 | 8,259,069 | 8,830,322 | 14,245,608 | 23,075,930 |
| Cantrall | 4 | 3,994,917 | 4,271,232 | 3,434,997 | 7,706,229 |
| Chatham | 11 | 57,393,643 | 61,363,374 | 666,186,123 | 727,549,497 |
| Curran | 7 | 3,818,778 | 4,082,910 | 8,711,082 | 12,793,993 |
| Dawson | 2 | 675,323 | 722,033 | 15,272,064 | 15,994,097 |
| Divernon | 10 | 11,022,902 | 11,785,320 | 49,097,331 | 60,882,651 |
| Illiopolis | 10 | 8,320,988 | 8,896,524 | 24,779,136 | 33,675,660 |
| Jerome | 4 | 805,903 | 861,645 | 71,795,931 | 72,657,576 |
| Leland Grove* | 3 | 0 | 3,921,976 | 162,769,752 | 166,691,728 |
| Mechanicsburg* | 7 | 0 | 3,017,398 | 24,479,628 | 27,497,026 |
| New Berlin | 11 | 12,003,712 | 12,833,969 | 51,319,419 | 64,153,388 |
| Pawnee | 12** | 24,637,611 | 26,341,714 | 111,028,947 | 137,370,661 |
| Pleasant Plains | 12 | 11,347,186 | 12,132,034 | 33,636,178 | 45,770,212 |
| Riverton | 11 | 10,168,754 | 10,872,093 | 111,991,707 | 122,863,800 |
| Rochester | 11** | 47,452,378 | 50,734,504 | 231,393,825 | 282,128,329 |
| Sherman | 7 | 9,674,724 | 10,343,893 | 290,601,609 | 300,945,502 |
| Southern View | 6 | 1,313,733 | 1,404,600 | 60,677,136 | 62,081,736 |
| Spaulding*** | 0 | 0 | 0 | 49,476,087 | 49,476,087 |
| Springfield | 186** | 3,192,926,535 | 3,413,770,818 | 6,099,409,758 | 9,513,180,576 |
| Thayer | 2 | 1,108,614 | 1,185,293 | 19,695,762 | 20,881,055 |
| Williamsville | 12 | 19,282,600 | 20,616,314 | 76,876,890 | 97,493,204 |
| Sangamon Co. | 44 | 383,306,632 | 409,818,698 | 1,665,856,698 | 2,075,675,396 |
| TOTAL | 3,055 | $3,853,179,188 | $4,119,211,013 | $10,010,103,888 | $14,129,314,901 |

* New Communities

** Increase in the number of critical facilities

*** Community did not participate in 2008 plan and no critical facilities were identified

**Note:** Critical facilities included are:

**Government Facilities:** city hall, fire station, government office/facility, library, military facility, police station, school.

**Infrastructure:** airport, bus station, communication tower, media location, power plant, railroad, sewer plant, train station, utility substation, water plant, water tower.

**Medical Facilities:** hospital, medical clinic.

**Gathering Places:** fairgrounds, park, tourist attraction.

**Residential Facilities:** nursing home, residential group home.

**Other:** facility storing chemical hazard, grain elevator, social service agency providing disaster shelter/relief.

The City of Springfield identified 51 additional structures that are considered by that community to be “Tier II” critical facilities. These facilities do not specifically fit into one of the critical facility categories listed above, but would be of significance to the area if damaged or lost due to a natural hazard. The estimated value of these facilities is listed in Figure 13.

**Figure 13 City of Springfield, Tier II Critical Facilities**

| Community | # of Tier II Structures | Estimated Value of Critical Facilities (2015) |
|---|---|---|
| Springfield | 51 | $233,527,555 |

The following pages provide a detailed profile of each type of hazard including the location, extent, previous occurrences, and probability of future events; and a vulnerability assessment for each hazard.

# DAM FAILURE HAZARD

## DAM FAILURE – Description

**What is dam failure?**
(from: Federal Emergency Management Agency)

A "dam" is an artificial barrier that has the ability to impound water, wastewater, or any liquid-borne material for the purpose of storage or control of water. Dams can fail for one or a combination of the following reasons:

- Overtopping caused by floods that exceed the capacity of the dam.
- Deliberate acts of sabotage.
- Structural failure of materials used in dam construction.
- Movement and/or failure of the foundation supporting the dam.
- Settlement and cracking of concrete or embankment dams.
- Piping and internal erosion of soil in embankment dams.
- Inadequate maintenance and upkeep.

**How are dam failures categorized?**
(from: the Illinois Natural Hazard Mitigation Plan)

There are two categories of dam failures.

Rainy day failure involves periods of excessive precipitation leading to an unusually high runoff. This high runoff increases the reservoir of the dam and if not controlled, the overtopping of the dam or excessive water pressure can lead to dam failure. Normal storm events can also lead to rainy day failures if water outlets are plugged with debris or otherwise made inoperable.

Sunny day failures occur due to poor dam maintenance, damage/obstruction of outlet systems, or vandalism. This is the worst type of failure and can be catastrophic because the breach is unexpected and there may be insufficient time to properly warn downstream residents.

## DAM FAILURE – Profile

**What dams could pose a risk in Sangamon County?**

The 1993 National Inventory of Dams identified 11 dams in Sangamon County. Three of these dams are large and could impact Sangamon County if they failed. These are the two dams on Lake Springfield, Spaulding Dam and Saddle Dam that are owned by City Water, Light and Power. The third large dam, Lake Sangchris Dam is located just over the county line in Christian County, but the impact of its failure would be almost entirely within Sangamon County. The Lake Sangchris Dam is owned by Dominion Resources. The location of these dams is shown in Figure 14.

**The locations affected by dam failure.**

The locations that could be affected by complete failure of each of the dams are shown in Figures 15, 16, and 17. FLDWAV, dam failure software from the National Weather Service, was used to model the dam failure scenarios for Lake Sangchris Dam and Spaulding Dam. The Saddle Dam inundation area was determined using a less sophisticated method, but does provide some idea of the potential consequence of failure. The scenarios depict an immediate failure of the entire length of each dam which would be a worst case situation.

The Task Force reviewed the dam failure scenarios and found that there are no changes in the locations that could be affected by complete dam failure.

**Figure 14 Location of Large Dams Affecting Sangamon County**

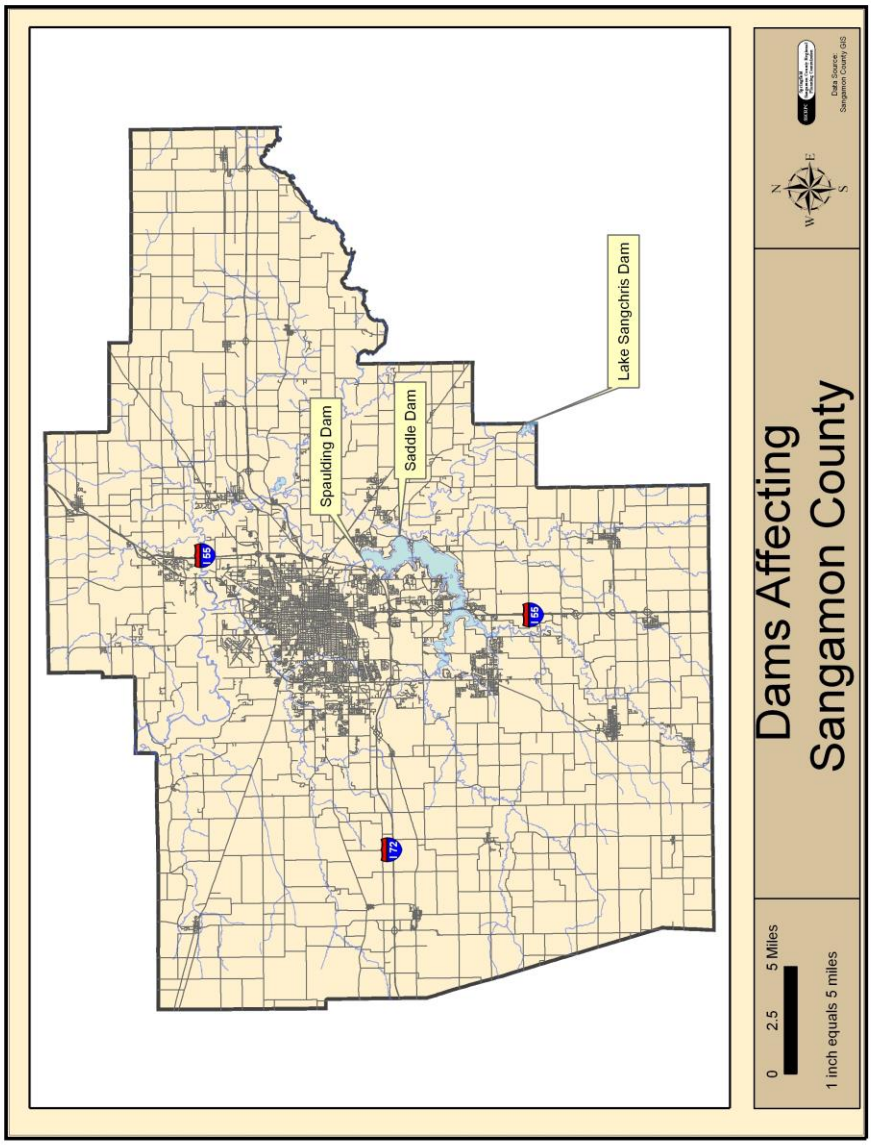
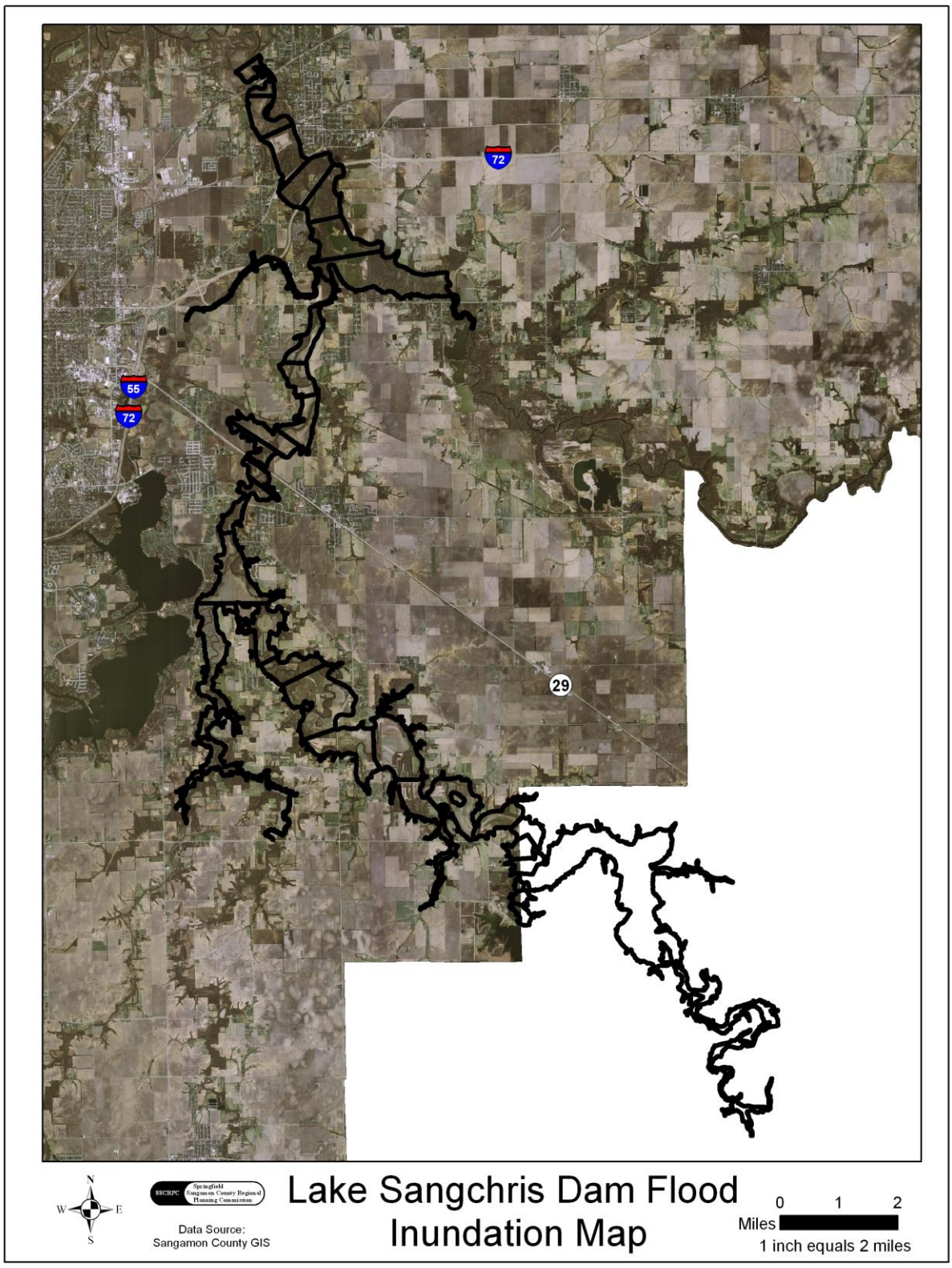


**Figure 15 Lake Sangchris Dam Flood Inundation Area**


72
55
72
29
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E
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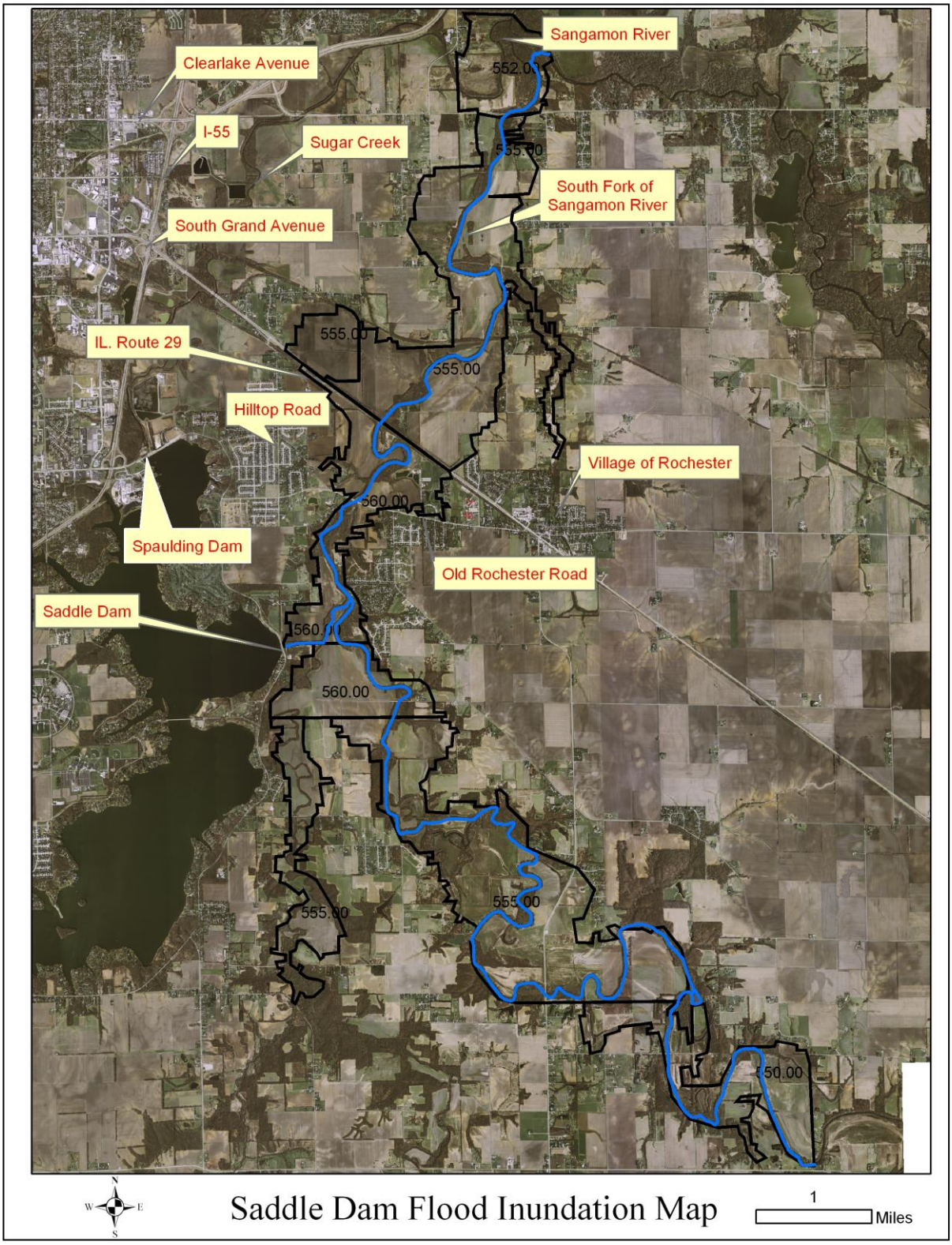
SSCRPC
Springfield Sangamon County Regional Planning Commission
Data Source:
Sangamon County GIS
Lake Sangchris Dam Flood
Inundation Map
0 1 2
Miles
1 inch equals 2 miles

**Figure 16 Spaulding Dam Flood Inundation Area**

**Figure 17 Saddle Dam Flood Inundation Area**




**The extent of previous dam failures in Sangamon County.**

To date none of these dams have failed.

**Probability of future dam failure events.**

Since there has never been a dam failure in the County, the probability of a dam failure affecting Sangamon County cannot be specifically established, but is estimated to be relatively low.

## DAM FAILURE –Assessing Vulnerability

The dam failure flood inundation scenarios generated the following consequences that could occur if complete failure happened all at once. However, complete failure is highly unlikely. Each of the dams is earth filled, so it is more likely that failure would occur over time as scouring removes the soil comprising the structure.

**Figure 18 Worst Case Scenario Dam Failure**

| Dam | Buildings Affected* |
|---|---|
| Lake Sangchris Dam | 65 |
| Spaulding Dam | 301 |
| Saddle Dam | undetermined at this time |

* The numbers of buildings indicated are derived from the planimetric layer of the County GIS map. The types of buildings affected are not specifically identified at this time.

Sufficient information needed to determine potential dollar losses if dam failure were to occur are not available at this time. The City of Springfield does plan to prepare an Emergency Action Plan addressing a breach of the Lake Springfield dams. The Emergency Action Plan would look at the specific buildings affected.

# DROUGHT HAZARD

## DROUGHT – Description

**What is drought?**
(from: 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 streamflow 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 19 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% |

Based on data from the Illinois State Climatologists' Office, Sangamon County experienced a decrease in precipitation of at least ½ inch per month during the period of 2011 – 2014 particularly in the months of July and August. Precipitation increased during the months of February, April and May during that same period, but overall precipitation declined.

The normal precipitation by month for Sangamon County is shown in Figure 20.

**Figure 20 Precipitation in Springfield from 1981-2014**

| Month | 1981-2010 Average Precipitation | 1981-2014 Average Precipitation | 2011-2014 Average Precipitation |
|---|---|---|---|
| January | 2.00" | 1.82" | 1.85" |
| February | 1.91" | 1.90" | 2.65" |
| March | 2.75" | 2.56" | 2.85" |
| April | 3.63" | 3.66" | 4.83" |
| May | 4.73" | 4.37" | 5.32" |
| June | 4.57" | 4.48" | 4.34" |
| July | 4.32" | 3.69" | 1.80" |
| August | 3.24" | 3.10" | 2.54" |
| September | 3.28" | 2.83" | 2.76" |
| October | 3.19" | 3.19" | 3.48" |
| November | 3.52" | 3.04" | 1.88" |
| December | 2.54" | 2.50" | 2.36" |
| TOTAL | 39.68" | 37.15" | 36.87" |

## DROUGHT – Profile

**The locations affected by drought.**

The entire County could be affected by a drought since the precipitation patterns throughout the region are similar. A large portion of the County is in crop production so a drought would have an impact on the agricultural community.

Many homes outside of municipalities use private wells to provide water, although there are also several water districts that supply public water to some rural areas. Municipalities in the County provide water to their residents from surface water or ground water sources. Severe drought affects all these water sources.

Since the 2008 Plan was adopted, several private water companies have emerged to provide potable water particularly to rural residents. There has also been an expansion of several municipalities water systems to include service to home in unincorporated areas.

**The extent of previous occurrences in Sangamon County.**

According to Jim Angel, State Climatologist at the Illinois State Water Survey, the 1930s and 1950s were the periods when drought was most frequent and troublesome. Sangamon County experienced a severe drought in 1953-1955. In September 1983 all

counties in the state were declared State disaster areas because of high temperatures and low precipitation conditions that began in June.

**Probability of future drought events.**
(from: Illinois State Climatologist Office)

The persistence of drought from one season to the next in Illinois is not as high as in other parts of the U.S., especially the West where multi-year droughts are common. Therefore, the ability to predict the onset or continuation of a drought is more problematic. Recent advances in our understanding of large-scale atmospheric and oceanic circulation features, such as El Niño and the Pacific Decadal Oscillation, may lead to some small degree of skill in predicting drought one or two seasons ahead. As global and regional climate models improve we may begin to realize the ability to predict changes in frequency, intensity, or location of drought.

## DROUGHT –Assessing Vulnerability

A drought in Sangamon County would impact two major aspects of our communities – water supply and agricultural production. No damage to buildings generally results from drought conditions.

(from: Illinois State Climatologist Office)
The first part of the hydrological cycle to be impacted by drought is the soil moisture. The changes in soil moisture can be quite rapid during the growing season when demand for moisture is high due to plant growth. Dry periods in Illinois typically have a near-normal number of days with rain, but the rains are more spotty and less intense. As a result, stream flow usually drops as well due to a lack of heavy rainfall events. Any rain that does fall is first absorbed into the ground because of the depleted soil moisture, reducing runoff.

According to the 2012 Census of Agriculture there were 1,092 farms in Sangamon County accounting for 514,043 acres of land. Ninety-three percent of this land was in crop production. Crop sales were $336,504,000. Livestock sales were $21,849,000. A severe drought would have a financial impact on the large agricultural community in Sangamon County particularly if it occurred during the growing season.

Water supplies from private wells, ground water sources, and surface water sources would also be impacted by a severe drought.

# EARTHQUAKE HAZARD

## EARTHQUAKE – Description

**What is an earthquake?**
(from: 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."

**How are earthquakes measured?**

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.

Figure 21 shows a comparison of the Richter Scale and Modified Mercalli Intensity Scale.

## EARTHQUAKE – Profile

**The locations affected by earthquakes.**

To date there has been no earthquake damage recorded in Sangamon County. However, all of Sangamon County has some vulnerability to earthquake activity that occurs elsewhere. A relatively intense earthquake with an epicenter in Mason County would cause more costly damage in the north and west parts of the County. Another earthquake event along the New Madrid fault would more intensely affect the south/southeast parts of the County thus all of Sangamon County has some vulnerability to earthquake activity.

**Figure 21 Comparison of Modified Mercalli Scale and Richter Scale (from: FEMA)**

| The Modified Mercalli Scale | | Level Of Damage | The Richter Scale |
|---|---|---|---|
| 1-4 | Instrumental to Moderate | No damage. | </= 4.3 |
| 5 | Rather Strong | Damage negligible. Small, unstable objects displaced or upset; some dishes and glassware broken. | 4.4 - 4.8 |
| 6 | Strong | Damage slight. Windows, dishes, glassware broken. Furniture moved or overturned. Weak plaster and masonry cracked. | 4.9 - 5.4 |
| 7 | Very Strong | Damage slight-moderate in well-built structures; considerable in poorly-built structures. Furniture and weak chimneys broken. Masonry damaged. Loose bricks, tiles, plaster, and stones will fall. | 5.5 - 6.1 |
| 8 | Destructive | Structure damage considerable, particularly to poorly built structures. Chimneys, monuments, towers, elevated tanks may fail. Frame houses moved. Trees damaged. Cracks in wet ground and steep slopes. | 6.2 - 6.5 |
| 9 | Ruinous | Structural damage severe; some will collapse. General damage to foundations. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground; liquefaction. | 6.6 - 6.9 |
| 10 | Disastrous | Most masonry and frame structures/foundations destroyed. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Sand and mud shifting on beaches and flat land. | 7.0 - 7.3 |
| 11 | Very Disastrous | Few or no masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Rails bent. Widespread earth slumps and landslides. | 7.4 - 8.1 |
| 12 | Catastrophic | Damage nearly total. Large rock masses displaces. Lines of sight and level distorted. | > 8.1 |

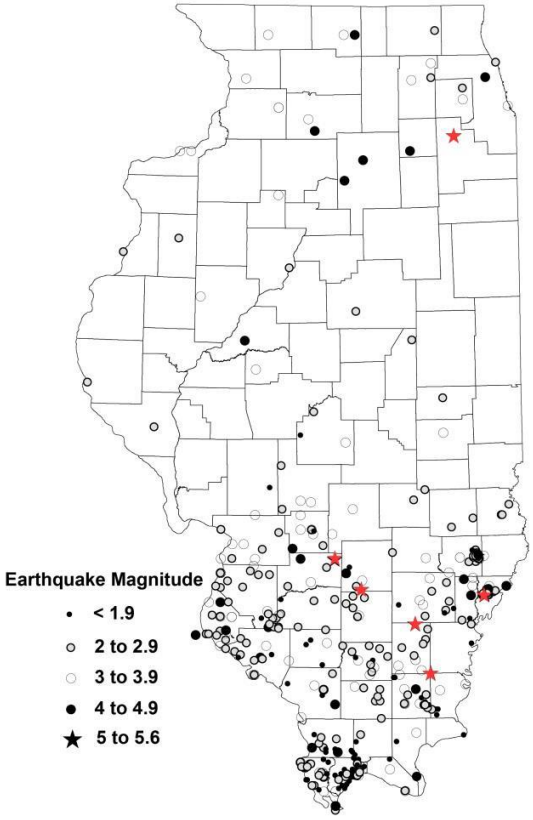
**The extent of previous earthquakes in Sangamon County.**

There is no earthquake history for Sangamon County although tremors have been felt in the past from earthquakes with epicenters elsewhere. Figure 22 shows earthquakes in Illinois over the past 218 years. The nearest earthquake of significant magnitude occurred on July 19, 1909 in Mason County between Petersburg and Havana. The estimated magnitude was 4.8 and no damage was recorded in Sangamon County.

On November 9, 1968 a magnitude 5.5 earthquake (the largest in the Central United States during the 20$^{th}$ century) occurred with an epicenter northeast of Harrisburg in Southern Illinois. The intensity felt in Sangamon County was 5 on the Modified Mercalli Intensity Scale, which indicates trembling was felt, but no damage resulted.
Evidence suggests that large magnitude earthquakes centered in the New Madrid area occurred in the years 300, 900, 1450, and 1811-1812. The shortest interval between events was 360 years (most recently). During the winter of 1811-1812 what is commonly known as the New Madrid earthquake occurred, but this actually consisted of four earthquakes of magnitude 7+ and hundreds of smaller earthquakes over a several

month period. At that time the area that is now Sangamon County was sparsely populated and there is no record of the intensity experienced here from these events.

**Figure 22 Earthquakes in Illinois from 1795 to 2013**
(from: Illinois Natural Hazard Mitigation Plan)




**Probability of future earthquake events.**

It is difficult to calculate the probability of future earthquake events in Sangamon County since there has not been one of any significance since records have been maintained. The New Madrid seismic zone is the most studied area for earthquake activity. The US Geological Survey estimates the probability of a repeat of the 1811-1812 magnitude earthquakes is 7-10% over a 50-year time period. The Illinois State Geological Survey estimates the likelihood of a damaging earthquake (magnitude 6.3 or greater) occurring somewhere in the Central United States is 86-97% over a 50-year period.

## EARTHQUAKE –Assessing Vulnerability

To prepare the 2008 Plan, HAZUS software provided by FEMA was utilized to prepare an analysis of the damages that could be caused in Sangamon County today by a recurrence of the earthquake originating in Mason County in 1909. Although that earthquake had a magnitude of 4.8, a magnitude of 5.0 was used in the model as this appears to be the minimum value for getting accurate data from the software. Direct economic loss predicted is shown in Figure 23 and totals $5,632,010. Figure 24 shows the areas of impact.

**Figure 23 Total Economic Loss Estimates in Sangamon County for a Magnitude 5.0 Earthquake Centered in Mason County**

| Building Damage | Contents Damage | Inventory Loss | Relocation | Income Loss | Rental Income Loss | Wage Loss | Total Loss |
|---|---|---|---|---|---|---|---|
| $3,496,160 | $1,345,180 | $2,431 | $1,754 | $197,730 | $262,150 | $288,940 | $5,632,010 |

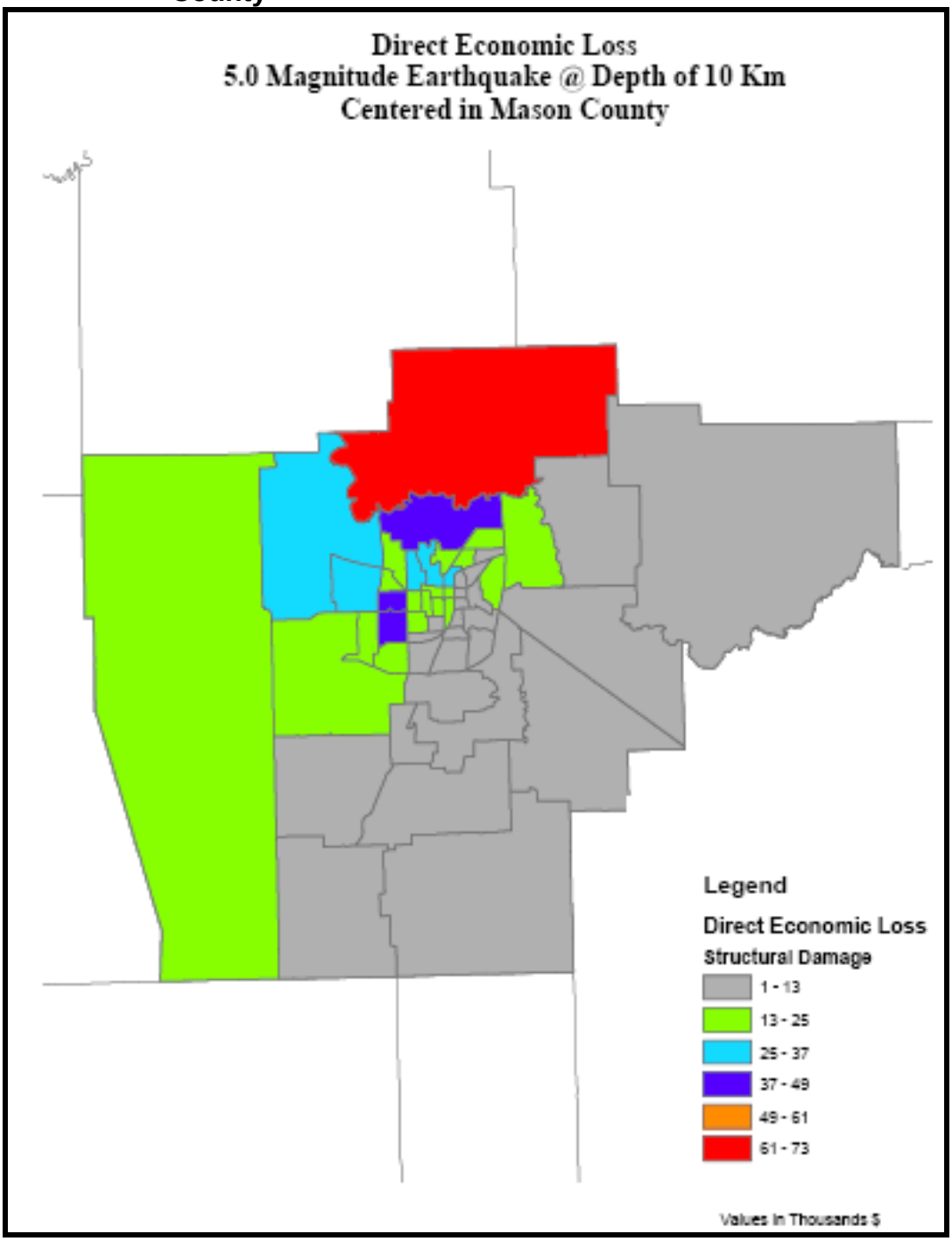
Other notes of interest under this scenario:

- It appears most likely there would be no damage to critical facilities in Sangamon County.
- Perhaps 40 households would be displaced, five of them requiring short-term shelter.
- The north-central part of the County could be susceptible to fire.
- There could be slight damage at Abraham Lincoln Capital Airport, although none to runways.
- Slight damage could be experienced by the Springfield Mass Transit District, but the operation would continue to function.
- No damage is expected to roads or bridges.
- Minimal impact on other infrastructure is anticipated (utilities, communication, water, sewer).

It appears that a repeat of the Mason County earthquake would have only minimum impact in Sangamon County. The reason for the Mason County earthquake, however, is unclear as no fault line is in the area. This does present the thought that a similar earthquake could happen in Sangamon County, although the likelihood of this cannot be predicted.

The 2015 Task Force reviewed the earthquake hazard information for Sangamon County and found the above information to be applicable for this plan update.

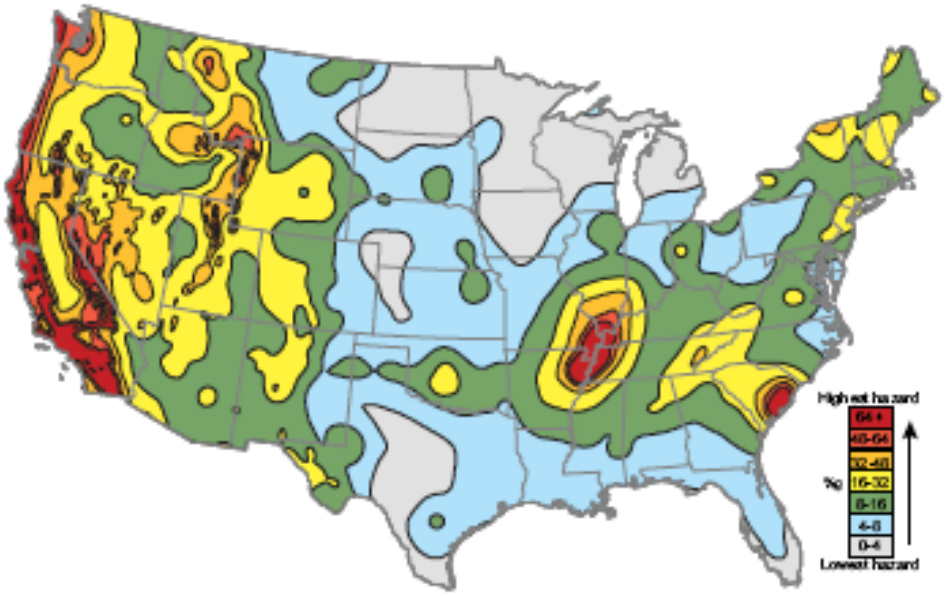
**Figure 24 Direct Economic Loss From a 5.0 Earthquake Centered in Mason County**



Another major earthquake centered in the New Madrid area could have an impact on Sangamon County. However, limitations in the HAZUS software prevent its use in estimating damages and no other mechanism is available to do so. Figure 25 is a shaking-hazard map that shows the levels of horizontal shaking that have a 1 in 50 chance of being exceeded in a 50-year period. Shaking is expressed as a % of g with g being the acceleration of a falling object due to gravity. Sangamon County is at the lower end of the scale with 8-16 %g (green on the map) while 64 is the %g felt at the location of an epicenter.

**Figure 25 Shaking Hazard Map**
(from: the US Geological Survey)

*The U.S. Geological Survey shaking-hazard maps for the United States are based on current information about the rate at which earthquakes occur in different areas and on how far strong shaking extends from earthquake sources. Colors on this particular map show the levels of horizontal shaking that have a 1-in-50 chance of being exceeded in a 50-year period. Shaking is expressed as a percentage of g (g is the acceleration of a falling object due to gravity).*



# EXTREME HEAT HAZARD

## EXTREME HEAT –Description

**What is extreme heat?**

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?**
(from the Illinois Climatologist Office-Illinois State Water Survey)

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 much more useful measure of the moisture content of the atmosphere than the commonly used relative humidity. 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 generally thought that the loss of water from heavy sweating causes the cramps.

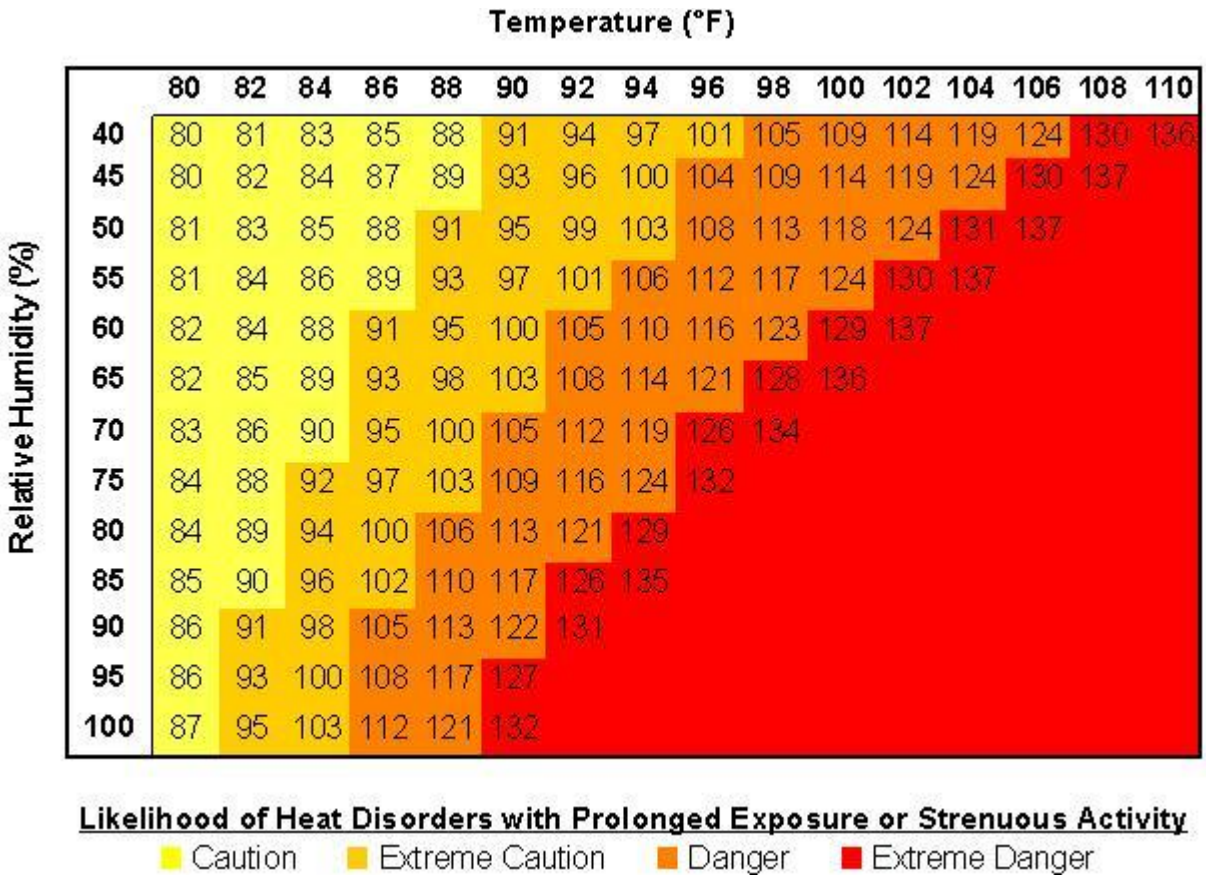
Heat exhaustion**:** occurs when people exercise heavily or work in a warm, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to vital organs. This results in mild shock.

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.

**Figure 26 The Relationship of Heat Disorders to Heat Index (from National Weather Service)**

| Heat Index | Heat Disorder |
|---|---|
| 130° + | heatstroke highly likely with continued exposure |
| 105° - 130° | heat cramps or heat exhaustion likely. Heatstroke possible with prolonged exposure or physical activity |
| 90° - 105° | heatstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity |
| 80° - 90° | fatigue possible with prolonged exposure and/or physical activity |

**Figure 27 Heat Index Derived from Humidity and Temperature (from the National Weather Service)**




**Extreme heat warnings.**

The National Weather Service issues alerts related to extreme heat conditions in the Sangamon County area as shown in Figure 28.

**Figure 28 National Weather Service Alerts (data from Illinois State Climatologist Office)**

| Type of Alert | Conditions |
|---|---|
| Heat Warning | when a maximum heat index of 115 or greater and a minimum heat index of 80 or greater is imminent or likely to occur in the next 12 to 24 hours |
| Heat Advisory | when a heat index of 105 or greater with a minimum heat index of 80 or greater is imminent or likely to occur in the next 12 to 24 hours |
| Heat Watch | if the heat warning criteria are expected to be reached in 12 to 48 hours |
| Heat Outlook | when a heat wave is several days away |

## EXTREME HEAT – Profile

**The locations affected by extreme heat.**

Extreme heat conditions generally occur throughout central Illinois during any single event. People in all of our communities are vulnerable to the dangers present during these conditions.

**The extent of previous extreme heat events in Sangamon County.**

The data available on extreme heat events in Sangamon County only goes back to 1996. This information is shown in Figure 29.

**Figure 29 Extreme Heat Events in Sangamon County from January 1, 1996 – December 31, 2014 (from: National Climactic Data Center)**

| Dates | Temperature Ranges (degrees) | Heat Index Values (degrees) | Impact Reported |
|---|---|---|---|
| July 26 – July 27, 1997 | 95 - 100 | 105 - 115 | heat related injuries, roads buckling |
| June 26 – June 28, 1998 | middle to upper 90s | 105 - 110 | heat related injuries, roads buckling |
| July 20 – July 26, 1999 | lower to middle 90s | 105 - 110 | heat related death and injuries |
| July 28 – July 31, 1999 | lower to middle 90s | 105 - 110 | heat related injuries |
| July 22 – July 25, 2005 | middle 90s to 100 | 105 - 115 | heat related death and injuries |
| July 30 – Aug 2, 2006 | 94 - 100 | 105 - 110 | heat related injuries |
| Aug 3 - Aug 4, 2010 | middle 90s | 105 | none |
| Augt 9 - Aug 14, 2010 | middle 90s | 105 | none |
| Aug 1 - Augt 2, 2011 | middle 90s | 110 - 115 | none |
| June 29 - July 7, 2012 | 95 - 105 | 110 | none |

**Previous occurrences of extreme heat.**

As seen in Figure 29, extreme heat conditions in Sangamon County from January 1996 through December 2012 have occurred from late June to early August with late July to early August being the prime time. Extreme heat conditions have lasted from two days to nine days. In two cases deaths occurred due to the heat. In July 1999 a 62-year old woman was found in her Springfield home with all the windows closed and no fans or air conditioning. In July 2005 an elderly Springfield woman was found in her mobile home with malfunctioning air conditioning.

**Probability of future extreme heat events.**

As seen in Figure 29 on the previous page, in the 18 year period from January 1996 through December 2014, there were 8 years when at least one extreme heat event was recorded in Sangamon County. This indicates a 44% probability that an extreme heat event will occur in Sangamon County in any given year. This probability is consistent with the 2008 plan which indicated a 45% probability.

## EXTREME HEAT –Assessing Vulnerability

Unlike other natural hazard events extreme heat does not damage buildings. The toll is on people and can lead to extreme medical conditions and death. Heat related injuries are a major concern with heatstroke being a severe medical condition that requires emergency medical treatment. The most vulnerable are the elderly, infants, young children, and people with chronic health problems. In central Illinois most deaths have occurred when people have been in a closed home with no air conditioning. There is a greater concern in urban areas because concrete and asphalt retain heat and release it at night, offsetting any relief that otherwise would have been felt. The loss of power can also exacerbate a serious situation.

# FLOOD HAZARD

## FLOOD – Description

**What is a flood?**
(from: Illinois Natural Hazard Mitigation Plan)

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.

**What types of floods occur in Sangamon County?**

The majority of flooding in Sangamon County is riverine flooding, related to the overbanking of rivers and streams. Some flooding also occurs along the shoreline of Lake Springfield. Flash flooding unrelated to bodies of water also can result from heavy rainfall over a short period of time in areas where the ground is already saturated with water or there are large expanses of impermeable surfaces, such as urbanized areas developed with buildings, concrete sidewalks, and asphalt parking lots and roadways.

**How are flood alerts issued?**

Urban and small stream advisory or a flash flood watch: issued when heavy rains that could inundate streams or roadways are predicted. Flash floods can be very dangerous, occurring when water accumulates so rapidly that it cannot be absorbed by the ground or accommodated by storm sewers. Flood waters can move rapidly carrying away anything in its path and can create deep areas of standing water. During a flash flood watch residents should stay aware of the weather and take necessary precautions if conditions worsen.

Flash flood warning: issued when a flash flood is occurring. In addition to the information provided during a flash flood watch, areas of greatest hazard are identified. During periods of a warning, areas subject to flooding should be evacuated and avoided.

Flood warning: issued for the Sangamon River and South Fork of the Sangamon River when heavy rains occurring in areas to the east of Sangamon County will cause local flooding. These usually provide a couple of days lead time before flooding reaches our area and local weather forecasts will include this information along with predicted flood heights.

Watches and warnings are sent to radio and television stations by the National Weather Service in Lincoln, Illinois:

| **L ocal Television Stations** | **Local Radio Stations** |
|---|---|
| WAND Channel 17 | WFMB 1450 AM |
| WCIA Channel 3 | WTAX 1240 AM |
| WICS Channel 20 | WMAY 970 AM |
| Cable Weather Channel 44 | NOAA Weather Radio– WXJ75 162.400kHz |

**Are there benefits of floodplains?**

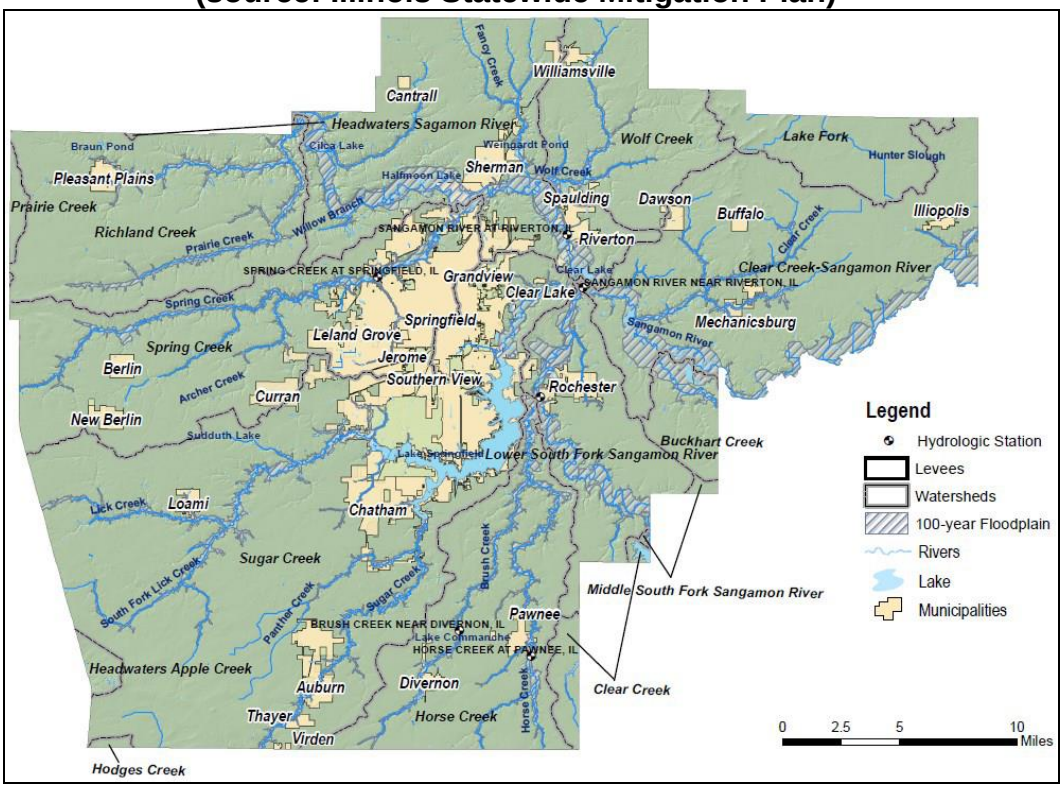
When left undisturbed, a floodplain provides storage area for flood waters helping to reduce the height and flow of flooding. Floodplains also provide habitat for a diverse array of plants and animals, control erosion, filter runoff, and recharge groundwater.

Particularly important is the fact that when there are no buildings in a floodplain, damage to human life and property by flooding is greatly diminished.

## FLOOD – Profile

Sangamon County is rich with several lakes, rivers and watersheds that supply water as well as recreational opportunities for residents. A map of the county with the levees, watersheds, rivers, lakes and 100-year floodplain is provided in Figure 30.

**Figure 30 Sangamon County Lakes, Rivers and Watersheds (source: Illinois Statewide Mitigation Plan)**




Approximately 10% of the area in Sangamon County is designated as a 100-year floodplain by the Federal Emergency Management Agency. The most recent Flood Insurance Rate Maps for the County are dated August 2, 2007. A large portion of the flood-prone area is in the unincorporated parts of the County although several communities are also vulnerable to flooding. The following chart indicates which bodies of water are identified by FEMA with special flood hazard areas in each community. Communities that did not participate in the 2015 Plan update are included in the chart as flooding can affect the entire county.

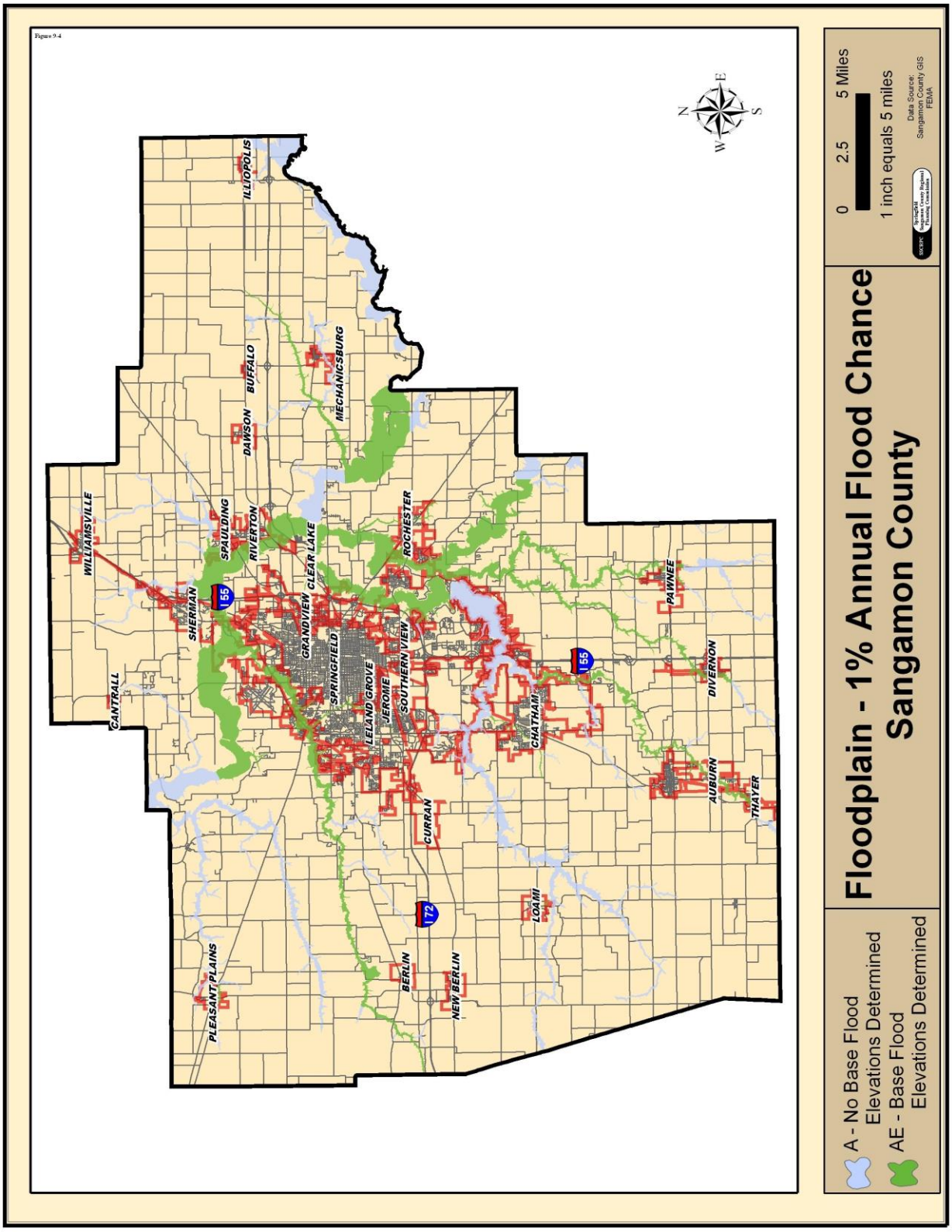
**Figure 31 Water Bodies Subject to Flooding in Each Community**

| Community | Water Bodies Subject to Flooding |
|---|---|
| Auburn | Sugar Creek |
| Buffalo | None |
| Cantrall | None |
| Chatham | Fox Creek, Polecat Creek, Panther Creek, Lake Springfield |
| Curran | None |

| | |
|---|---|
| Dawson | None |
| Divernon | Brush Creek |
| Illiopolis | None |
| Jerome | Jacksonville Branch |
| Leland Grove | Jacksonville Branch |
| Mechanicsburg | Griffiths Creek |
| New Berlin | None |
| Pawnee | Horse Creek, Henkle Branch |
| Pleasant Plains | Richland Creek, Branch of Richland Creek |
| Riverton | Sangamon River |
| Rochester | Black Branch, South Fork Sangamon River |
| Sherman | Sangamon River, Fancy Creek |
| Southern View | None |
| Spaulding | Sangamon River |
| Springfield | Lake Springfield, Lick Creek, Polecat Creek, Sugar Creek, Spring Creek, Sangamon River, Jacksonville Branch |
| Thayer | Sugar Creek |
| Williamsville | Wolf Creek |
| unincorporated Sangamon County | Black Branch, Brush Creek, Buckhart Creek, Cantrall Creek, Clear Creek, Fancy Creek, Horse Creek, Lick Creek, Panther Creek, Polecat Creek, Prairie Creek, Richland Creek, Spring Creek, Sugar Creek, Wolf Creek (and their tributaries), Sangamon River, South Fork of the Sangamon River, Lake Springfield |

Figure 32 is a map of the floodprone areas of the County. The Flood Insurance Rate Map provides base flood elevations when a study has been performed for a particular body of water and these flood zones are designated AE. Flood zone A designates an area where a base flood elevation has not been established.

**Figure 32 Floodplain – 1% Annual Flood Chance in Sangamon County**




**The extent of previous floods in Sangamon County.**

The Federal Emergency Management Agency has determined that there is a 1% chance of a flood occurring in any given year for areas of Sangamon County. These

are designated as special flood hazard areas on the Flood Insurance Rate Maps and are commonly known as 100-year floodplains. This term, however, does mislead people to believe that a flood of that magnitude would only occur once in any 100-year period. To the contrary, Figure 33 shows the dates and heights of three "100-year" floods that have been recorded on the Sangamon River at the Old Route 36 Bridge in Riverton over the 101-year period from 1911-2014. Four additional floods rose to less than a foot below the 100-year flood level. High floods on the South Fork of the Sangamon River as recorded 100' downstream of Horse Creek near Rochester are shown in Figure 34.

**Figure 33**
**Historically High Flood Events on the Sangamon River at Riverton (100-year flood elevation = 537')**

| Date | Elevation |
|---|---|
| 5/19/1943 | 539.90 |
| 9/11/1926 | 538.53 |
| 5/14/2002 | 538.08 |
| 4/13/1994 | 536.66 |
| 4/11/1922 | 536.60 |
| 2/2/1916 | 536.41 |
| 6/6/1917 | 536.18 |
| 9/30/1911 | 535.60 |
| 6/9/2008 | 535.27 |
| 8/24/1915 | 535.23 |
| 4/12/1979 | 535.16 |

**Figure 34**
**Historically High Flood Events on the South Fork of the Sangamon River at Rochester (100-year flood elevation = 545.5')**

| Date | Elevation |
|---|---|
| 5/13/2002 | 543.85 |
| 4/14/1994 | 543.70 |
| 4/14/1979 | 543.22 |
| 2/26/1985 | 542.09 |
| 9/18/2008 | 541.47 |
| 6/18/1970 | 541.26 |
| 4/21/2013 | 541.09 |
| 11/22/1985 | 540.44 |
| 1/23/1974 | 540.43 |
| 5/11/1996 | 540.22 |
| 9/27/1993 | 540.15 |
| 4/25/1973 | 540.14 |

**Previous flood occurrences.**

In May 2002, major flooding occurred in the County after excessive rainfall on already saturated ground. The South Fork of the Sangamon River reached the highest level in a 50 year period. The Sangamon River exceeded the 100-year flood elevation, although it did not reach the 1943 height of five feet above the 100-year flood elevation. Many homes in Riverton, Divernon, Pawnee, and unincorporated areas of the County received substantial damage when they were inundated with flood water for up to five days. Some buildings that were not located in a floodplain were also damaged due to the accumulation of water in areas where the ground was saturated. Major and minor roads were made impassable for varying amounts of time when I-55 flooded north of Divernon at Brush Creek, Mechanicsburg Road flooded east of the I-72 interchange at Sugar Creek, Peoria Road flooded south of Sherman at the Sangamon River, and

several country roads flooded in low-lying areas. The widespread destruction resulted in Presidential Disaster Declaration 1416. (Other Presidential Disaster Declarations due to flooding were issued in 1982, 1994, and 1996.) After the 2002 flood, 36 properties that had received substantial damage were acquired with hazard mitigation grants in Divernon, Pawnee, Riverton, and unincorporated Sangamon County.

In June 2008 major flooding again occurred with the Sangamon River cresting at 535.27 feet at Riverton and the South Fork of the Sangamon River cresting at 539.95 feet at Rochester on June 9. Only a few structures incurred damage because over 100 buildings have been removed from the floodplain throughout Sangamon County over the past two decades through acquisition projects and public health code enforcement and new buildings have not been constructed in special flood hazard areas due to enforcement of flood ordinances.

**Probability of future flooding events.**

FEMA calculates the elevation of a flood that has a 1% chance in any given year of occurring. Land that is located in a designated floodplain will flood at some point. Unlike other natural hazards, the properties that are affected by riverine and lake flooding are mapped so the risk is more easily pinned down. Figure 32 shows the areas of the County that are at risk of flooding. Some water bodies have a base flood elevation, or projected height of a 1% chance flood (100-year flood), determined. These are differentiated on this map from those areas of floodplain where the base flood elevation is not determined. The graphic depiction only shows the 1% percent chance flood. Flooding can reach elevations higher than shown and flash flooding due to heavy rainfall can create water accumulation in areas not designated as floodplains. Based on the four Presidential Disaster Declarations over the 26-year period from 1981 – 2007 the probability of a major flood occurring in Sangamon County in any given year is 15%.

## FLOOD – Assessing Vulnerability

The following communities in Sangamon County have some floodplain according to the countywide Flood Insurance Rate Map effective August 2, 2007 provided by the Federal Emergency Management Agency.

> Auburn, Chatham, Divernon, Jerome, Leland Grove, Mechanicsburg, Pawnee, Pleasant Plains, Riverton, Rochester, Sherman, Spaulding, Springfield, Thayer, Williamsville, and unincorporated Sangamon County.

Using the digitized Flood Insurance Rate Map with the County GIS map, all properties having a building shown in the floodplain were determined and the market values of the buildings were calculated using the property tax assessment records. Because the flood map is a graphic representation of the 1% chance flood and is not based on actual ground elevations, the data gathered is simply an estimate. The only way to know the exact number of buildings actually in the floodplain would be to determine the elevation of each of the buildings indicated below. Some property owners have done this and received a Letter of Map Amendment (LOMA) from FEMA. A LOMA provides documentation that a particular building or parcel of land is above the base flood elevation and therefore is not subject to the 100-year flood. These buildings have been omitted from data in Figure 35.

The vulnerability of each structure cannot be established without building elevations. Even factoring in damage to contents, the actual dollar loss during a single flood event would most likely be less than shown in Figure35. If funding becomes available, the Sangamon County GIS Department would like to implement a project to determine the elevation of all buildings in the floodplain.

**Figure 35 Estimate of Buildings in a 100-Year Floodplain**

| Community | Buildings in Floodplain (2008) | Total Value of Buildings Exposed to Damage (2008) | Buildings in Floodplain (2014) | Total Value of Buildings Exposed to Damage (2014) |
|---|---|---|---|---|
| Auburn | 8 | $1,142,883 | 37 | $2,364,951 |
| Chatham | 43 | $4,409,976 | 68 | $6,273,642 |
| Divernon | 53 | $2,557,380 | 98 | $3,625,698 |
| Jerome | 15 | $1,193,775 | 23 | $1,378,227 |
| Leland Grove* | --- | --- | 27 | $6,334,860 |
| Mechanicsburg* | --- | --- | 1 | $0 |
| Pawnee | 41 | $1,863,918 | 62 | $2,504,067 |
| Pleasant Plains** | 18 | $1,354,875 | 26 | $1,666,350 |
| Riverton** | 18 | $1,376,514 | 37 | $2,312,106 |
| Rochester | 31 | $3,278,490 | 50 | $4,920,369 |
| Sherman | --- | --- | 0 | $0 |
| Spaulding** | --- | --- | 5 | $956,364 |
| Springfield | 247 | $51,039,669 | 822 | $145,540,746 |
| Thayer*** | 19 | $977,601 | 35 | $1,571,445 |
| Sangamon County | 450 | $55,303,158 | 271 | $89,975,592 |
| TOTAL | 943 | $124,498,239 | 1562 | $269,424,417 |

* *Did not participate in 2008 Plan*

** *Did not meet 2015 participation requirements*

*** *Did not participate in 2015 Plan update*

## Flood Insurance

Figure 36 is the list of all communities in the planning area and the date the communities began participating in the National Flood Insurance Program (NFIP).

**Figure 36 Participation in the NFIP**

| Community | Date |
|---|---|
| Auburn | 08/19/85 |
| Chatham | 09/02/81 |
| Divernon | 05/15/84 |
| Illiopolis* | 04/17/09 |
| Jerome | 11/16/83 |
| Leland Grove | 12/16/82 |
| New Berlin | 03/14/14 |
| Pawnee | 05/03/82 |
| Pleasant Plains* | 09/02/81 |
| Riverton* | 12/01/81 |
| Rochester | 06/15/82 |
| Sherman | 11/16/83 |
| Spaulding* | 05/13/04 |
| Springfield | 02/02/82 |
| Thayer* | 05/03/82 |
| Williamsville | 09/14/95 |
| Sangamon County | 01/06/83 |

** Did not participate in 2015 Plan.*

## Repetitive Loss

All plans approved or updated after October 1, 2008 must address National Flood Insurance structures that have been repetitively damaged by floods. FEMA defines a "repetitive loss structure" as a flood-insured structure that has received two or more flood insurance claim payments of more than 25% of the market value within any ten year period. The multi-jurisdictional area currently has 30 properties that are on the FEMA repetitive loss list. Of these, 17 have been mitigated as of November 30, 2014. The total county-wide claims paid are $1,437,121.78.

**Figure 37provides the repetitive loss data for the area (Source: FEMA)**

| Community | FEMA Community # | Number of Repetitive Loss Properties as of 11/30/14 | Mitigated | Total Claims Paid* | Remaining Repetitive Loss Properties |
|---|---|---|---|---|---|
| Chatham | 170601 | 4 | 4 | $152,336.06 | 0 |
| Divernon | 170949 | 4 | 4 | $167,786.75 | 0 |
| Leland Grove | 170925 | 2 | 0 | $209,034.68 | 2 |
| Pawnee | 170602 | 5 | 4 | $431,448.11 | 1 |
| Pleasant Plains | 170798 | 1 | 0 | $7,994.81 | 1 |
| Riverton | 170603 | 1 | 0 | $20,430.66 | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Springfield | 170604 | 3 | 0 | $177,534.33 | 3 |
| Sangamon County | 170912 | 10 | 5 | $270,556.38 | 5 |
| TOTAL | | 30 | 17 | $1,437,121.78 | 13 |

** Claims include structures and contents*

It should be noted that the data provided by FEMA has several errors. For example, the two of the repetitive loss properties listed for Springfield are located in unincorporated Sangamon County as is the property listed for Riverton. The Regional Planning Commission staff will work with FEMA to correct this data for future planning purposes.

**Floods and development trends.**

Each community in Sangamon County that is subject to flooding participates in the National Flood Insurance Program and has adopted a floodplain ordinance with the exception of Mechanicsburg. Enforcing this ordinance provides protection to any new structures built in a floodprone area. The Sangamon County Subdivision Ordinance requires any floodprone area in a new subdivision to be set aside as open space. Other floodprone communities with subdivision ordinances also include specific regulations to prohibit development in the floodplain.

# MINE SUBSIDENCE HAZARD

## MINE SUBSIDENCE – Description

**What is mine subsidence?**
(from: "Approaches to Mine Subsidence in Four U.S. Communities")

> "Mine subsidence is the collapse of the ground surface over areas where coal or mineral ores were removed. Subsidence causes ground surface deformation resulting in a range of problems from deep holes with vertical sides that pose physical threats to people, to more subtle forms of subsidence characterized by sagging of the ground surface producing more damage, over larger areas, affecting nearly all man-made structures.
>
> Subsidence is an onerous problem. The underground mine lays dormant and forgotten until, one day, failure within the mine has progressed upward far enough that it reaches the ground surface. Subsidence damages, therefore, tend to be sudden and unexpected. History has demonstrated that nearly any undermined area regardless of depth, where significant volumes of coal or mineral ore were extracted, is susceptible to subsidence."

There are two types of subsidence. Pit subsidence creates a hole 6 to 8 feet deep and 2 to 40 feet across (although most are less than 16 feet in diameter). Sag subsidence creates a depression over a broad area up to several hundred feet long and a few hundred feet wide.

**What are the consequences of mine subsidence?**
(from: Mine Subsidence: A Guidebook for Local Officials)

Following are the consequences to buildings caused by mine subsidence.

- A homeowner hears popping, creaking, and cracking sounds.
- Cracks start to appear in the foundation and exterior walls.
- Sections of a building begin to tilt. The doors swing open and shut.
- Windows begin to stick, jam, and even break.
- A hairline crack appears in the basement or garage floor and begins to widen.
- Separations between walls and floors develop.
- The foundation starts pulling away from the frame of the house.
- Long continuous cracks in the ground are seen.

Subsidence can also buckle roadways and break waterlines, gas lines, telephone lines, and sewer lines. Damage can occur adjacent to undermined lands as well.

**Mining in Sangamon County.**

The first coal mine in Springfield began operation in 1867 and the last one was abandoned in 1964. A total of 53 coal mines have operated in Sangamon County. It appears that most, if not all, of these mines used the room-and-pillar technique which leaves pillars to support the mine roof after 30-80% of the coal has been extracted. Unfortunately the pillars do not provide permanent structural support and subsidence can occur when:

- pillars become weak and fail
- the floor beneath the pillars fail, causing the pillars to sink
- the mine roof collapses

## MINE SUBSIDENCE – Profile

**The locations affected by mine subsidence.**

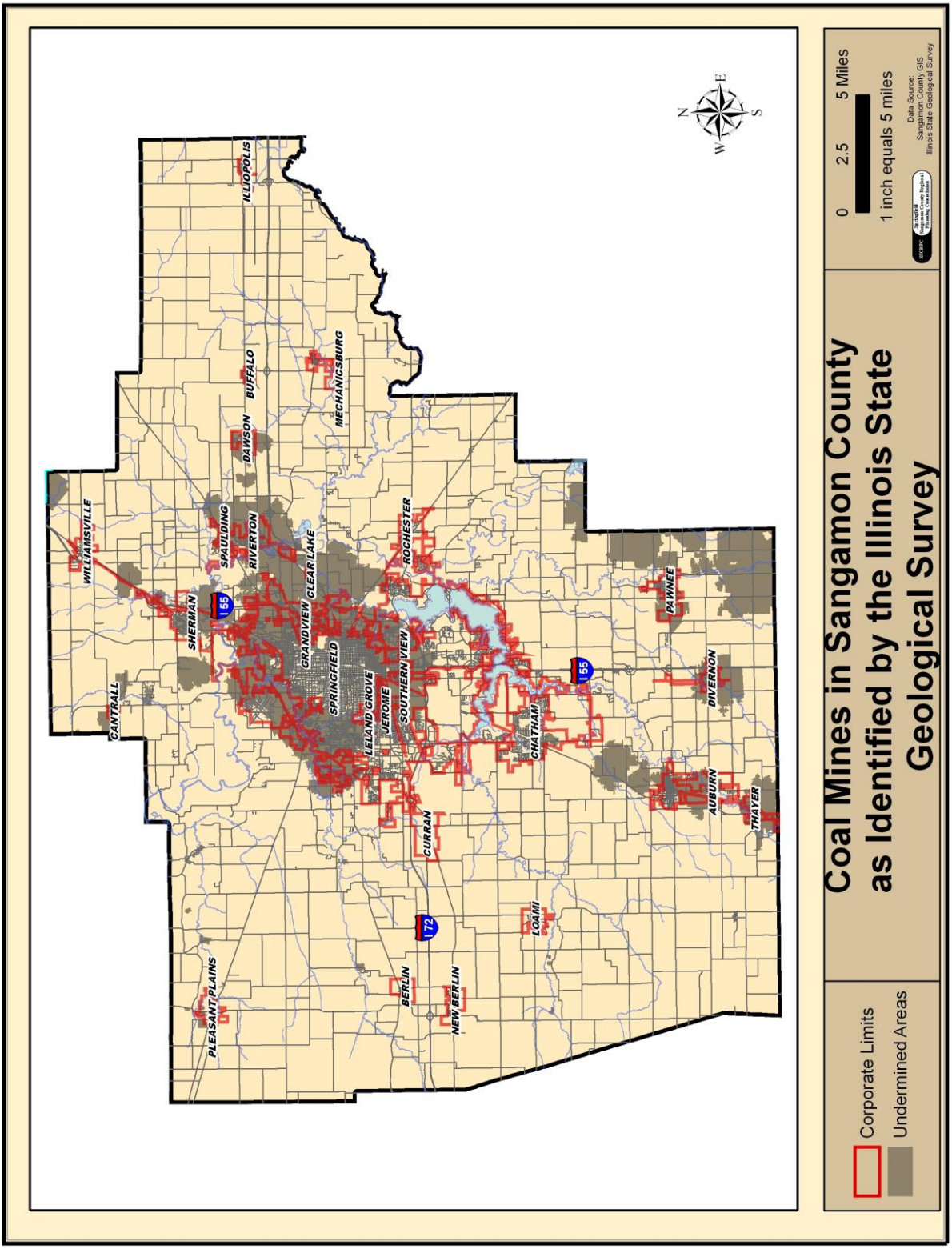
State law required all mine owners to record maps of coal mines. However, this law was not strictly enforced because mine safety was a bigger concern for regulators. Consequently, the mines identified by the Illinois State Geological Survey may not be all inclusive or necessarily accurate.

As seen in Figure38, the known coal mines in Sangamon County are concentrated in the central area from north to south. Mines were often located in proximity to cities, which offered labor and a market. At times towns were established near coal mines to provide housing for miners. Therefore, several participating communities are located near or directly over mines: Auburn, Cantrall, Chatham, Dawson, Divernon, Jerome, Pawnee, Pleasant Plains, Riverton, Sherman, Southern View, Springfield, Thayer, Williamsville, and unincorporated Sangamon County.

**The extent of previous occurrences of mine subsidence in Sangamon County.**

There is no database of previous occurrences of mine subsidence in Sangamon County. However, there have been many instances when damage has occurred, although exact costs related to specific structures are not available. Vertical settlement of a structure is usually 2-4 feet.

**Figure 38 Coal Mines in Sangamon County**




**Previous occurrences of mine subsidence.**

Figure 40 shows places in the vicinity of Springfield where mine subsidence occurred from 1867 -1998 based on information available to the IDNR Office of Mines and

Minerals. (It is believed that the number of subsidence events is underestimated on this map.) Approximately one-half of the data was collected from reports prepared prior to 1930. The remaining data is based on aerial imagery or direct observation and measurements.

Property taxes in Sangamon County are reduced on property that has been damaged by mine subsidence although no centralized records are maintained to identify these properties. Anecdotal information suggests that homes in Divernon and Riverton have been given reduced taxes because of subsidence damage.

The Illinois Mine Subsidence Insurance Fund was established in 1979 when mine subsidence insurance was made available through insurance companies for the first time in Illinois. Figure 39 provides a breakdown of data from the 2008 Plan and for the period of 2008 – 2015.

Since its inception through 2015, the Fund reports 1,398 mine subsidence claims have been filed for property in Sangamon County. Of these, 349 were confirmed as losses due to mine subsidence (318 residential and 31 commercial). The total amount paid was $41.0 million with $36.0 million for residential buildings and $5 million for commercial buildings.

**Table39 Sangamon County Mine Subsidence Claims**

| TYPE OF CLAIM | 1979 -2008 | | | 2008-March 31, 2015 | | | 2008-2015 | |
|---|---|---|---|---|---|---|---|---|
| | *Confirmed # of Claims* | *Claims Paid (in millions)* | *Average Paid Per Structure* | *Confirmed # of Claims* | *Claims Paid (in millions)* | *Average Paid Per Structure* | *Total # of Claims* | *Total Claims Paid (in millions)* |
| Residential | 220 | $18.8 | $85,455 | 98 | $17.2 | $175,510 | 318 | $36.0 |
| Commercial | 21 | $2.0 | $95,238 | 10 | $3.0 | $300,000 | 31 | $5.0 |
| TOTAL | 241 | $20.8 | | 108 | $20.0 | | **349** | **$41.0** |

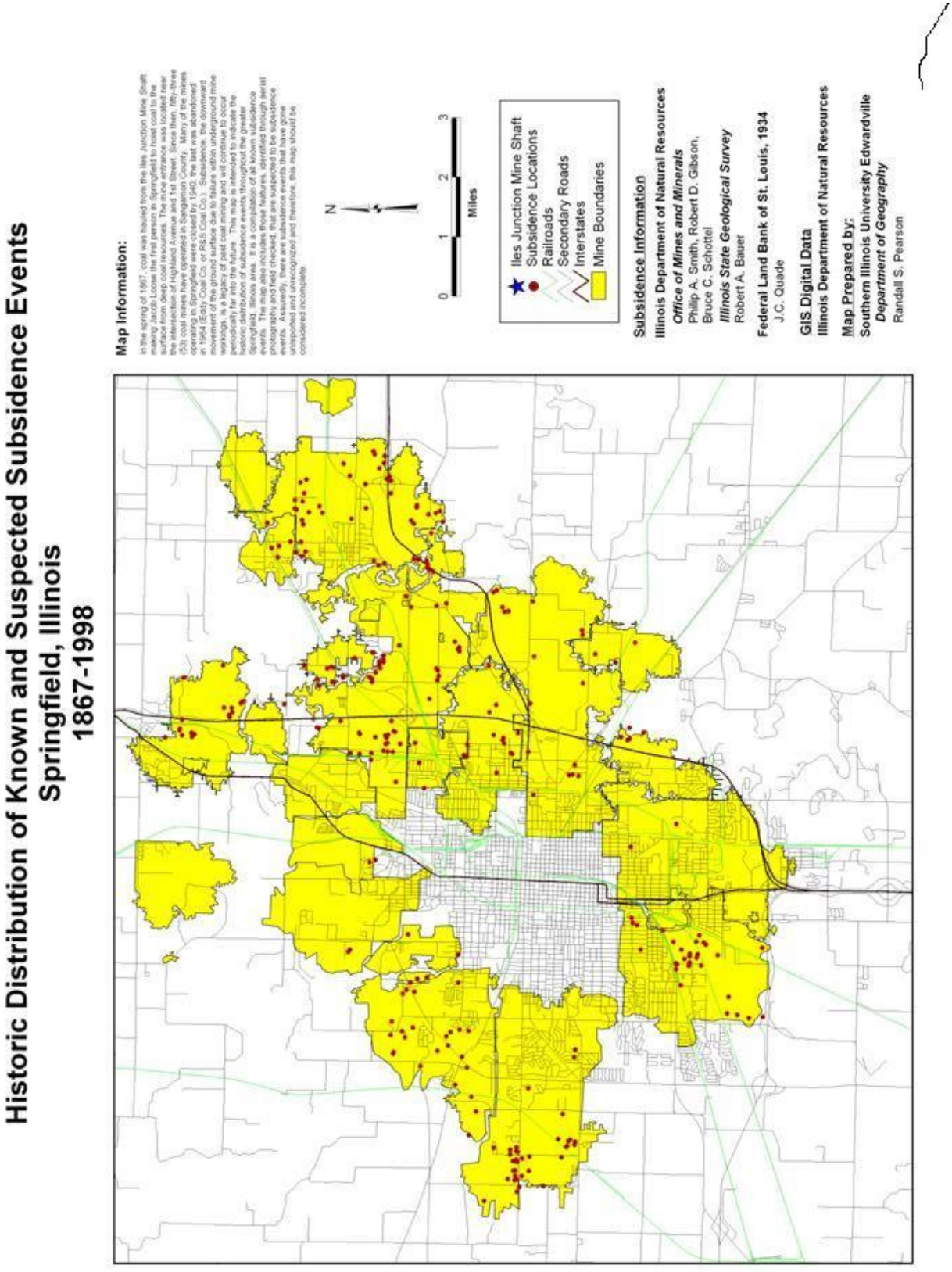
(Source: Illinois Mine Subsidence Insurance Fund)

As of July 1, 2011 both residential and commercial structures can be insured for mine subsidence up to $750,000. Condominium units may be limited on insurance coverage depending on the insurance requirements for the association and unit owners established in the bylaws of the condominium association. If a commercial master policy is issued to the condominium association, the limit on the entire structure would be subject to the $350,000 maximum for commercial policies. If each individual living unit owner purchases coverage for their own unit, then the residential policy limit applies.

**Probability of future mine subsidence events.**

With no data available on mine subsidence events in Sangamon County, a probability of occurrence cannot be calculated. However, with coal mines under 94.4 square miles of land in the planning area there is a high likelihood that subsidence will continue to occur. Robert Gibson with the IDNR, Office of Mines and Minerals believes that on average, three mine subsidence events are experienced each year in Sangamon County.

**Figure 40 Historic Distribution of Subsidence**




## MINE SUBSIDENCE –Assessing Vulnerability

There are many areas in Sangamon County that have been mined leaving homes, businesses, critical facilities, and infrastructure vulnerable to damage from subsidence. Generally, when a subsidence event occurs there is a relatively small area (a few acres) affected compared to other natural hazards. Besides doing damage to buildings, there is also the accompanying decrease in property values for those properties affected, as well as nearby properties.

If there is a mined out area subsidence will occur, but the location or timing of mine subsidence cannot be predicted. The length of a subsidence event is also unpredictable and can happen quickly over a few hours or days or slowly over years.

# SEVERE STORM HAZARD

## SEVERE STORMS – Description

**What are severe storms?**

Severe storms in Sangamon County are thunderstorms with winds of 50 knots (58 mph) or more or thunderstorms with damaging hail.

(from: 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 ¾ 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.

Figure 41 **Consequences of Severe Storms**

| Element | Consequence |
|---|---|
| Rain | flooding, poor visibility, auto accidents, sewer backup, crop damage |
| Wind | building damage, downed power lines, auto accidents, tree damage, crop damage |
| Lightning | injury, death, fire, power outage, damage to electronics/appliances |
| Hail | building damage, vehicle, damage, crop damage |

## SEVERE STORMS – Profile

### The locations affected by severe storms.

Severe storms can occur anywhere in Sangamon County and generally hit more than one location per event.

### The extent of previous occurrences of severe storms in Sangamon County.

Figure 42presents data on thunderstorms with high winds that have occurred in Sangamon County over the 59-year period from January 1, 1955 through April 30, 2014. During 50 of these years there was at least one thunderstorm with severe winds. Wind speeds are available for 95 of these thunderstorms and ranged from 50 knots to 95 knots. The thunderstorm with 95 knot wind speeds occurred in 1957 and produced the one F4 tornado that hit Sangamon County during this time period. The winds associated with thunderstorms in Sangamon County have otherwise averaged 56 knots (about 64.4 mph).

**Figure42 Thunderstorm and High Wind Events in Sangamon County**

**248 THUNDERSTORM & HIGH WIND** event(s) were reported in **Sangamon County, Illinois between 01/01/1955 and 4/30/2014.**

*From: National Climatic Data Center*

| Year | Location* | Date | Time | Magnitude |
|---|---|---|---|---|
| 1955 | 1 SANGAMON | 5/26/1955 | 1:33 PM | 59 kts. |
| 1956 | 2 SANGAMON | 6/26/1956 | 2:12 PM | 50 kts. |
| | 3 SANGAMON | 8/12/1956 | 9:30 PM | 0 kts. |
| 1957 | 4 SANGAMON | 6/11/1957 | 1:15 PM | 66 kts. |
| | 5 SANGAMON | 6/14/1957 | 2:05 PM | 95 kts. |
| | 6 SANGAMON | 7/13/1957 | 7:40 PM | 0 kts. |
| | 7 SANGAMON | 7/13/1957 | 7:40 PM | 50 kts. |
| | 8 SANGAMON | 9/1/1957 | 1:30 PM | 0 kts. |
| 1959 | 9 SANGAMON | 9/26/1959 | 4:00 PM | 65 kts. |
| 1961 | 10 SANGAMON | 6/6/1961 | 3:08 PM | 53 kts. |
| | 11 SANGAMON | 7/22/1961 | 4:16 PM | 58 kts. |
| 1962 | 12 SANGAMON | 4/30/1962 | 12:30 PM | 0 kts. |
| | 13 SANGAMON | 7/11/1962 | 6:00 PM | 60 kts. |
| | 14 SANGAMON | 7/13/1962 | 1:17 PM | 74 kts. |
| 1963 | 15 SANGAMON | 4/17/1963 | 6:49 PM | 50 kts. |
| | 16 SANGAMON | 4/19/1963 | 3:00 AM | 57 kts. |
| 1964 | 17 SANGAMON | 4/21/1964 | 5:00 AM | 0 kts. |
| | 18 SANGAMON | 6/21/1964 | 5:00 AM | 51 kts. |
| 1965 | 19 SANGAMON | 6/20/1965 | 6:05 PM | 0 kts. |
| | 20 SANGAMON | 7/17/1965 | 3:45 AM | 0 kts. |
| | 21 SANGAMON | 8/27/1965 | 8:30 AM | 0 kts. |
| | 22 SANGAMON | 8/30/1965 | 8:35 PM | 0 kts. |
| 1966 | 23 SANGAMON | 7/5/1966 | 9:35 PM | 52 kts. |
| 1967 | 24 SANGAMON | 4/16/1967 | 9:40 PM | 56 kts. |
| | 25 SANGAMON | 4/16/1967 | 10:41 PM | 58 kts. |

| | | | | |
|---|---|---|---|---|
| | 26 SANGAMON | 4/21/1967 | 1:50 PM | 0 kts. |
| | 27 SANGAMON | 7/10/1967 | 3:50 PM | 53 kts. |
| 1969 | 28 SANGAMON | 6/28/1969 | 8:00 PM | 55 kts. |
| | 29 SANGAMON | 8/9/1969 | 2:12 AM | 0 kts. |
| | 30 SANGAMON | 10/10/1969 | 8:13 PM | 0 kts. |
| | 31 SANGAMON | 10/10/1969 | 8:20 PM | 0 kts. |
| 1970 | 32 SANGAMON | 5/9/1970 | 1:05 PM | 53 kts. |
| | 33 SANGAMON | 6/14/1970 | 2:30 PM | 51 kts. |
| | 34 SANGAMON | 7/19/1970 | 4:50 PM | 0 kts. |
| | 35 SANGAMON | 7/31/1970 | 2:34 PM | 0 kts. |
| 1972 | 36 SANGAMON | 9/28/1972 | 9:30 PM | 53 kts. |
| 1973 | 37 SANGAMON | 3/31/1973 | 3:57 PM | 50 kts. |
| | 38 SANGAMON | 6/18/1973 | 4:45 PM | 70 kts. |
| 1974 | 39 SANGAMON | 3/4/1974 | 4:30 PM | 0 kts. |
| | 40 SANGAMON | 3/29/1974 | 2:00 PM | 65 kts. |
| | 41 SANGAMON | 4/21/1974 | 3:43 PM | 50 kts. |
| | 42 SANGAMON | 5/30/1974 | 2:15 PM | 0 kts. |
| | 43 SANGAMON | 7/28/1974 | 3:24 PM | 50 kts. |
| 1975 | 44 SANGAMON | 5/26/1975 | 12:30 PM | 0 kts. |
| | 45 SANGAMON | 5/30/1975 | 1:25 PM | 0 kts. |
| | 46 SANGAMON | 11/9/1975 | 10:00 PM | 0 kts. |
| | 47 SANGAMON | 11/9/1975 | 10:01 PM | 51 kts. |
| | 48 SANGAMON | 11/29/1975 | 10:56 PM | 66 kts. |
| 1977 | 49 SANGAMON | 5/4/1977 | 4:55 PM | 74 kts. |
| | 50 SANGAMON | 8/6/1977 | 4:00 PM | 0 kts. |
| | 51 SANGAMON | 10/1/1977 | 1:20 AM | 0 kts. |
| 1978 | 52 SANGAMON | 5/12/1978 | 4:23 PM | 50 kts. |
| | 53 SANGAMON | 5/12/1978 | 5:14 PM | 57 kts. |
| | 54 SANGAMON | 7/26/1978 | 3:25 PM | 50 kts. |
| | 55 SANGAMON | 8/27/1978 | 2:45 PM | 0 kts. |
| 1980 | 56 SANGAMON | 4/8/1980 | 12:00 AM | 52 kts. |
| | 57 SANGAMON | 9/6/1980 | 6:38 PM | 0 kts. |
| 1981 | 58 SANGAMON | 4/3/1981 | 11:25 PM | 0 kts. |
| | 59 SANGAMON | 6/15/1981 | 6:48 PM | 0 kts. |
| 1982 | 60 SANGAMON | 4/16/1982 | 6:35 PM | 56 kts. |
| | 61 SANGAMON | 6/7/1982 | 10:35 PM | 0 kts. |
| 1983 | 62 SANGAMON | 5/1/1983 | 7:00 PM | 0 kts. |
| 1986 | 63 SANGAMON | 7/29/1986 | 2:14 AM | 61 kts. |
| | 64 SANGAMON | 7/29/1986 | 2:40 AM | 0 kts. |
| | 65 SANGAMON | 7/31/1986 | 3:06 AM | 52 kts. |
| | 66 SANGAMON | 7/31/1986 | 3:40 AM | 0 kts. |
| | 67 SANGAMON | 7/31/1986 | 3:45 AM | 0 kts. |
| 1987 | 68 SANGAMON | 5/21/1987 | 8:57 PM | 0 kts. |
| | 69 SANGAMON | 8/3/1987 | 7:30 PM | 0 kts. |
| | 70 SANGAMON | 8/3/1987 | 8:12 PM | 0 kts. |
| | 71 SANGAMON | 8/16/1987 | 8:32 PM | 70 kts. |
| 1988 | 72 SANGAMON | 4/5/1988 | 6:36 PM | 52 kts. |
| | 73 SANGAMON | 11/15/1988 | 10:00 PM | 0 kts. |
| 1989 | 74 SANGAMON | 5/25/1989 | 12:30 AM | 0 kts. |
| 1990 | 75 SANGAMON | 5/9/1990 | 12:30 PM | 0 kts. |
| 1991 | 76 SANGAMON | 10/4/1991 | 5:00 PM | 58 kts. |
| | 77 SANGAMON | 12/8/1991 | 3:00 PM | 0 kts. |

| | | | | |
|---|---|---|---|---|
| 1992 | 78 SANGAMON | 7/2/1992 | 3:30 PM | 0 kts. |
| | 79 SANGAMON | 7/2/1992 | 8:00 PM | 0 kts. |
| | 80 SANGAMON | 7/3/1992 | 12:35 AM | 52 kts. |
| | 81 SANGAMON | 7/9/1992 | 5:38 PM | 0 kts. |
| | 82 SANGAMON | 7/9/1992 | 5:54 PM | 0 kts. |
| | 83 SANGAMON | 9/9/1992 | 5:40 PM | 0 kts. |
| 1993 | 84 Divernon | 8/19/1993 | 4:00 PM | N/A |
| 1994 | 85 Riverton | 4/15/1994 | 3:34 AM | N/A |
| | 86 Pawnee | 4/26/1994 | 8:34 PM | N/A |
| | 87 Pleasant Plains | 6/16/1994 | 4:25 PM | N/A |
| | 88 Pleasant Plains | 6/23/1994 | 2:12 PM | N/A |
| | 89 Pleasant Plains | 7/2/1994 | 11:05 AM | N/A |
| | 90 Cantrall | 7/20/1994 | 5:25 PM | N/A |
| | 91 Springfield | 7/20/1994 | 5:40 PM | N/A |
| 1995 | 92 Chatham | 5/16/1995 | 7:30 PM | N/A |
| | 93 Divernon | 6/8/1995 | 7:22 AM | N/A |
| | 94 Divernon | 6/8/1995 | 8:15 AM | N/A |
| | 95 Pleasant Plains | 6/21/1995 | 8:10 PM | N/A |
| 1996 | 96 Illiopolis | 4/19/1996 | 6:17 PM | 0 kts. |
| | 97 Glenarm | 5/8/1996 | 11:20 AM | 70 kts. |
| 1997 | 98 Springfield Airport | 4/5/1997 | 3:15 PM | 50 kts. |
| | 99 Dawson | 4/5/1997 | 3:40 PM | 0 kts. |
| | 100 Pleasant Plains | 8/3/1997 | 11:15 PM | 0 kts. |
| | 101 New Berlin | 8/15/1997 | 2:55 AM | 0 kts. |
| 1998 | 102 Pleasant Plains | 3/27/1998 | 6:25 PM | 0 kts. |
| | 103 Glenarm | 5/22/1998 | 8:30 AM | 0 kts. |
| | 104 Chatham | 6/4/1998 | 6:58 PM | 0 kts. |
| | 105 Pleasant Plains | 6/11/1998 | 2:00 PM | 61 kts. |
| | 106 Farmingdale | 6/18/1998 | 6:40 PM | 61 kts. |
| | 107 Williamsville | 6/28/1998 | 7:00 PM | 0 kts. |
| | 108 Countywide | 6/29/1998 | 4:10 PM | 61 kts. |
| | 109 Divernon | 7/22/1998 | 2:20 PM | 0 kts. |
| | 110 Pleasant Plains | 11/10/1998 | 4:35 AM | 55 kts. |
| 1999 | 111 Pleasant Plains | 4/8/1999 | 8:10 PM | 0 kts. |
| | 112 Divernon | 6/1/1999 | 6:01 PM | 61 kts. |
| | 113 Riverton | 6/4/1999 | 4:12 PM | 61 kts. |
| | 114 Auburn | 6/8/1999 | 1:45 PM | 0 kts. |
| | 115 Pleasant Plains | 8/12/1999 | 8:00 PM | 0 kts. |
| | 116 Auburn | 8/12/1999 | 9:10 PM | 52 kts. |
| | 117 Pleasant Plains | 8/23/1999 | 6:20 PM | 0 kts. |
| 2000 | 118 Chatham | 4/20/2000 | 5:03 AM | 0 kts. |
| | 119 New Berlin | 5/26/2000 | 10:50 PM | 0 kts. |
| | 120 Illiopolis | 6/14/2000 | 11:35 AM | 0 kts. |
| | 121 Springfield | 6/20/2000 | 6:45 PM | 0 kts. |
| | 122 Springfield | 6/23/2000 | 5:35 PM | 0 kts. |
| | 123 Auburn | 7/5/2000 | 4:15 PM | 0 kts. |
| | 124 Springfield | 8/17/2000 | 5:15 PM | 0 kts. |
| | 125 Riverton | 8/17/2000 | 6:20 PM | 0 kts. |
| 2001 | 126 Springfield | 2/9/2001 | 8:20 AM | 50 kts. |
| | 127 Springfield | 5/22/2001 | 12:00 PM | 50 kts. |
| | 128 Chatham | 5/26/2001 | 12:30 PM | 50 kts. |
| | 129 Springfield Airport | 7/4/2001 | 9:30 PM | 50 kts. |

| | | | | |
|---|---|---|---|---|
| | 130 Springfield Airport | 7/17/2001 | 4:02 PM | 54 kts. |
| | 131 Springfield | 7/23/2001 | 4:05 PM | 52 kts. |
| | 132 Springfield | 8/2/2001 | 5:45 PM | 50 kts. |
| | 133 New City | 10/24/2001 | 11:24 AM | 50 kts. |
| 2002 | 134 Pleasant Plains | 4/19/2002 | 7:00 PM | 64 kts. |
| | 135 Mechanicsburg | 6/4/2002 | 5:45 PM | 50 kts. |
| | 136 Buffalo | 7/26/2002 | 10:05 PM | 50 kts. |
| | 137 Sherman | 8/19/2002 | 4:53 AM | 52 kts. |
| 2003 | 138 Springfield | 4/24/2003 | 5:45 PM | 52 kts. |
| | 139 Chatham | 5/9/2003 | 7:10 PM | 60 kts. |
| | 140 Springfield Arpt | 6/29/2003 | 5:05 PM | 55 kts. |
| | 141 Andrew | 7/8/2003 | 6:17 PM | 60 kts. |
| | 142 Springfield Airport | 7/8/2003 | 10:05 PM | 52 kts. |
| | 143 Springfield | 7/21/2003 | 3:30 AM | 52 kts. |
| 2004 | 144 Springfield | 4/20/2004 | 11:30 PM | 50 kts. |
| | 145 Countywide | 5/24/2004 | 11:05 PM | 69 kts. |
| | 146 Springfield | 5/31/2004 | 6:30 PM | 52 kts. |
| | 147 Chatham | 8/17/2004 | 8:30 PM | 50 kts. |
| | 148 Springfield | 8/27/2004 | 7:10 PM | 52 kts. |
| | 149 Springfield | 10/29/2004 | 11:30 PM | 50 kts. |
| 2005 | 150 Springfield | 6/8/2005 | 2:33 PM | 50 kts. |
| | 151 Chatham | 6/8/2005 | 2:35 PM | 55 kts. |
| | 152 Springfield | 6/8/2005 | 2:50 PM | 50 kts. |
| | 153 Chatham | 6/13/2005 | 5:23 PM | 60 kts. |
| | 154 Chatham | 6/13/2005 | 10:00 PM | 50 kts. |
| | 155 Curran | 8/18/2005 | 9:30 PM | 55 kts. |
| | 156 Salisbury | 11/5/2005 | 9:00 PM | 50 kts. |
| | 157 Springfield | 11/28/2005 | 12:50 AM | 50 kts. |
| 2006 | 158 Auburn | 1/2/2006 | 7:20 AM | 60 kts. |
| | 159 New Berlin | 3/12/2006 | 8:04 PM | 60 kts. |
| | 160 Auburn | 3/12/2006 | 8:30 PM | 52 kts. |
| | 161 Loami | 3/12/2006 | 8:30 PM | 50 kts. |
| | 162 Springfield | 3/12/2006 | 8:30 PM | 58 kts. |
| | 163 Auburn | 3/13/2006 | 2:46 AM | 60 kts. |
| | 164 Pawnee | 3/13/2006 | 3:20 AM | 60 kts. |
| | 165 Springfield | 4/2/2006 | 5:01 PM | 52 kts. |
| | 166 Springfield | 4/16/2006 | 12:45 PM | 55 kts. |
| | 167 Springfield Airport | 4/18/2006 | 11:04 PM | 51 kts. |
| | 168 Pleasant Plains | 5/24/2006 | 2:30 PM | 52 kts. |
| | 169 Cantrall | 7/19/2006 | 4:03 PM | 56 kts. |
| | 170 Chatham | 7/19/2006 | 4:44 PM | 52 kts. |
| | 171 New Berlin | 8/18/2006 | 8:20 PM | 50 kts. |
| 2007 | 172 Divernon | 5/15/2007 | 12:07PM | 52 kts. |
| | 173 Lanesville | 5/15/2007 | 12:33 PM | 52 kts. |
| | 174 Springfield | 10/18/2007 | 1:46 AM | 52 kts. |
| 2008 | 175 Farmingdale | 4/25/2008 | 5:18 PM | 52 kts. |
| | 176 Mildred | 5/30/2008 | 5:06 PM | 59 kts. |
| | 177 Cantrall | 5/30/2008 | 5:29 PM | 52 kts. |
| | 178 Springfield | 6/3/2008 | 1:10 AM | 61 kts. |
| | 179 Chatham | 6/3/2008 | 9:31 AM | 56 kts. |
| | 180 Sherman | 6/3/2008 | 8:13 PM | 52 kts. |
| | 181 Leland Grove | 7/8/2008 | 3:45 PM | 52 kts. |

| | | | | |
|---|---|---|---|---|
| | 182 Starnes | 7/8/2008 | 3:50 PM | 61 kts. |
| | 183 Chatham | 7/11/2008 | 2:40 PM | 52 kts. |
| | 184 Berlin | 7/27/2008 | 8:45 PM | 52 kts. |
| | 185 Springfield | 12/27/2008 | 12:05 PM | 61 kts. |
| | 186 Springfield | 12/27/2008 | 12:20 PM | 61 kts. |
| | 187 Springfield | 12/27/2008 | 12:20 PM | 52 kts. |
| | 188 Springfield | 12/27/2008 | 12:22 PM | 52 kts. |
| | 189 Springfield | 12/27/2008 | 12:25 PM | 52 kts. |
| | 190 Springfield | 12/27/2008 | 12:25 PM | 61 kts. |
| | 191 Spaulding | 12/27/2008 | 12:26 PM | 52 kts. |
| 2009 | 192 Springfield | 3/8/2009 | 10:44 AM | 61 kts. |
| | 193 Springfield | 3/8/2009 | 10:45 AM | 61 kts. |
| | 194 Curran | 3/8/2009 | 10:46 AM | 61 kts. |
| | 195 Jerome | 3/8/2009 | 10:48 AM | 61 kts. |
| | 196 Springfield | 5/13/2009 | 9:45 PM | 52 kts. |
| | 197 Williamsville | 5/15/2009 | 5:45 PM | 52 kts. |
| | 198 Williamsville | 6/2/2009 | 4:10 PM | 52 kts. |
| | 199 Springfield Airport | 6/19/2009 | 4:40 PM | 52 kts. |
| | 200 Sherman | 7/24/2009 | 11:20 PM | 52 kts. |
| | 201 Chatham | 8/4/2009 | 7:20 AM | 61 kts. |
| | 202 Springfield | 8/4/2009 | 7:27 AM | 61 kts. |
| 2010 | 203 Chatham | 5/24/2010 | 6:30 PM | 55 kts. |
| | 204 Divernon | 5/24/2010 | 6:40 PM | 50 kts. |
| | 205 Springfield | 6/2/2010 | 12:58 AM | 61 kts. |
| | 206 Jerome | 6/2/2010 | 1:03 AM | 52 kts. |
| | 207 Springfield | 6/22/2010 | 1:35 AM | 52 kts. |
| | 208 Southern View | 6/22/2010 | 1:51 AM | 52 kts. |
| | 209 South Lawn | 9/2/2010 | 3:45 PM | 52 kts. |
| | 210 Springfield | 10/24/2010 | 7:40 PM | 52 kts. |
| 2011 | 211 Mechanicsburg | 2/27/2011 | 9:40 PM | 52 kts. |
| | 212 Loami | 4/19/2011 | 5:00 PM | 61 kts. |
| | 213 Auburn | 4/19/2011 | 5:02 PM | 61 kts. |
| | 214 Chatham | 4/19/2011 | 5:05 PM | 61 kts. |
| | 215 Springfield | 4/19/2011 | 5:06 PM | 61 kts. |
| | 216 Buffalo | 4/19/2011 | 5:25 PM | 61 kts. |
| | 217 Pawnee | 4/19/2011 | 5:30 PM | 61 kts. |
| | 218 Auburn | 5/25/2011 | 4:41 AM | 61 kts. |
| | 219 Springfield | 5/25/2011 | 5:03 AM | 52 kts. |
| | 220 Divernon | 5/25/2011 | 3:45 PM | 52 kts. |
| | 221 Sangamon County | 6/4/2011 | 6:39 PM | 61 kts. |
| | 222 Chatham | 7/12/2011 | 2:47 PM | 52 kts. |
| 2012 | 223 Breckinridge | 1/17/2012 | 2:00 AM | 52 kts. |
| | 224 Pleasant Plains | 5/20/2012 | 3:35 PM | 61 kts. |
| | 225 Sherman | 5/20/2012 | 4:08 PM | 52 kts. |
| | 226 Williamsville | 5/20/2012 | 4:25 PM | 52 kts. |
| | 227 Pawnee | 8/16/2012 | 1:45 PM | 52 kts. |
| | 228 Williamsville | 10/17/2012 | 5:40 PM | 61 kts. |
| | 229 Springfield | 4/15/2013 | 11:05 PM | 61 kts. |
| 2013 | 230 Rochester | 4/15/2013 | 11:10 PM | 61 kts. |
| | 231 Buffalo | 4/15/2013 | 11:15 PM | 61 kts. |
| | 232 Auburn | 5/27/2013 | 1:37 PM | 61 kts. |
| | 233 Chatham | 5/27/2013 | 1:43 PM | 52 kts. |

| | | | | |
|---|---|---|---|---|
| | 234 Chatham | 5/27/2013 | 1:45 PM | 52 kts. |
| | 235 Iles | 5/27/2013 | 1:47 PM | 52 kts. |
| | 236 Mildred | 5/27/2013 | 1:48 PM | 61 kts. |
| | 237 Grandview | 5/27/2013 | 1:52 PM | 52 kts. |
| | 238 Springfield | 5/27/2013 | 1:53 PM | 61 kts. |
| | 239 Clear Lake | 5/27/2013 | 1:54 PM | 61 kts. |
| | 240 Southlawn | 5/27/2013 | 1:55 PM | 61 kts. |
| | 241 Springfield | 5/27/2013 | 1:55 PM | 52 kts. |
| | 242 Toronto | 5/27/2013 | 1:55 PM | 61 kts. |
| | 243 Riverton | 5/27/2013 | 2:00 PM | 70 kts. |
| | 244 Illiopolis | 5/27/2013 | 2:16 PM | 61 kts. |
| | 245 Lowder | 5/30/2013 | 6:48 PM | 52 kts. |
| | 246 Compro | 5/30/2013 | 6:52 PM | 61 kts. |
| | 247 Compro | 5/30/2013 | 6:52 PM | 61 kts. |
| | 248 Loami | 5/30/2013 | 6:58 PM | 61 kts. |

*prior to 1993 specific locations were not recorded

Figure 43 shows hail events from January 1, 1955 – April 30, 2014. During 36 of these 59 years at least one hail event occurred in Sangamon County. The size of the hail reached a diameter of 2.5 inches during a 1974 hailstorm and a diameter of 2.0 inches in a 2011 storm although most ranged from .75 – 1.75 inches. Fourteen of the hail events were associated with a tornado on the following dates – April 2, 1964, April 20, 2000, May 12, 2000, March 19, 2003, May 9, 2003, May 10, 2003, May 23, 2004, March 12, 2006, and May 30, 2008.

**Figure 43 Hail Events in Sangamon County**

| **177 HAIL events were reported in Sangamon County, Illinois between 01/01/1955 and 04/30/2014** | | | | |
|---|---|---|---|---|
| **Year** | **Location*** | **Date** | **Time** | **Magnitude** |
| 1956 | 1 SANGAMON | 5/22/1956 | 7:15 PM | 1.75 in. |
| | 2 SANGAMON | 9/15/1956 | 12:22 AM | 1.75 in. |
| 1958 | 3 SANGAMON | 7/30/1958 | 7:35 AM | 0.75 in. |
| | 4 SANGAMON | 7/30/1958 | 7:35 AM | 0.75 in. |
| 1961 | 5 SANGAMON | 4/24/1961 | 7:45 AM | 0.75 in. |
| | 6 SANGAMON | 5/6/1961 | 4:12 PM | 1.75 in. |
| 1963 | 7 SANGAMON | 4/29/1963 | 2:45 PM | 1.75 in. |
| 1964 | 8 SANGAMON | 4/2/1964 | 5:32 PM | 1.00 in. |
| | 9 SANGAMON | 4/2/1964 | 7:23 PM | 0.75 in. |
| | 10 SANGAMON | 4/19/1964 | 9:00 PM | 1.75 in. |
| 1965 | 11 SANGAMON | 4/15/1965 | 12:56 PM | 0.75 in. |
| 1967 | 12 SANGAMON | 4/21/1967 | 1:20 PM | 1.75 in. |
| 1972 | 13 SANGAMON | 3/12/1972 | 5:43 PM | 1.00 in. |
| 1973 | 14 SANGAMON | 6/18/1973 | 4:40 PM | 1.50 in. |
| | 15 SANGAMON | 10/3/1973 | 2:55 PM | 0.75 in. |
| 1974 | 16 SANGAMON | 4/3/1974 | 12:42 PM | 2.50 in. |
| | 17 SANGAMON | 5/30/1974 | 2:15 PM | 0.75 in. |
| 1975 | 18 SANGAMON | 5/11/1975 | 4:00 PM | 1.50 in. |
| 1982 | 19 SANGAMON | 5/20/1982 | 3:22 PM | 1.00 in. |
| | 20 SANGAMON | 9/14/1982 | 1:02 PM | 1.00 in. |
| 1985 | 21 SANGAMON | 6/2/1985 | 1:00 AM | 1.75 in. |
| 1986 | 22 SANGAMON | 5/6/1986 | 5:31 PM | 1.00 in. |

| | | | | |
|---|---|---|---|---|
| | 23 SANGAMON | 5/6/1986 | 7:15 PM | 1.00 in. |
| | 24 SANGAMON | 5/8/1986 | 7:15 PM | 1.00 in. |
| | 25 SANGAMON | 7/10/1986 | 7:15 PM | 0.75 in. |
| | 26 SANGAMON | 8/10/1986 | 12:44 AM | 0.75 in. |
| 1987 | 27 SANGAMON | 6/2/1987 | 12:10 PM | 1.00 in. |
| | 28 SANGAMON | 6/2/1987 | 12:45 PM | 1.00 in. |
| 1992 | 29 SANGAMON | 2/15/1992 | 3:15 AM | 1.75 in. |
| | 30 SANGAMON | 4/15/1992 | 3:50 PM | 0.75 in. |
| 1994 | 31 Springfield | 5/24/1994 | 6:30 PM | 0.75 in. |
| | 32 Springfield | 5/24/1994 | 6:37 PM | 0.75 in. |
| 1996 | 33 Springfield | 4/18/1996 | 6:40 PM | 1.75 in. |
| | 34 Mechanicsburg | 4/18/1996 | 7:31 PM | 1.75 in. |
| | 35 Springfield/Riverton | 5/3/1996 | 8:25 PM | 1.75 in. |
| | 36 Divernon/Pawnee | 6/2/1996 | 9:20 PM | 1.75 in. |
| | 37 Sherman | 7/28/1996 | 6:40 PM | 1.75 in. |
| | 38 Williamsville | 8/26/1996 | 2:45 PM | 1.75 in. |
| 1997 | 39 Pleasant Plains | 3/28/1997 | 3:35 PM | 1.75 in. |
| 1998 | 40 New Berlin | 4/7/1998 | 3:45 PM | 1.75 in. |
| | 41 Cantrall | 4/7/1998 | 4:02 PM | 1.75 in. |
| | 42 Pawnee | 4/7/1998 | 4:20 PM | 1.75 in. |
| | 43 Divernon | 6/12/1998 | 4:57 PM | 1.00 in. |
| 1999 | 44 Divernon | 5/5/1999 | 7:05 PM | 0.88 in. |
| | 45 Lanesville | 6/4/1999 | 4:30 PM | 0.75 in. |
| | 46 Divernon | 8/12/1999 | 9:15 PM | 1.00 in. |
| 2000 | 47 Springfield | 4/20/2000 | 7:30 AM | 1.00 in. |
| | 48 Illiopolis | 4/20/2000 | 8:05 AM | 1.75 in. |
| | 49 Illiopolis | 5/12/2000 | 4:00 PM | 0.75 in. |
| | 50 Divernon | 5/12/2000 | 5:00 PM | 1.00 in. |
| | 51 Auburn | 5/23/2000 | 12:55 AM | 1.00 in. |
| | 52 Springfield | 5/26/2000 | 11:13 PM | 1.00 in. |
| 2001 | 53 Buffalo | 8/18/2001 | 2:15 PM | 1.00 in. |
| 2002 | 54 Auburn | 5/1/2002 | 2:00 PM | 1.75 in. |
| | 55 Springfield | 5/6/2002 | 11:05 PM | 0.75 in. |
| | 56 Springfield | 5/7/2002 | 12:05 AM | 1.75 in. |
| | 57 Auburn | 5/27/2002 | 2:35 PM | 2.00 in. |
| 2003 | 58 Auburn | 3/19/2003 | 4:40 PM | 1.75 in. |
| | 59 Springfield | 3/19/2003 | 6:58 PM | 1.00 in. |
| | 60 Loami | 4/4/2003 | 3:22 PM | 0.75 in. |
| | 61 Pleasant Plains | 4/4/2003 | 3:23 PM | 1.75 in. |
| | 62 Loami | 4/24/2003 | 5:05 PM | 1.00 in. |
| | 63 Springfield | 4/24/2003 | 5:45 PM | 1.00 in. |
| | 64 Jerome | 5/8/2003 | 10:25 PM | 0.88 in. |
| | 65 Pleasant Plains | 5/9/2003 | 6:52 PM | 1.00 in. |
| | 66 Springfield | 5/9/2003 | 9:53 PM | 0.75 in. |
| | 67 Loami | 5/10/2003 | 6:40 AM | 1.75 in. |
| | 68 Springfield | 8/3/2003 | 10:53 PM | 0.75 in. |
| 2004 | 69 Loami | 5/23/2004 | 5:18 PM | 1.00 in. |
| 2005 | 70 Springfield | 3/30/2005 | 3:50 PM | 0.88 in. |
| | 71 Springfield | 5/11/2005 | 4:45 PM | 0.88 in. |
| | 72 Chatham | 5/11/2005 | 4:53 PM | 0.75 in. |
| | 73 Riverton | 9/19/2005 | 5:35 PM | 1.00 in. |
| | 74 Riverton | 9/19/2005 | 9:04 PM | 1.75 in. |

| | | | | |
|---|---|---|---|---|
| | 75 Springfield | 11/5/2005 | 9:35 PM | 0.88 in. |
| 2006 | 76 Pleasant Plains | 3/11/2006 | 6:34 PM | 0.88 in. |
| | 77 New Berlin | 3/11/2006 | 6:51 PM | 1.00 in. |
| | 78 Springfield | 3/11/2006 | 7:05 PM | 0.75 in. |
| | 79 New Berlin | 3/12/2006 | 7:53 PM | 1.75 in. |
| | 80 Springfield | 3/12/2006 | 8:15 PM | 1.00 in. |
| | 81 Springfield | 3/12/2006 | 8:27 PM | 0.75 in. |
| | 82 Auburn | 4/30/2006 | 2:27 PM | 0.75 in. |
| | 83 Chatham | 4/30/2006 | 2:39 PM | 0.75 in. |
| | 84 Riverton | 6/26/2006 | 5:16 PM | 0.88 in. |
| | 85 Williamsville | 7/19/2006 | 4:08 PM | 0.88 in. |
| | 86 Chatham | 7/19/2006 | 4:44 PM | 0.88 in. |
| | 87 Springfield | 9/22/2006 | 5:50 PM | 0.75 in. |
| | 88 Sherman | 9/22/2006 | 5:54 PM | 1.00 in. |
| 2007 | 89 Sherman | 4/3/2007 | 9:55 AM | 0.75 in. |
| | 90 Spaulding | 7/10/2007 | 6:21 PM | 0.75 in. |
| 2008 | 91 New Berlin | 4/25/2008 | 5:04 PM | 0.75 in. |
| | 92 Berlin | 5/30/2008 | 4:35 PM | 1.25 in. |
| | 93 Springfield | 5/30/2008 | 5:25 PM | 1.75 in. |
| | 94 Mechanicsburg | 5/30/2008 | 5:33 PM | 1.75 in. |
| | 95 New Berlin | 5/30/2008 | 6:16 PM | 0.75 in. |
| | 96 Prouty | 5/30/2008 | 6:20 PM | 3.00 in. |
| | 97 Pawnee | 5/30/2008 | 6:34 PM | 1.75 in. |
| | 98 Chatham | 5/30/2008 | 6:36 PM | 1.75 in. |
| | 99 Divernon | 5/30/2008 | 6:40 PM | 2.50 in. |
| | 100 Chatham | 5/30/2008 | 6:45 PM | 1.50 in. |
| | 101 Buffalo | 6/15/2008 | 2:52 PM | 0.75 in. |
| | 102 Sherman | 6/22/2008 | 4:14 PM | 0.75 in. |
| | 103 Chatham | 7/11/2008 | 2:35 PM | 0.88 in. |
| | 104 Jerome | 7/21/2008 | 8:57 PM | 0.75 in. |
| 2009 | 105 Williamsville | 5/7/2009 | 4:23 PM | 1.75 in. |
| | 106 Williamsville | 5/7/2009 | 4:28 PM | 0.75 in. |
| | 107 Williamsville | 5/7/2009 | 4:36 PM | 0.88 in. |
| | 108 Williamsville | 5/7/2009 | 5:01 PM | 0.88 in. |
| | 109 Divernon | 5/7/2009 | 5:03 PM | 0.75 in. |
| | 110 Cantrall | 5/15/2009 | 4:28 PM | 1.75 in. |
| | 111 Springfield | 5/15/2009 | 5:45 PM | 1.75 in. |
| | 112 Springfield | 5/15/2009 | 5:45 PM | 0.88 in. |
| | 113 Springfield | 5/15/2009 | 5:49 PM | 0.75 in. |
| | 114 Buffalo | 5/30/2009 | 5:49 PM | 1.00 in. |
| | 115 Springfield | 7/28/2009 | 1:56 PM | 0.88 in. |
| | 116 Springfield | 7/28/2009 | 2:05 PM | 1.50 in. |
| | 117 Riverton | 7/28/2009 | 2:10 PM | 1.00 in. |
| 2010 | 118 Riverton | 5/24/2010 | 6:35 PM | 0.75 in. |
| | 119 Springfield | 5/25/2010 | 10:57 AM | 0.75 in. |
| | 120 Springfield | 5/26/2010 | 2:49 PM | 1.75 in. |
| | 121 Jerome | 5/26/2010 | 3:03 PM | 0.75 in. |
| | 122 Springfield | 5/26/2010 | 3:45 PM | 0.75 in. |
| | 123 Springfield | 6/21/2010 | 3:30 AM | 0.75 in. |
| | 124 Springfield | 9/2/2010 | 4:46 PM | 0.75 in. |
| 2011 | 125 Toronto | 4/15/2011 | 4:45 PM | 1.75 in. |
| | 126 Springfield | 4/15/2011 | 4:55 PM | 1.75 in. |

| | | | | |
|---|---|---|---|---|
| | 127 Pawnee | 4/15/2011 | 4:59 PM | 1.75 in. |
| | 128 Chatham | 4/15/2011 | 5:06 PM | 1.00 in. |
| | 129 Southlawn | 4/15/2011 | 5:12 PM | 1.75 in. |
| | 130 Springfield Airport | 4/15/2011 | 5:22 PM | 1.75 in. |
| | 131 Buffalo | 4/15/2011 | 6:00 PM | 0.88 in. |
| | 132 New Berlin | 4/19/2011 | 4:50 PM | 0.88 in. |
| | 133 New Berlin | 4/19/2011 | 4:55 PM | 1.00 in. |
| | 134 Sherman | 4/19/2011 | 4:57 PM | 1.25 in. |
| | 135 Sherman | 4/19/2011 | 5:00 PM | 1.00 in. |
| | 136 Williamsville | 4/19/2011 | 5:10 PM | 1.00 in. |
| | 137 Williamsville | 5/22/2011 | 2:11 PM | 0.75 in. |
| | 138 Springfield | 5/22/2011 | 2:35 PM | 0.75 in. |
| | 139 Springfield | 5/22/2011 | 2:37 PM | 0.75 in. |
| | 140 Southern View | 5/22/2011 | 2:40 PM | 0.88 in. |
| | 141 Leland Grove | 5/22/2011 | 2:40 PM | 1.00 in. |
| | 142 Mechanicsburg | 5/25/2011 | 4:07 PM | 1.25 in. |
| | 143 Leland Grove | 5/28/2011 | 1:27 PM | 1.00 in. |
| | 144 Springfield | 5/28/2011 | 1:30 PM | 1.00 in. |
| | 145 Grandview | 5/28/2011 | 1:32 PM | 1.75 in. |
| | 146 Grandview | 5/28/2011 | 1:35 PM | 1.50 in. |
| | 147 Springfield Airport | 5/28/2011 | 1:37 PM | 1.25 in. |
| | 148 Riverton | 5/28/2011 | 1:40 PM | 0.75 in. |
| | 149 Sangamon County | 6/18/2011 | 6:49 AM | 0.75 in. |
| | 150 Sangamon County | 6/25/2011 | 7:04 PM | 1.00 in. |
| | 151 Sangamon County | 6/25/2011 | 7:50 PM | 0.88 in. |
| | 152 Sangamon County | 6/25/2011 | 8:13 PM | 1.00 in. |
| | 153 Leland Grove | 8/13/2011 | 3:08 PM | 0.88 in. |
| | 154 Loami | 8/13/2011 | 3:25 PM | 0.88 in. |
| | 155 Divernon | 8/13/2011 | 3:43 PM | 2.00 in. |
| | 156 Cimic | 8/13/2011 | 3:48 PM | 0.75 in. |
| | 157 Chatham | 8/13/2011 | 4:28 PM | 0.75 in. |
| 2012 | 158 Loami | 1/17/2012 | 1:04 AM | 0.75 in. |
| | 159 Loami | 3/2/2012 | 7:41 AM | 0.75 in. |
| | 160 Loami | 3/2/2012 | 8:35 AM | 0.88 in. |
| | 161 Grandview | 3/2/2012 | 8:44 AM | 0.75 in. |
| | 162 Mildred | 3/2/2012 | 8:50 AM | 0.75 in. |
| | 163 Cantrall | 3/15/2012 | 7:14 PM | 1.00 in. |
| | 164 Sherman | 3/15/2012 | 7:15 PM | 1.00 in. |
| | 165 Sherman | 3/15/2012 | 7:20 PM | 1.00 in. |
| | 166 Sherman | 3/15/2012 | 7:24 PM | 0.75 in. |
| | 167 Sherman | 3/15/2012 | 7:27 PM | 0.88 in. |
| | 168 Springfield | 3/15/2012 | 7:30 PM | 0.88 in. |
| | 169 Mechanicsburg | 5/20/2012 | 4:42 PM | 0.75 in. |
| | 170 Springfield Airport | 5/20/2012 | 5:05 PM | 0.75 in. |
| 2013 | 171 Dawson | 4/10/2013 | 3:55 PM | 0.75 in. |
| | 172 Riverton | 4/15/2013 | 11:08 PM | 0.75 in. |
| | 173 Sherman | 6/21/2013 | 3:45 PM | 0.88 in. |
| | 174 Springfield | 6/21/2013 | 4:10 PM | 1.00 in. |
| | 175 Williamsville | 6/24/2013 | 4:19 PM | 0.88 in. |
| | 176 Williamsville | 6/24/2013 | 4:25 PM | 1.00 in. |
| 2014 | 177 Auburn | 4/3/2014 | 3:58 AM | 0.75 in. |

*prior to 1993 specific locations were not recorded

**Previous occurrences of severe storms in Sangamon County.**

Severe storms occur with regularity in Sangamon County. Some examples of damage done are:

- Power outages leaving thousands of people without electricity.
- Numerous trees damaged or destroyed.
- In July 1994 many windows were broken at the grade school in Cantrall.
- In July 2001 two semitrailers were blown over on I-72 north of Curran.
- In February 1999 roof damage was done to the Illinois Supreme Court Building.
- Grain bins have been blown over and machine sheds damaged.
- In August 1987 fifty-eight people sustained minor injuries at the Illinois State Fair.
- Homes have been damaged and some mobile homes have been destroyed.
- Businesses have temporarily closed due to power outages.

Figures 44 and 45 show the breakdown of months and times of day when severe storms have occurred in Sangamon County from January 1955 through April 2014. Thunderstorms are most likely to occur in Central Illinois in the months of April through August and during the evening hours of 4:00 – 9:00 PM. Hailstorms are most likely to occur during April and May, also between the hours of 4:00 – 9:00 PM.

**Figure 44 Thunderstorms in Sangamon County from 1/1/1955 – 4/30/2014**

| Month | # Events |
|---|---|
| January | 2 |
| February | 2 |
| March | 14 |
| April | 35 |
| May | 53 |
| June | 44 |
| July | 42 |
| August | 26 |
| September | 6 |
| October | 9 |
| November | 7 |
| December | 8 |
| TOTAL | 248 |

| Time of Day | # of Events |
|---|---|
| Midnight - 5:00 AM | 28 |
| 5:00 AM - Noon | 21 |
| Noon - 4:00 PM | 68 |
| 4:00 PM - 9:00 PM | 101 |
| 9:00 PM - Midnight | 30 |
| TOTAL | 248 |

**Figure 45 Hailstorms in Sangamon County from 1/1/1955 – 4/30/2014**

| Month | # of Events |
|---|---|
| January | 1 |
| February | 1 |
| March | 21 |
| April | 47 |
| May | 57 |
| June | 19 |
| July | 12 |
| August | 10 |
| September | 7 |
| October | 1 |

| Time of Day | # of Events |
|---|---|
| Midnight - 5:00 AM | 9 |
| 5:00 AM - Noon | 13 |
| Noon - 4:00 PM | 47 |
| 4:00 PM - 9:00 PM | 97 |
| 9:00 PM - Midnight | 11 |
| TOTAL | 177 |

| | |
|---|---|
| November | 1 |
| December | 0 |
| TOTAL | 177 |

**Probability of future events.**

Severe storms are expected in Sangamon County. During the 59-year period from 1955 – 2014 there were 248 thunderstorms with severe winds that occurred during 51 of the years. (There were no severe thunderstorms recorded during nine of these years.) This indicates an 85% probability that in any given year at least one thunderstorm with severe winds will occur. During 43 years more than one such storm occurred. This indicates a 72% probability that in any given year more than one thunderstorm with severe winds will hit Sangamon County.

Hail events were reported during 36 of these 60 years. This indicates a 60% probability that in any given year a hailstorm will occur. During 26 years more than one hailstorm occurred. This indicates a 43% probability that in any given year more than one hailstorm will hit somewhere in Sangamon County.

Figure 42 (on the previous page) presents data on thunderstorms with high winds that have occurred in Sangamon County over the 59-year period from January 1, 1955 through April 30, 2014. During 50 of these years there was at least one thunderstorm with severe winds. Wind speeds are available for 95 of these thunderstorms and ranged from 50 knots to 95 knots. The thunderstorm with 95 knot wind speeds occurred in 1957 and produced the one F4 tornado that hit Sangamon County during this time period. The winds associated with thunderstorms in Sangamon County have otherwise averaged 56 knots (about 64.4 mph).

## SEVERE STORMS-Assessing Vulnerability

With the presence of lightning, high winds, driving rain, and hail posing the threat of injury and death, severe storms are a danger to people.

Additionally, building damage can occur from flying and falling debris, lightning strikes, blowing wind, hail, and rain if windows are broken, roofs are compromised, or other damage occurs. If one-third of the planning area were affected by a severe storm and 1% of the buildings sustained some damage then the costs could be:

> $14,129,314,901 (total value of all buildings) x .33 = $4,662,673,917 (value of 1/3 of buildings)
>
> $4,662,673,917 (value of 1/3 of buildings) x .01 = $40,090,373 (value of 1% of 1/3 of buildings = building value exposed to damage)

The critical facility that is most often a concern during a severe storm is the electrical supply infrastructure. Winds, lightning, and falling trees can damage power lines requiring many dollars and hours of work to repair. People's lives are disrupted by power outages and there is an economic impact to businesses when they are unable to operate.

# TORNADO HAZARD

## TORNADO – Description

**What is a tornado?**
(from the 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.

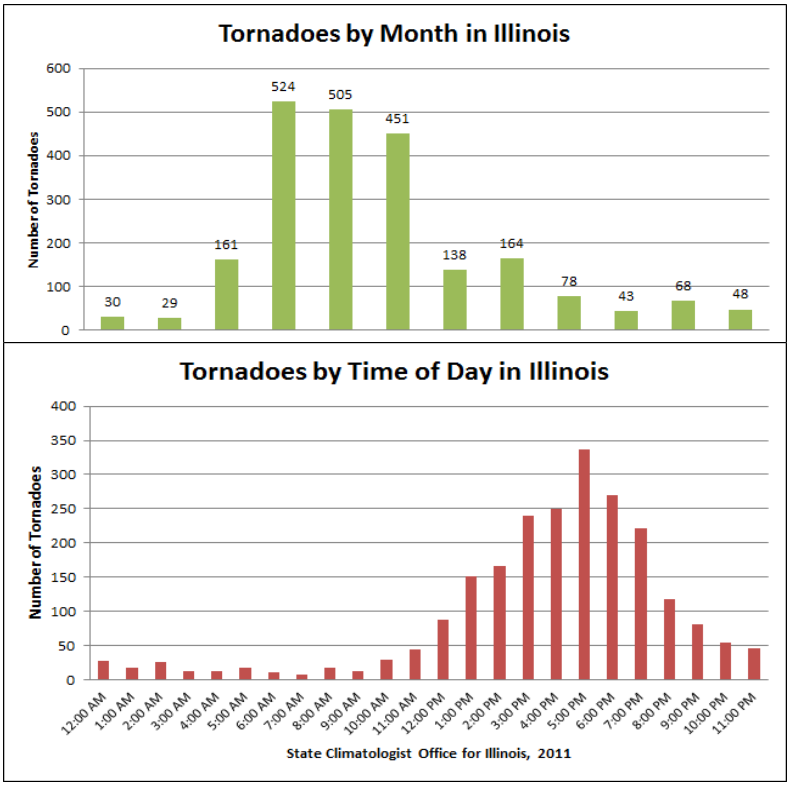
Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible.

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.

The following are 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.

**Figure 46 Previous Illinois Tornado Occurrences** (from: Illinois State Climatologist)




## How are tornados rated?

The classification system used for tornados is the Fujita Scale, which is based on wind speed and damage caused. The original scale is shown in Figure47. On February 1, 2007 an Enhanced Fujita Scale (see Figure48) was implemented, although it would not apply to the historical data given for Sangamon County.

**Figure 47 Original Fujita Scale** (from: Illinois State Water Survey)

| Scale | Wind Speeds | Typical Damage |
|---|---|---|
| F-0 | 40-72 mph | tree branches broken |
| F-1 | 73-112 mph | mobile homes pushed off foundation |
| F-2 | 113-157 mph | considerable damage, mobile home demolished, trees uprooted |
| F-3 | 158-205 mph | roofs and walls blown down, cars thrown |
| F-4 | 207-260 mph | well-constructed buildings leveled |
| F-5 | 261-318 mph | massive destruction, autos thrown as far as 100 meters |

**Figure 48 Comparison of Fujita Scale and Enhanced Fujita Scale**

| Fujita Scale | | | Enhanced Fujita Scale | |
|---|---|---|---|---|
| F Number | Fastest ¼-mile (mph) | 3 Second Gust (mph) | EF Number | 3 Second Gust (mph) |
| 0 | 40-72 | 45-78 | 0 | 65-85 |
| 1 | 73-112 | 79-117 | 1 | 86-110 |
| 2 | 113-157 | 118-161 | 2 | 111-135 |
| 3 | 158-207 | 162-209 | 3 | 136-165 |
| 4 | 208-260 | 210-261 | 4 | 166-200 |
| 5 | 261-318 | 262-317 | 5 | Over 200 |

## TORNADO – Profile

**The locations affected by tornados.**
Tornados can and have occurred throughout the County. The paths of the tornados recorded from 1950 – 2005 are shown in Figure49, paths of the 2006 tornados are shown in Figures 50 and 51, and the path of the 2009 tornados are shown in Figure 52.

**Figure 49 Tornados in Sangamon County 1950 - 2005** (from: National Weather Service)

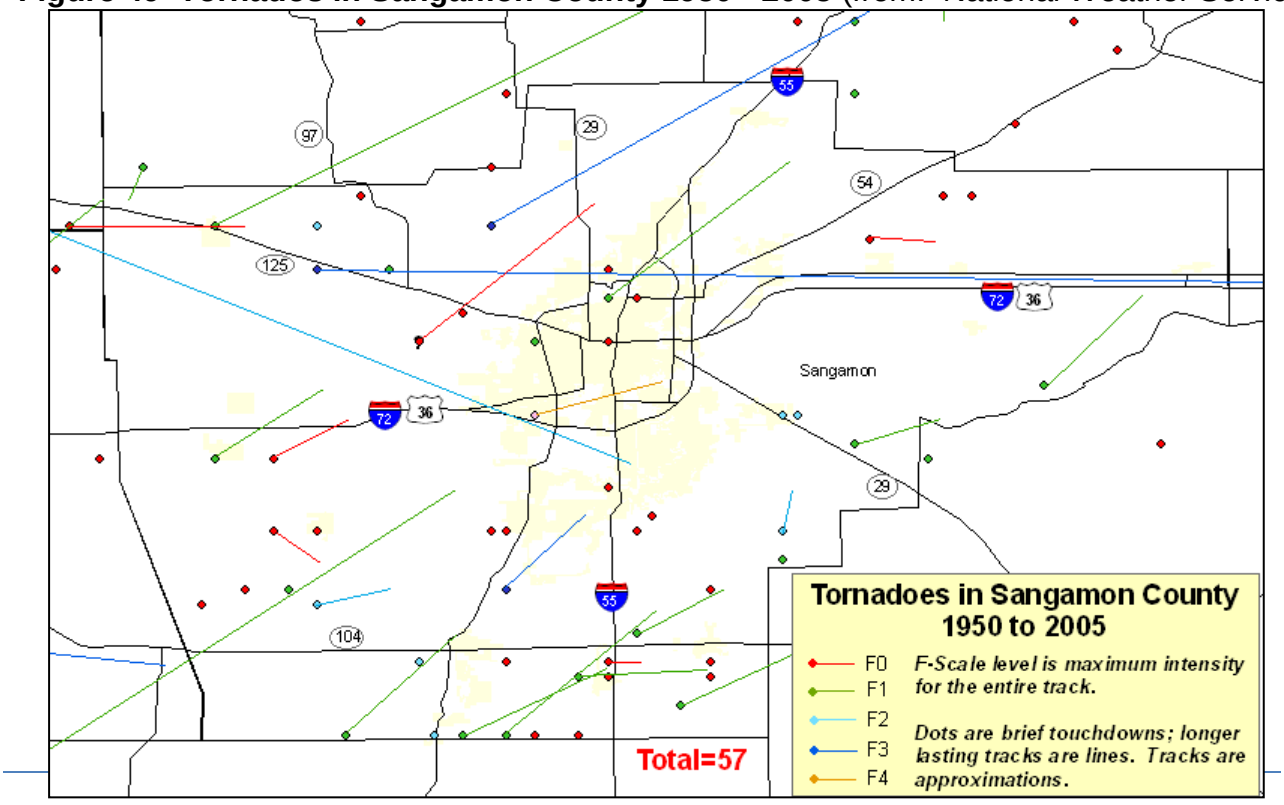


**Figure 50 Tornado Tracks of March 12, 2006** (from: National Weather Service)

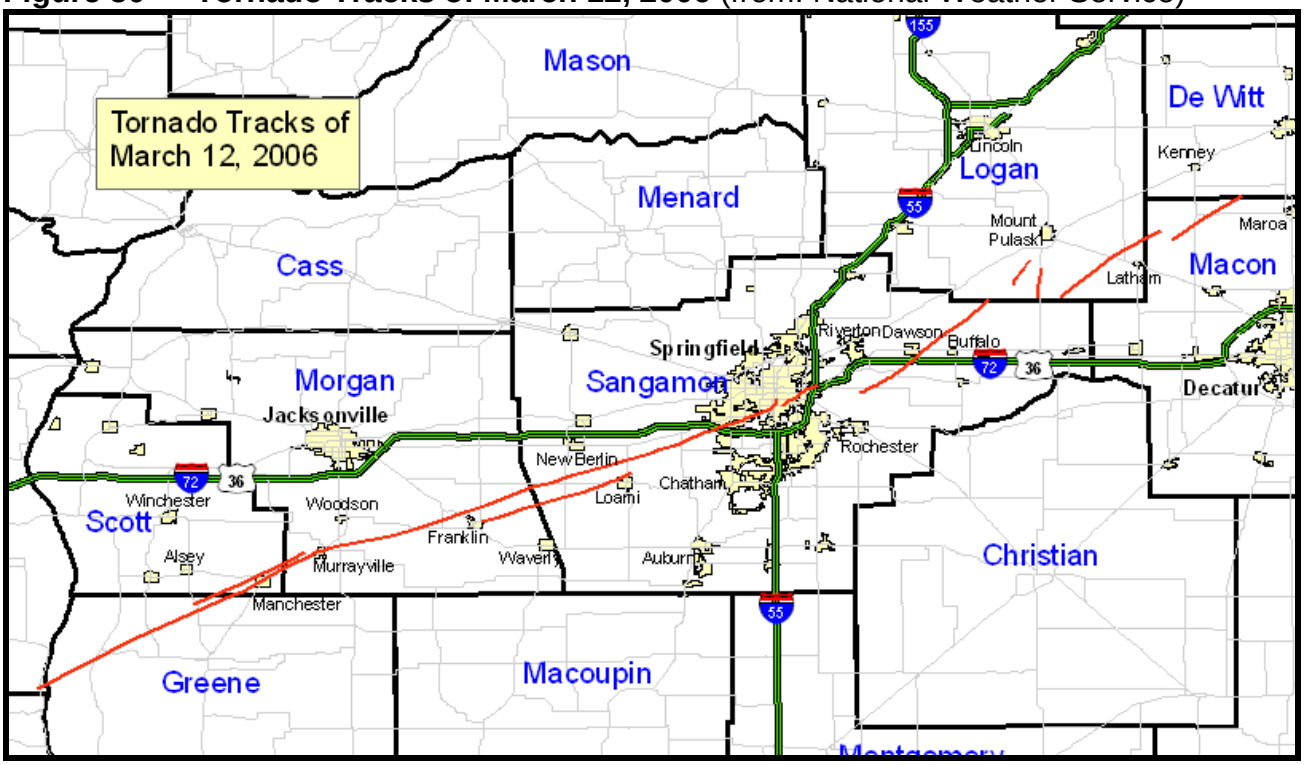



**Figure51 Tornado Tracks of August 19, 2009** (from USDA Farm Service Agency)

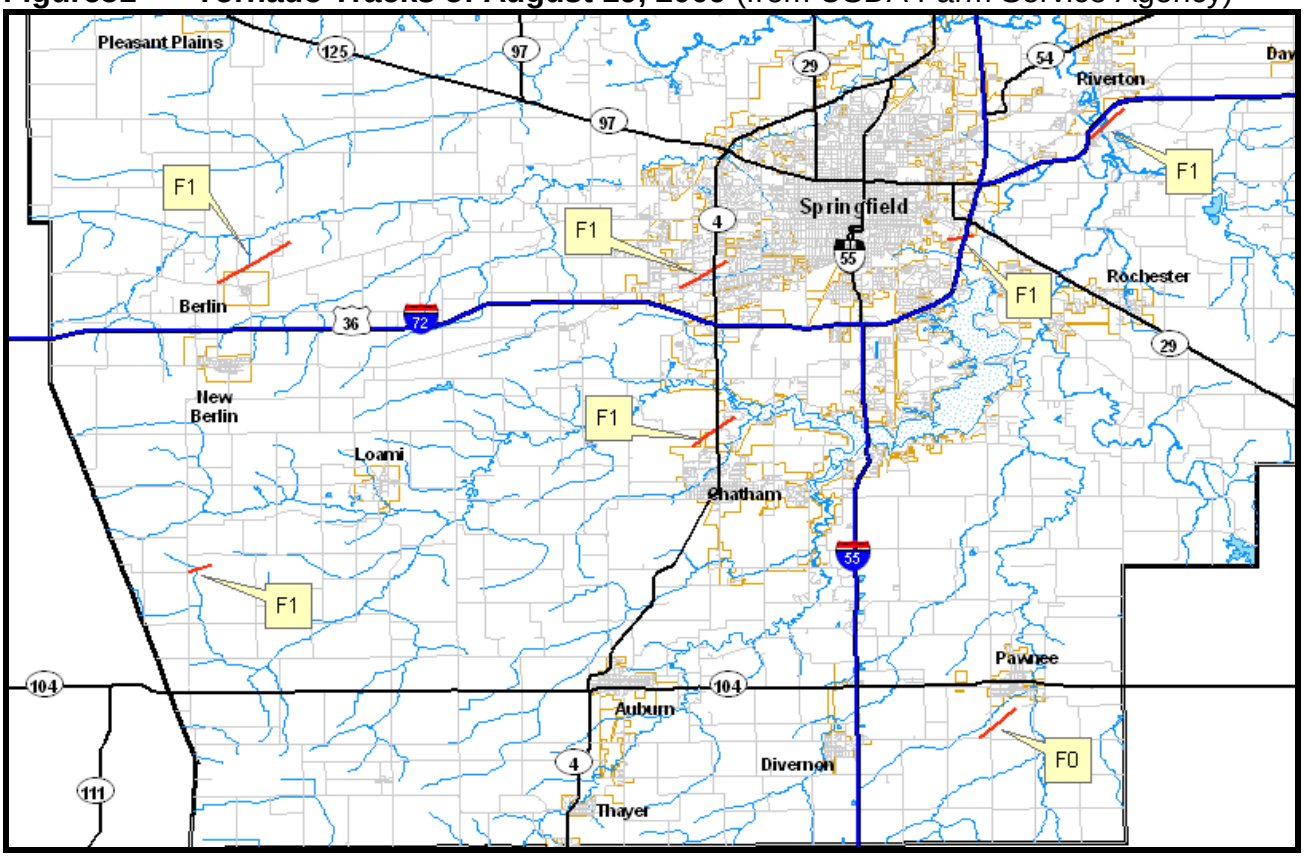
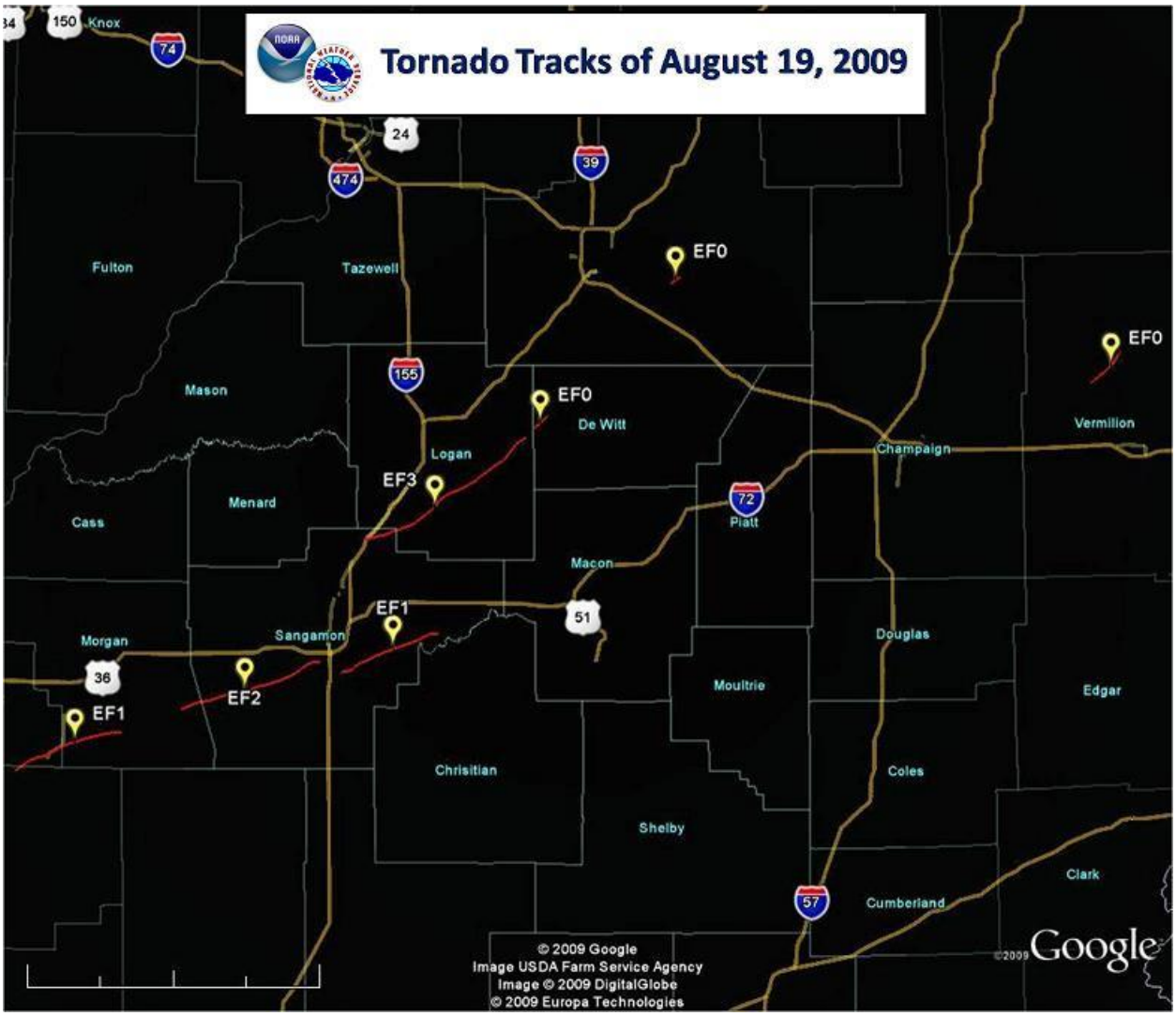


**Figure52** **Tornado Tracks of April 2, 2006** (from National Weather Service)

**Figure51** **Tornado Tracks of August 19, 2009** (from USDA Farm Service Agency)




**The extent of previous occurrences of tornados in Sangamon County.**

**Figure53** **Tornados Reported in Sangamon County from January 1, 1950 – April 30, 2014**

| Date | Time | Magnitude | Deaths | Injuries | Property Damage |
|---|---|---|---|---|---|
| 3/12/1954 | 6:00 PM | F1 | 0 | 0 | 250K |
| 5/13/1957 | 11:00 AM | F1 | 0 | 0 | 0 |
| 6/14/1957 | 2:00 PM | F4 | 2 | 50 | 2.5M |
| 6/23/1960 | 2:50 AM | F2 | 0 | 0 | 250K |
| 5/14/1961 | 10:10 PM | F1 | 0 | 0 | 250K |
| 5/26/1962 | 5:30 AM | F2 | 0 | 0 | 3K |

| | | | | | |
|---|---|---|---|---|---|
| 4/22/1963 | 5:30 PM | F3 | 1 | 5 | 250K |
| 4/2/1964 | 6:45 PM | F2 | 0 | 0 | 25K |
| 6/16/1973 | 9:58 PM | F0 | 0 | 0 | 0 |
| 8/14/1975 | 5:58 PM | F2 | 0 | 0 | 25K |
| 11/29/1975 | 11:20 PM | F1 | 0 | 1 | 250K |
| 8/6/1977 | 3:25 - 4:10 PM | 6-F0, 9-F1, 1-F2, 1-F3 | 0 | 0 | 3.8M |
| 7/26/1978 | 3:30 PM | F? | 0 | 0 | 250K |
| 7/10/1980 | 5:00 AM | F2 | 0 | 0 | 250K |
| 6/8/1981 | 8:40 PM | F0 | 0 | 0 | 0 |
| 7/14/1985 | 11:44 PM | F0 | 0 | 0 | 25K |
| 5/16/1986 | 4:20 - 4:25 PM | 2-F0 | 0 | 0 | 0 |
| 5/8/1988 | 5:18 PM | F2 | 0 | 0 | 250K |
| 6/2/1990 | 4:30 PM | F1 | 0 | 0 | 25K |
| 6/20/1990 | 12:15 AM | F1 | 0 | 0 | 25K |
| 4/19/1996 | 5:32 PM | F0 | 0 | 0 | 250K |
| 5/27/1996 | 9:45 PM | F0 | 0 | 0 | 0 |
| 6/29/1998 | 4:30 - 4:36 PM | 2-F0 | 0 | 0 | 130K |
| 4/8/1999 | 7:53 PM | F0 | 0 | 0 | 0 |
| 4/20/2000 | 8:05 PM | F0 | 0 | 0 | 0 |
| 5/12/2000 | 3:30 PM | F0 | 0 | 0 | 0 |
| 6/20/2000 | 6:44 PM | F0 | 0 | 0 | 1K |
| 3/19/2003 | 1:25 PM | F0 | 0 | 0 | 0 |
| 5/9/2003 | 6:40 PM | F0 | 0 | 0 | 0 |
| 5/10/2003 | 6:53 - 6:58 AM | 3-F0 | 0 | 0 | 45K |
| 6/11/2003 | 5:20 - 5:22 AM | 2-F0 | 0 | 0 | 0 |
| 5/23/2004 | 6:27 PM | F0 | 0 | 0 | 0 |
| 5/24/2004 | 11:09 PM | F1 | 0 | 0 | 0 |
| 8/26/2004 | 5:09 PM | F0 | 0 | 0 | 0 |
| 3/12/2006* | 8:00 - 8:32PM | 1-F1, 3-F2 | 0 | 0 | unknown |
| 4/2/2006* | 5:46 - 6:13 PM | 1-F0, 6-F1 | 0 | 0 | unknown |
| 9/6/2007* | 5:28 PM | F0 | 0 | 0 | 0 |
| 5/30/2008* | 6:23 PM | EF1 | 0 | 0 | 63K |
| 3/8/2009* | 10:32 AM | EF1 | 0 | 2 | 610K |
| 8/19/2009* | 1:51 PM - 2:19 PM | 1-EF2, 1-EF1, 1-EF0 | 0 | 20 | 15.2M |
| 2/20/2014* | 3:43 PM - 3:57 PM | 1 - EF0, 1 EF-1 | 0 | 0 | 1.02M |

(* from: National Climatic Data Center and National Weather Service

**Previous occurrences.**

Central Illinois is a prime area for tornados. During the time period of January 1, 1950 through February 20, 2014 there were 74 tornados reported. These occurred during 41 weather events, nine of which included more than one tornado (see Figure 53).

For the time period between 1950 and 2012, Sangamon County is fourth in the State for the number of tornados per 100 square miles, behind Will, Logan, and McLean Counties. During that time period, Sangamon County recorded total losses of $24,346,750 with an average of $338,149.31 in property damage per event (source: Illinois Hazard Mitigation Plan).

Following is statistical data related to tornado events in Sangamon County.

**Figure 54 Sangamon County Tornados 1/1/1950-4/30/2014**

| Time of Day | Number of Events | Number of Tornadoes |
|---|---|---|
| 5:00 am - 8:00 am | 4 | 7 |
| 8:00 - 11:00 am | 1 | 1 |
| 11:00 am - 3:00 pm | 4 | 6 |
| 3:00 pm - 10:10 pm | 27 | 55 |
| 11:00 pm - 2:50 am | 5 | 5 |
| TOTAL | 41 | 74 |

| Month | Number of Events | Number of Tornadoes |
|---|---|---|
| January | 0 | 0 |
| February | 1 | 2 |
| March | 4 | 7 |
| April | 6 | 12 |
| May | 12 | 15 |
| June | 9 | 11 |
| July | 3 | 3 |
| August | 4 | 22 |
| September | 1 | 1 |
| October | 0 | 0 |
| November | 1 | 1 |
| December | 0 | 0 |
| TOTAL | 41 | 74 |

| Magnitude | Number of Tornadoes | Percent of Total |
|---|---|---|
| F0 | 30 | 45% |
| F1 | 23 | 34% |
| F2 | 10 | 15% |
| F3 | 2 | 3% |
| F4 | 1 | 1.5% |
| unknown | 1 | 1.5% |
| TOTAL | 67 | 100% |

| Magnitude | Number of Tornadoes | Percent of Total |
|---|---|---|
| EF0 | 2 | 29% |
| EF1 | 4 | 57% |
| EF2 | 1 | 14% |
| EF3 | 0 | 0% |
| EF4 | 0 | 0% |
| EF5 | 0 | 0% |
| TOTAL | 7 | 100% |

The months of April, May and June are the most likely time for weather events that spawn tornados, although in August 1977 one weather event produced 17 different tornados in the County.

Most of Sangamon County's tornados have been of a lower magnitude, although very destructive tornados can and do occur.

Seventy-nine percent of the tornadoes that occurred from 1950-2007 were lower magnitudes, F0 or F1, although up to $250,000 damage per event was reported. Fifteen percent were rated F2. 4.5% were rated F3 or F4, while the remaining 1.5% were unknown.

In the period 2007-2014, eighty-six percent of the tornadoes that occurred were lower magnitude, EF0 or EF1. The remaining one tornado (14%) was an EF2.

Nine times a single weather event produced more than one tornado. In August 1977, seventeen tornadoes touched down over a 45-minute period. Three people have been killed and 78 people injured by tornado events since 1950 in Sangamon County.

The most damaging tornado touched down on June 14, 1957 and was rated F4. It caused two deaths, fifty injuries, and $2.5 million in property damage, including 25 homes that were completely destroyed and 175 homes that were severely damaged.

**Probability of future events.**

The paths, magnitudes, and numbers of tornadoes are unpredictable over time, but with the history of tornado events in Sangamon County, the probability of occurrence in any one year is fairly high. As seen in Figure 53, above, in the 65-year period from 1950 to 2014, there were 28 years when at least one tornado was recorded in Sangamon County. This indicates a 43% probability that a tornado will hit somewhere in Sangamon County in any given year. There were 9 years (1957, 1975, 1990, 1996, 2000, 2003, 2004, 2006, and 2009) when more than one weather event spawned a tornado during the 65-year period. This indicates a 14% probability that tornado events will occur more than once during any given year in Sangamon County.

**2006 tornado experiences in Sangamon County.**

The tornados that came through the County in March 2006 caused major destruction and resulted in Presidential Disaster Declaration 1633. The two that came through Springfield and Jerome were rated as F2 and followed a path nearly identical to that of the F4 tornado that hit in 1957.

Although there was substantial property damage in 2006, no deaths or serious injuries were reported. The tornados varied in width from 100 yards to ½ mile. Many homes and businesses were damaged, some completely destroyed. Extensive damage occurred to electrical lines, telephone lines, and cable television lines with service unavailable for several days to over a week in areas hit by the tornados. There were numerous damaged and downed trees which in turn created damage to buildings, fences, utility lines, vehicles and blocked roadways. Recovery efforts started immediately, but with the extensive damage, debris removal alone took many months and property owners waited months and in some cases over a year for building repairs to be completed. Some businesses never reopened.

According to an article in the State Journal Register some of the costs of tornado damage were:

| | |
|---|---|
| FEMA Assistance to Local Governments: | $12,774,995 |
| FEMA Housing Assistance: | $ 632,985 (264 households) |
| FEMA Moving/Storage/Personal Property/Transportation | $ 434,269 (340 households) |
| FEMA Assistance to Those Put Out of Work | $ 34,761 (24 applicants) |
| American Red Cross | $ 588,564 (699 cases) |
| CWLP Utility Infrastructure Repair | $11,600,000 |

**2009 tornado experience in Sangamon County.**

On August 19, 2009, Sangamon County experienced three separate tornados resulting in injuries and property damage. The first tornado, rated an EF2, crossed into western Sangamon County and moved east-northeast through the southern part of Loami. It lifted four miles northeast of Chatham at 3:16 p.m. The tornado started out around 200 yards wide and peaked around a quarter mile wide in rural portions of the county. It was about 200 yards wide as it passed through Loami where nine homes were destroyed and fifteen others severely damaged. Along its path, the tornado produced damage to several homes, machine sheds, and major tree and crop damage.

The second tornado first touched down six miles south-southeast of downtown Springfield on the west bank of Lake Springfield at 3:17 p.m. The tornado crossed the lake and tracked to a point southeast of Rochester then lifted two miles south-southeast of Mechanicsburg at 3:37 p.m. This tornado was rated an EF1 and resulted in no significant damage.

The third tornado touched down on the west side of Williamsville just west of I-55 at 3:19 p.m. and continued to move northeast through the village. There was no loss of life although several people sustained injuries. The width of the tornado through town ranged from 100 to 150 yards, had a maximum wind speed of 135 mph and was rated an EF2 while in Williamsville. As it left the village, the tornado gained momentum to an EF3 level and caused damage to homes, machine sheds, garages, and crops.

The damage included the total destruction of an antique mall, damage to a Casey's General Store causing the gas pump canopy to collapse, significant damage to a church, damage to a farm chemical business, and storage buildings. There were also losses of roofs from several houses.

The Illinois Office of Emergency Management staff examined 57 sites in Williamsville and parts of unincorporated Williams Township and estimated the total structural damage to be $6,405,300. Figure 55provides a breakdown of the estimated damages.

**Figure 55 2009 Tornado Losses**

| Williamsville | Losses |
|---|---|
| Nonresidential | $ 3,815,000 |
| Residential - Destroyed | $ 944,100 |
| Residential - Damaged | $ 1,309,000 |
| | |
| Williams Township | |
| Residential | $ 337,200 |
| | |
| **TOTAL LOSSES** | **$ 6,405,300** |

(source: Lincoln Courier, Lincoln, IL 10/19/2009)

## TORNADO –Assessing Vulnerability

The magnitudes of tornados in Sangamon County have ranged from F0 – F4 although F5 tornados have occurred in other parts of Illinois so an F-5 tornado is not out of the realm of possibility here. The design wind speed for our area is 250 mph.

There is a high likelihood that any given tornado in Sangamon County will be of a lower rating (EF0 or EF1) although substantial damage has occurred at these magnitudes. Although less likely, tornados of higher intensity have occurred and should be addressed in the calculation of potential damage.

An EF4 tornado can cause substantial damage, leveling even well-constructed buildings. According to the Illinois State Water Survey website an EF4 tornado can have a path over 1,200 feet wide and over 20 miles long. This would translate to approximately 4.5 square miles of damage.

The first F2 tornado to hit Springfield on March 12, 2006 had already been on the ground for 60 miles. It traveled approximately 13 of those miles through an unincorporated area of the County and then continued for 5.5 miles through the urbanized area with a width ranging from 900 feet to 2,640 feet. The 2009 tornado which occurred on August 19, 2009 continued for 4.5 miles primarily through the Village of Williamsville.

Using the above information, the damage that could have been caused if the 2006 tornado had been of the magnitude of an EF4 tornado is extrapolated as follows.

Unincorporated Area of Sangamon County
13 miles x 1,200 feet (.23 mile) width = 3 square miles or .4% of the entire unincorporated area

.004 x $1,864,123,450 (total value of buildings in the unincorporated area) = $7,456,494 if property is damaged at 100% of value

Urbanized Area-Springfield
4.5 miles x 1,200 feet (.23 mile) = 1.035 square miles or 2% of the area of Springfield

.02 x $8,504,333,579 (total value of buildings in Springfield) = $170,086,672 if property is damaged at 100% of value

Urbanized Area-Jerome

1 mile x 1,200 feet (.23 mile) = .23 square mile or 58 % of the area of Jerome

.58 x $60,485,110 (total value of buildings in Jerome) = $35,081,364 if property is damaged at 100% of value

Total

$7,456,494 + $170,086,672 + $35,081,364 = $212,624,530 potential property damage at 100% of value

The “value of buildings” figures are based on the property tax assessment-based market value for all but critical facilities for which replacement value based on square footage was used. Since the damage to buildings caused by the F4 tornado in 1957 was complete or severe, this would be a likely scenario for another such occurrence. An F4 tornado is estimated to damage 50% of a structures value. If the structure is a manufactured home, an F4 will result in 100% damage.

Fifty percent damage of structures would be $106,312,265. Including contents value as well as damage to vehicles, it would be conceivable that between $106 and $212 million in property damage could occur if an EF4 tornado took the same path as the first tornado that hit Springfield in March 2006.

There is also the expectation that lives would be at great risk. The planning area has a population of 197,465 people (2010 U.S. Census) plus the area attracts tourists from around the world and commuters who travel here to work from nearby counties.

The economic loss to businesses and the community when workplaces are damaged is also a consideration. Businesses can be impacted in the short-term, such as downtime due to power outages, lack of access, and minor damage, or in the long-term if major damage occurs resulting in extended temporary closure or permanent closure.

# WINTER STORM HAZARD

## WINTER STORM – Description

**What is a winter storm?**

Winter storms in Sangamon 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.

The information in Figure 56 was obtain from the National Weather Service in Lincoln, Il and shows historical snow data for Springfield (the only NOAA observing site in Sangamon County).

Figure 56 Average Monthtly Snow Data

| Normal Snowfall (1981-2014) | | | |
|---|---|---|---|
| January | 6.4" | July | 0.0" |
| February | 5.5" | August | 0.0" |
| March | 2.5" | September | 0.0" |
| April | 0.3" | October | Less than 0.1" |
| May | 0.0" | November | 0.6" |
| June | 0.0" | December | 5.6" |
| | | Annual | 20.9" |

The Springfield area can expect about 18 days of snowfall per winter with the largest amount coming in January and February. Of the 11 biggest snowstorms which occurred during a 24 hour period, five (45%) occurred in February, two (18 %) occurred in each of January, March and December.

**Figure 57 Snow Data for Springfield (1881-2014)**

| Frequency of Snowfall Occurrence | |
|---|---|
| 0.1" - 1" | 12 days per year |
| 1 - 2" | 3 days per year |
| 2 - 4" | 2 days per year |
| 4 - 6" | 1 day per year |
| 6" | once every 2 years |
| Total | about 18 days per year |

| Biggest Snowstorms (24 HR) (1881-2014) | |
|---|---|
| March 24-25, 2013 | 17.4" |
| February 28, 2000 | 15.0" |
| January 1-2, 1999 | 13.3" |
| January 30-31, 1914 | 12.6" |
| January 31 - February 1, 2008 | 11.3" |
| February 12-13, 2007 | 11.2" |
| December 19, 1973 | 10.9" |
| February 12, 1894 | 10.7" |
| December 24, 1915 | 10.5" |
| February 23-24, 1965 | 10.3" |
| March 19-20, 1906 | 9.4" |

## WINTER STORM – Profile

**The locations affected by winter storms.**

Winter storms generally occur throughout Central Illinois during any single event and the entire County is affected.

**The extent of previous occurrences of winter storms in Sangamon County.**

Figure 58 presents data on winter storms in the Central Illinois area, including Sangamon County, over the 19-year period from January 1, 1995 to March 31, 2014. During each of the 1995-96, 1996-97, 1997-98, and 2006-07 winter seasons, four winter

storms were documented. During two winter seasons three snowstorms occurred. During three winter seasons two snowstorms occurred. During four winter seasons one snowstorm hit the area. During six winter seasons there were no winter storms.

The amount of snow that falls can vary throughout the County for any one winter storm event (See Figure58). Of the snowstorms cited, the amount of snow ranged from 2" to 17". Along with the snow, heavy winds can create whiteout conditions and drifting. Wind speeds of between 20 and 50 mph have been recorded during snowstorms in Sangamon County.

Eight of these storms included ice or freezing rain.

**Previous occurrences of winter storms in Sangamon County.**

Winter storms create treacherous conditions for travel and dangerous situations when power outages also occur. Figure 58shows data on winter storms in the central Illinois area. The statistics shown are for a multi-county area, but all of these storms hit Sangamon County. In this larger area during the 19 year period 11 people died and 47 people suffered injuries in relation to winter storms.

**Figure 58 Winter Storm Events in Central Illinois from January 1, 1995 – April 30, 2014** (from: National Climatic Data Center)

| Winter Season | Date | Time | Extent | Death | Injuries | Property Damage |
|---|---|---|---|---|---|---|
| 1995-96 | 12/8/95 | 7:00 AM | ≤ 5" snow, low temperatures, 20-30 mph winds, wind chill -45°, blowing snow | 1 | 0 | 0 |
| | 12/18/95 | 7:00 PM | freezing rain, ≤6" snow, 20-30 mph winds, blowing snow | 1 | 0 | 0 |
| | 1/4/96 | 3:00 AM | 2"-7" snow | 0 | 0 | 0 |
| | 1/18/96 | 10:00 AM | low temperatures, ice, 25-35 mph winds, wind chill -40° | 0 | 2 | 0 |
| 1996-1997 | 1/8/97 | 9:00 PM | 3"-11" snow | 0 | 6 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 1/15/97 | 9:00 PM | 4"-6", 20-30 mph winds, blowing snow, low temperatures, wind chill -40° | 1 | 7 | 0 |
| | 1/24/97 | 7:00 AM | freezing rain, sleet, ≤2" snow | 0 | 0 | 0 |
| | 1/26/97 | 5:00 AM | 1"-9" snow | 0 | 9 | 0 |
| 1997-1998 | 12/9/97 | 3:00 PM | ≤ 6" snow | 1 | 0 | 0 |
| | 12/30/97 | 8:00 AM | 3" - 6" snow | 3 | 0 | 0 |
| | 1/14/98 | 6:00 AM | freezing rain, sleet, snow | 0 | 0 | 0 |
| | 3/8/98 | 10:00 PM | freezing rain, snow, 50 mph winds | 2 | 0 | 0 |
| 1998-1999 | 1/1/99 | 12:00 PM | ≤ 6" snow, low temperatures, dangerous wind chills, blowing snow | 1 | 1 | 0 |
| | 3/8/99 | 12:00 PM | freezing rain, 2" - 6" snow | 0 | 5 | 0 |
| 1999-2000 | 3/11/00 | 4:00 AM | 6" - 8" snow, blowing snow | 1 | 9 | 0 |
| 2001-2002 | 2/26/02 | 1:00 AM | 5.5" - 7" snow, 15-40 mph winds, blowing snow | 0 | 0 | 0 |
| | 3/25/02 | 9:00 PM | freezing rain, sleet, 4" - 7" snow, blowing snow | 0 | 0 | 0 |
| 2002-2003 | 2/14/03 | 11:00 PM | 4" - 8" snow, blowing snow | 0 | 0 | 0 |
| 2004-2005 | 11/24/04 | 3:00 PM | 4" - 6" snow, 20-50 mph winds, blowing snow | 0 | 4 | 0 |
| 2006-2007 | 11/29/06 | 10:00 PM | 8" - 12" snow | 0 | 0 | 0 |
| | 12/1/06 | 12:00 AM | 8" - 12" snow | 0 | 4 | $10.0M |
| | 1/12/07 | 2:00 PM | ice storm | 0 | 0 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 2/13/07 | 12:00 AM | freezing rain, sleet, 9"-12" snow, 25-50 mph winds | 0 | 0 | 0 |
| 2007-2008 | 12/8/2007 | 12:00 PM | ice storm, ≤0.4" ice | 0 | 0 | 0 |
| | 12/15/07 | 3:00 AM | 6" - 9" snow | 0 | 0 | 0 |
| | 1/31/08 | 1:00 PM | 9" - 12" snow | 0 | 0 | 0 |
| 2010-2011 | 2/1/11 | 9:30 AM | 9-15" snow, 40-50 mph winds | 0 | 0 | $350K |
| 2012-2013 | 12/20/12 | 1:30 PM | ≤1" snow, blizzard 50+ mph winds | 0 | 0 | 0 |
| | 2/21/13 | 2:30 PM | 5" - 6" snow | 0 | 0 | 0 |
| | 3/24/13 | 2:00 AM | 12"-18" snow | 0 | 0 | 0 |
| 2013-2014 | 1/5/14 | 9:00 AM | 6" - 10" snow | 0 | 0 | 0 |
| | 2/5/14 | 7:00 PM | 6"- 8" snow | 0 | 0 | 0 |
| **TOTALS** | | | | **11** | **47** | **$10.35M** |

In March 1978 an ice storm hit Sangamon County that was accompanied by strong winds and rainfall bringing the area to a halt for many days. Just venturing outdoors was dangerous with power lines and trees falling due to the weight of the ice. The utility line damage was so overwhelming that restoring power took two weeks.

Two additional winter storms of significance occurred in Sangamon County since the adoption of the Natural Hazard Mitigation Plan. As shown on Figure 59, the February 1-2, 2011, snowstorm dumped approximately 15 inches of snow on portions of Sangamon County. This strong storm occurred over two days and caused many problems statewide, not just in Sangamon County. In addition, the largest snowfall in one 24-hour period occurred during the March 24-25, 2013, snowstorm. This snow event included approximately 17.4 inches of snow, as indicated by Figure 58.

**Probability of future events.**

Winter storms are expected in Sangamon County. During the 19-year period from 1995-2014, thirty-two winter storms occurred during thirteen winter seasons. (There were no winter storms recorded during six winter seasons.) This indicates a 68% probability that in any given year at least one winter storm will occur. During nine winter seasons, more than one snowstorm occurred. This indicates a 47% probability that in any given year more than one winter storm will hit Sangamon County.

## WINTER STORMS-Assessing Vulnerability

Winter storms are very disruptive to a community. Roads can become impassable or extremely dangerous. Buses, trains, and airplanes can be cancelled or delayed. With transportation networks disrupted, emergency response can become delayed or non-existent, mail is not delivered, and shipments of food and other consumer items can be delayed. Schools close, businesses close, and some (or all) government services are not available.
There is a toll that can be taken on people related to treacherous road conditions, snow shoveling exertion, and extremely low temperatures. About 70% of injuries caused by winter storms are the result of vehicle accidents while 25% of injuries occur to people caught out in the storm. Of the 11 deaths shown in Figure 58that occurred in the larger Central Illinois region during 1995-2014 nine, or 82%, were due to vehicle accidents, one was due to exposure, and one occurred when a garage overhang collapsed.

Generally, buildings are not damaged on a large scale during a winter storm although a heavy snow could cause roof damage and the accumulation of ice in gutters can cause building damage. The roof snow load for structures in Sangamon County is 30 pounds per square foot. Any building constructed in a community that has adopted building codes must meet this standard.

There is a large cost to road departments for the removal of snow. The Sangamon County Highway Department spent $126,000 to remove the eight inches of snow that fell during the December 15, 2007 snowstorm. The winter storm of February 1 -2, 2011 produced between 9 and 15 inches of snow. The County Highway Department expended $90,534 for snow removal for that winter storm alone while the City of Springfield expended over $276,072.

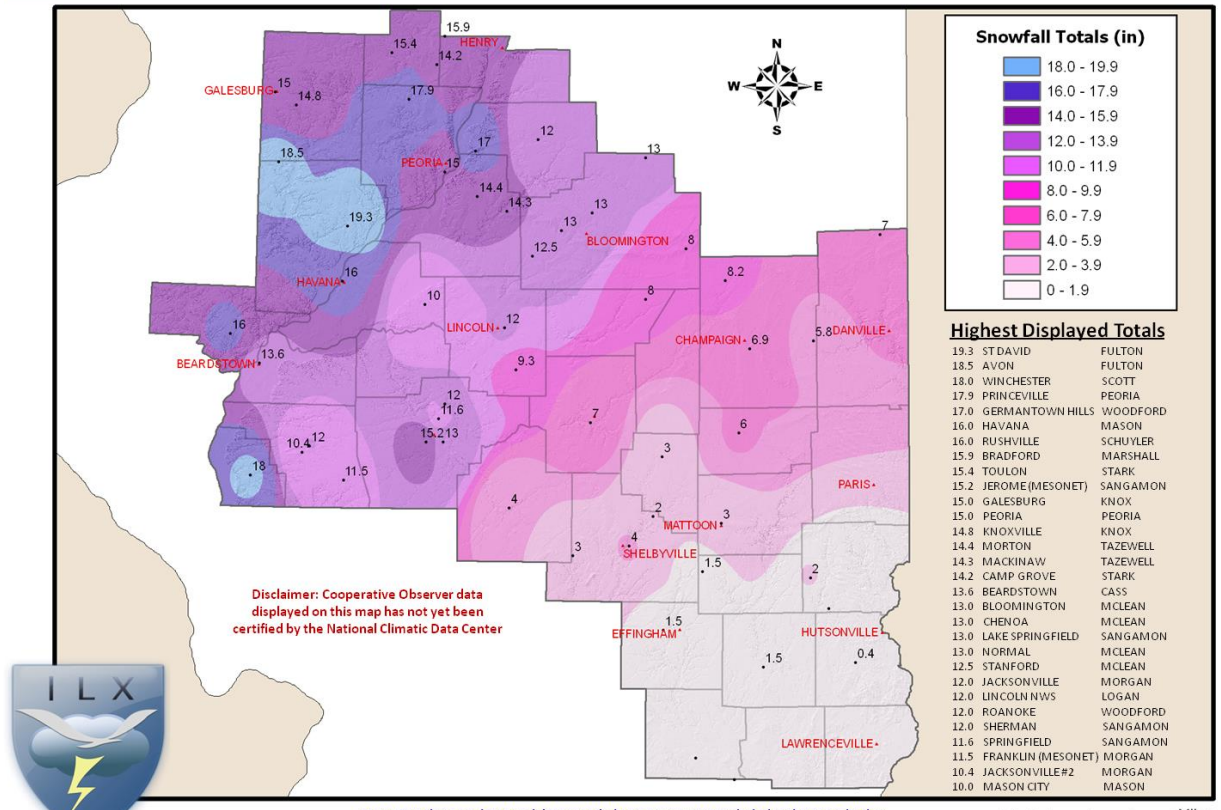
The damage caused to power and communication lines can be extensive with the ability to bring them back on line delayed because of the adverse conditions. The cost of repair can be high and the consequences can range from being inconvenient to life-threatening.

Presidential Disaster Declaration 1681 included Sangamon County and was issued on February 9, 2007 after the massive snow storm that hit a large area of central Illinois.

**Figure 59 Storm Total Snowfall, February 1- 2, 2011**

# National Weather Service - Lincoln, IL

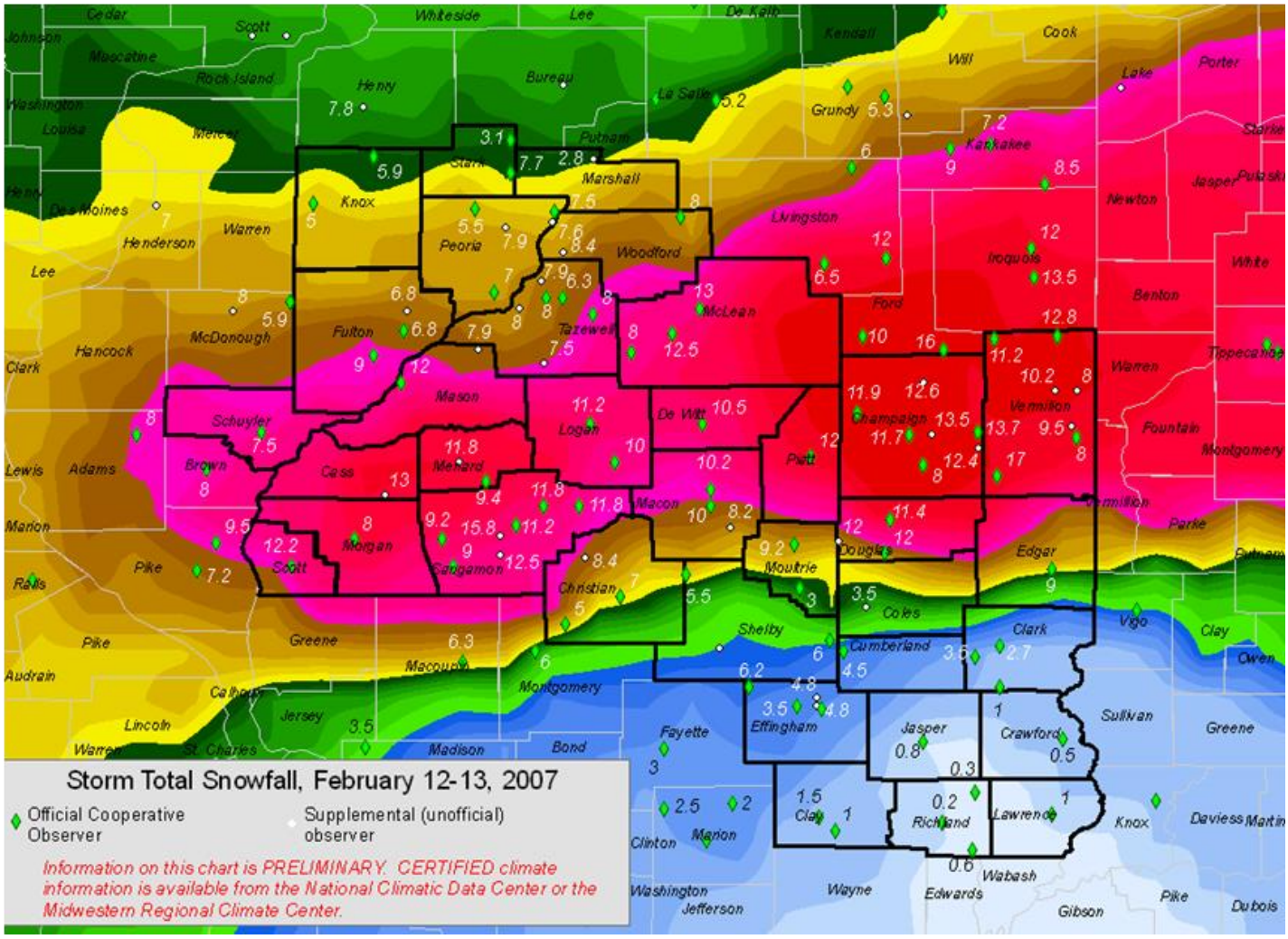
## *Groundhog Day Blizzard 2011 - Official Storm Total Snowfall (2/1-2/2)*




**Highest Displayed Totals**

| | | |
|---|---|---|
| 19.3 | ST DAVID | FULTON |
| 18.5 | AVON | FULTON |
| 18.0 | WINCHESTER | SCOTT |
| 17.9 | PRINCEVILLE | PEORIA |
| 17.0 | GERMANTOWN HILLS | WOODFORD |
| 16.0 | HAVANA | MASON |
| 16.0 | RUSHVILLE | SCHUYLER |
| 15.9 | BRADFORD | MARSHALL |
| 15.4 | TOULON | STARK |
| 15.2 | JEROME (MESONET) | SANGAMON |
| 15.0 | GALESBURG | KNOX |
| 15.0 | PEORIA | PEORIA |
| 14.8 | KNOXVILLE | KNOX |
| 14.4 | MORTON | TAZEWELL |
| 14.3 | MACKINAW | TAZEWELL |
| 14.2 | CAMP GROVE | STARK |
| 13.6 | BEARDSTOWN | CASS |
| 13.0 | BLOOMINGTON | MCLEAN |
| 13.0 | CHENOA | MCLEAN |
| 13.0 | LAKE SPRINGFIELD | SANGAMON |
| 13.0 | NORMAL | MCLEAN |
| 12.5 | STANFORD | MCLEAN |
| 12.0 | JACKSONVILLE | MORGAN |
| 12.0 | LINCOLN NWS | LOGAN |
| 12.0 | ROANOKE | WOODFORD |
| 12.0 | SHERMAN | SANGAMON |
| 11.6 | SPRINGFIELD | SANGAMON |
| 11.5 | FRANKLIN (MESONET) | MORGAN |
| 10.4 | JACKSONVILLE#2 | MORGAN |
| 10.0 | MASON CITY | MASON |

**Figure 60 Storm Total Snowfall, February 12–13, 2007**




## Vulnerability of Future Buildings

Dam failure: the dam failure inundation areas are generally coterminous with the floodplain areas down stream. Future structures will be subject to the building protection requirements of local flood ordinances.

Drought: buildings are not generally affected by drought.

Earthquakes: there is no way to pinpoint where earthquake damage could occur and the probability of occurrence is low. The vulnerability of future buildings to earthquake damage is similar to that of existing buildings.

Extreme heat: buildings are not generally affected by extreme heat.

Floods: all communities in Sangamon County that experience flooding have flood ordinances that require the lowest floor of all new buildings to be elevated to at least one foot above the base flood elevation or any non-residential building to be flood-proofed below the base flood elevation.

Mine subsidence: much of the plan area has been undermined for coal. There is no pattern to the occurrence of mine subsidence so specific vulnerability cannot be pinpointed.

Severe storms: the entire County is vulnerable to severe storms. Those communities that have or will adopt building codes will lessen the vulnerability for new structures.

Tornados: the entire County is vulnerable to tornados. Those communities that have or will adopt building codes will lessen the vulnerability for new structures.

Winter storms: the entire County is vulnerable to winter storms. Those communities that have or will adopt building codes will lessen the vulnerability for new structures.

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# Section IV Mitigation Strategy

## 2008 DEVELOPMENT OF HAZARD MITIGATION GOALS, OBJECTIVES AND MITIGATION ACTIONS

The 2008 Task Force formulated goals and objectives for the plan through the use of small group brainstorming session. The group and the public members in attendance broke into six small groups led by Planning Commission staff. To generate ideas, participants were asked to write down the many ways they would end the sentence "During a natural hazard event a prepared community is a place where……" Small group members grouped the responses through discussion and consensus according the common themes. Goal statements were created for each grouping.

The six small groups then reconvened and reported to the full Task Force the results of the group exercise. Four common themes were expressed and identified to serve as goals. Following the meeting, Planning Commission staff refined the goals and developed objectives based on the discussion from the meeting. The following goals and objectives were approved by the Task Force at the following meeting.

Following adoption of the goals and objectives, the 2008 Task Force members and others from the general public who were in attendance spent ten minutes writing ideas down on post-it notes for mitigation projects. Everyone then placed their ideas on large sheets of paper hanging on the walls designated with a specific objective under one of the goals. Those in attendance then broke out into four groups (one group per goal) led by Planning Commission staff to discuss the relationship between the projects and the goals and objectives.

Following the meeting, Planning Commission Staff created a project list by goal and objective showing all the suggestions submitted. The list was then sent to all Task Force members. 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.

Following is a list of the 2008 goals and objectives. Note that the goals were not prioritized and the goal numbers are purely arbitrary.

## 2015 TASK FORCE REVIEW OF HAZARD MITIGATION GOALS & OBJECTIVES

The 2015 Task Force broke into groups to review the 2008 goals and objectives. The groups were asked to evaluate each goal and objective to determine if they were still applicable to the hazards identified in Sangamon County. Groups were also asked to identify any additional goals and/or objectives to be considered by the Task Force.

Following the small group discussions, the Task Force reconvened to discuss potential changes. After a thorough discussion, the Task Force voted to adopt changes to the 2008 Goals and Objectives. The 2015 Goals & Objectives are listed below with the modifications and additions *highlighted in red*. The list below also includes the 2015 Mitigation Actions.

## 2014 GOALS & OBJECTIVES

**Goal 1** **Maintain and improve communication and cooperation between Sangamon County residents, government, and the private sector.**

*Objective 1.a. Establish adequate warning systems to alert the community to impending natural hazard events.*

- Install storm siren – Auburn
- Signs to warn of storm hazards – Auburn
- Lightning signs at baseball & football fields and parks – Auburn
- Pursue local activation of storm sirens based on use of additional weather alert radios tuned to Auburn's alert frequency – Auburn
- Investigate utilizing a Groupcast notification system to warn residents – Auburn
- Utilize website to post all hazards alerts and safety and preparedness information – Auburn
- Create email notifications to warn about natural hazards events – Auburn
- Provide weather radios to those in need – Cantrall
- Use e-alert system to educate and alert the community to impending natural hazard events as well as to transfer information after the storm – Divernon
- Notify residents of availability of police building to be used as an emergency information center – Jerome
- Purchase two additional storm warning sirens – Mechanicsburg
- Outdoor siren for west end of Village limits (new residential and commercial area) – New Berlin
- Provide weather radios to Village residents and public buildings including businesses – Sherman
- Supplement to civil defense siren system – Southern View
- Provide weather radios to citizens who can't afford them – Southern View
- Install signage for flood prone areas with elevation markers – Springfield
- Install new storm siren and relocate existing siren to enhance coverage area – Williamsville

- Increase enrollment and utilization of existing electronic alerting system – Williamsville

*Objective 1.b. Provide a system to monitor developing natural hazard event situations.*

- Develop protocol for local EMS, police, fire and dispatch to more closely monitor National Weather Service, County OEM and dispatch alerts – Auburn
- Develop protocol for more regular contact with citizen hazard spotters – Auburn
- Provide weather radios to Village residents and public buildings including businesses - Sherman
- Monitor sensitive areas, then perform alternatives analysis to address sewer capacity issues - Springfield

*Objective 1.c. Establish a method of communicating with the community after a natural hazard event to keep everyone updated on the status of recovery.*

- Investigate utilizing a Groupcast notification system to warn residents - Auburn
- Utilize website to post all hazards alerts and safety and preparedness information - Auburn
- Create email notifications to warn about natural hazards events - Auburn
- Create a list of at-risk residents who need to be checked on during a hazard related event – Mechanicsburg
- Purchase additional radios for emergency responders – Mechanicsburg
- Improve communication technology issues between fire department and Sangamon County agencies – Mechanicsburg
- Establish protocol for mobile command center to respond to natural hazards – Mechanicsburg
- Educate public on County's Road condition warning system – Sangamon County
- Utilize newsletter/website to provide information on natural hazard events and situations – Williamsville

*Objective 1.d. Coordinate response plans with all levels of government, appropriate private agencies, and volunteers.*

- Develop unified dispatch for fire, EMS, ambulance, police and utilities available to citizens 24/7 – Auburn
- Establish protocol for mobile command center to respond to natural hazards - Mechanicsburg
- Maintain current working response groups – Sangamon County OEM

*Objective 1.e. Establish public information/outreach programs in regards to natural hazard event situations.*

- Develop unified dispatch for fire, EMS, ambulance, police and utilities available to citizens 24/7 – Auburn
- Investigate utilizing a Groupcast notification system to warn residents - Auburn
- Utilize website to post all hazards alerts and safety and preparedness information - Auburn
- Create email notifications to warn about natural hazards events - Auburn
- Provide educational materials to teach residents the importance of maintaining a free flowing culvert and drainage system – Leland Grove
- Produce educational materials to inform residents who own property in the floodplain about regulatory requirements and encourage those residents to maintain private bridges and culverts – Leland Grove
- Make preparedness brochure available in print as well as the existing digital format - Sherman
- Provide weather radios to Village residents and public buildings including businesses - Sherman

**Goal 2** **Protect the lives, health, and safety of the people and animals of Sangamon County from the impact and effects of natural hazards.**

*Objective 2.a. Provide storm shelters and cooling/warming centers for residents.*

- Construct shelters – Auburn
- Construct new municipal center building to withstand severe weather – Auburn
- Provide central storm shelter: reinforce/upgrade Village Hall to survive storm disaster situations and be able to handle needs of citizens using building as a shelter - Buffalo
- Construct lightning and storm shelters in parks – Auburn
- Shatter-proof glass for municipal building – Auburn
- Develop agreements with churches and businesses with basements to be used as storm shelters – Auburn
- Provide alternate storm shelters: utilize the Buffalo Fire Station and Lutheran Church – Buffalo
- Notify residents of availability of police building to be used as an emergency information center – Jerome
- Purchase backup generators for Village Hall and fire station – Mechanicsburg

- Emergency generator for high school emergency shelter – New Berlin
- Establish warming/cooling stations in Village – Rochester
- Provide shelter in new Village Hall – Sherman
- Provide shelter in Waldrop Park – Sherman
- Establish, install or identify storm shelters for existing mobile home developments – Springfield
- Construct safe shelters at Centennial Park and Southwind Park – Springfield Park District
- Provide lightning warning signage through Park District – Springfield Park District
- Construct lightning/storm shelters on golf course and parks – Springfield Park District

*Objective 2.b. Educate residents on the steps to take to protect themselves and their property from the impacts of natural hazard events.*

- Continue educational program in schools and for other citizens - Auburn
- Utilize website to post all hazards alerts and safety and preparedness information – Auburn
- Educate residents to protect themselves and property – Auburn
- Provide disaster preparedness materials to residents – Buffalo
- Brochures/newsletters sent out for weather emergencies, heating/cooling places and what to do in case of emergency – Divernon
- Educate residents who own property in the floodplain about regulatory requirements – Divernon
- Distribute mitigation information through Neighborhood Watch – Jerome
- Provide educational materials to teach residents the importance of maintaining a free flowing culvert and drainage system – Leland Grove
- Prepare mine subsidence informational materials – Sangamon County
- Make preparedness brochure available in print as well as the existing digital format – Sherman
- Create pamphlet specific to Southern View with information regarding preparation and recovery related to natural hazards – Southern View
- Educate citizens regarding proper actions to take to mitigate and prepare for natural hazards – Springfield
- Provide educational display at Southwind Park – Springfield Park District
- Provide lightning warning signage through Park District – Springfield Park District

- Install severe weather warning signage in parks, golf courses, and ball fields – Springfield Park District

*Objective 2.c. Educate local businesses on the steps to take to protect their employees, assets, and property from the impacts of natural hazard events.*

- Make preparedness brochure available in print as well as the existing digital format - Sherman

*Objective 2.d. Identify the most vulnerable populations in the community.*

- Collect names and addresses for elderly and special needs citizens for wellness checks and potential need for additional resources – Auburn
- Create a list of at-risk residents who need to be checked on during a hazard related event – Mechanicsburg
- Identify residents with special needs – Sherman
- Identify residents with special needs and coordinate with neighborhood watch lists to provide assistance in seeking shelter and during recovery – Southern View
- Identify at-risk populations within the community and establish a list – Springfield

*Objective 2.e. Support volunteer mitigation efforts that allow residents/businesses/agencies to work together in neighborhoods and the community to assist those who are vulnerable to the impacts of natural hazards.*

- Develop unified dispatch for fire, EMS, ambulance, police and utilities available to citizens 24/7 – Auburn
- Develop a storm water master plan and regulations - Springfield

*Objective 2.f. Remove and/or limit placement of structures in the known paths of natural hazards such as flood, dam failure, and mine subsidence.*

- Produce educational materials to inform residents who own property in the floodplain about regulatory requirements and encourage those residents to maintain private bridges and culverts – Leland Grove
- Acquire repetitively damaged flood prone properties – Sangamon County, Springfield
- Develop a storm water master plan and regulations - Springfield
- Update Land Subdivision Ordinance and Comprehensive Plan - Springfield

*Objective 2.g. Maximize immunity to natural hazards for critical facilities and services.*

- Improve storm drainage in Western Acres, South of Jackson Street - Auburn
- Provide flood protection for sanitary lift station at Divernon Road – Auburn
- Grade and clean all storm water drainage ditches and culverts – Auburn
- Purchase backup generators for Village Hall and fire station - Mechanicsburg
- Storm sewer repair on North Walnut – Rochester
- Flood protection for Sewage Pump House in Rochester Community Park – Rochester
- Provide safe rooms in new county facilities – Sangamon County
- Provide shatter proof glass at Police Department and Village Hall – Sherman
- Bury power lines going to critical facilities – Sherman
- Design and construct a new municipal building to withstand severe weather – Southern View
- Develop a storm water master plan and regulations - Springfield
- Install signage for flood prone areas with elevation markers - Springfield
- Improve local drainage areas prone to flooding – Springfield
- Implement facilities plan – Springfield
- Establish back-up power agreement with CWLP and Ameren to ensure continued sewer plant operations – Springfield Metro Sanitary District
- Upgrade Sugar Creek Plant to handle combined sewer overloads – Springfield Metro Sanitary District
- Upgrade pump stations in collection system and add backup generators – Springfield Metro Sanitary District

**Goal 3 Protect existing infrastructure and design new infrastructure to be resilient to the effects of natural hazards. (roads, bridges, mass transit, utilities, water supplies, sewers, dams)**

*Objective 3.a. Assure power is available for essential services.*

- Generator for fire department, police and dispatch, and city garage – Auburn
- Mobile generator for lift stations – Auburn
- Bury power lines going to critical facilities – Chatham
- Develop electrical GIS system – Chatham
- Purchase back-up generator for municipal center – Jerome
- Purchase backup generators for Village Hall and fire station - Mechanicsburg
- Install generator in new Village Hall – Sherman
- Bury power lines going to critical facilities - Sherman

- Install generator for Public Works Complex - Springfield

*Objective 3.b. Assure potable water is available in case of drought.*

- Install water loop line to serve the Route 4 and Route 104 areas – Auburn
- Connect Griffith Creek Subdivision to city water by installing 1.2 miles of 6" water line – Mechanicsburg
- Pursue supplemental water supply - Springfield

*Objective 3.c. Build and maintain roads and bridges to provide safe passage of vehicles.*

- Improve drainage in areas that are flood prone on the northwest side of town and in Griffith Creek Subdivision – Mechanicsburg
- Install storm sewer from 10th Street to Horse Creek – Pawnee
- Relocate sanitary lift station on Highway 104 East that is located in the floodplain – Pawnee
- Increase installation of snow fences along problem stretches of road – Sangamon County
- Implement natural barrier area for Route 124 and Business Route 55 to mitigate blizzard road conditions – Sherman
- Develop a storm water master plan and regulations - Springfield
- Install signage for flood prone areas with elevation markers - Springfield
- Improve local drainage areas prone to flooding - Springfield
- Implement facilities plan - Springfield
- Update Land Subdivision Ordinance and Comprehensive Plan - Springfield
- Construct water drainage systems - Williamsville

*Objective 3.d. Establish an inspection and maintenance program that monitors the condition of infrastructure.*

- Grade and clean all storm water drainage ditches and culverts – Auburn
- Look at improving drainage water coming from new school – Cantrall
- Better drainage by keeping culverts clean – Jerome
- Maintain Jacksonville Branch by dredging, trimming trees, removing brush, and cleaning culverts, and coordinate activities with Jerome and Springfield – Leland Grove
- Maintain and improve the Town & County storm water drainage system between MacArthur Blvd and Jacksonville Branch and coordinate activities with Jerome and Springfield – Leland Grove

- Deepen, grade and clean all storm water drainage ditches and culverts, and coordinate activities with Jerome and Springfield – Leland Grove
- Improve drainage in areas that are flood prone on the northwest side of town and in Griffith Creek Subdivision - Mechanicsburg
- Clean and repair other storm sewers and culverts – Rochester
- Monitor condition of culverts – Rochester
- Create volunteer network to monitor condition of road culverts (modified to communicate with Township Commissioners – Sangamon County
- Develop a storm water master plan and regulations - Springfield
- Continue tree trimming efforts around power lines – Springfield
- Develop a maintenance and an inspection plan rating public infrastructure – Springfield
- Trim trees of excessive height and remove dead material – Springfield Park District

**Goal 4** **Incorporate natural hazard mitigation into community plans and regulations.**

Objective *4.a. Adopt regulations that protect buildings (such as building codes).*

- Adopt building codes – Cantrall
- Promote adoption of International Building Codes in Sangamon County communities and provide opportunity to enter into an inter-governmental agreement with the County Building Department for enforcement – Sangamon County
- Assess local regulations (building codes, zoning ordinances, subdivision ordinances, public health codes, etc.) to determine how they can better address the impacts of natural hazards – Sherman
- Develop a storm water master plan and regulations - Springfield
- Adopt Building Codes to ensure safe structures - Williamsville

*Objective 4.b. Assure flood ordinance meets or exceeds minimum requirements for participation in the National Flood Insurance Program.*

- Adopt a floodplain ordinance – Mechanicsburg
- Shoot elevations of buildings in the FEMA floodplain – Sangamon County
- Continue participation in the Community Rating System – Sangamon County
- Provide information to NFIP communities about the CRS program – Sangamon County
- Assess local regulations (building codes, zoning ordinances, subdivision ordinances, public health codes, etc.) to determine

how they can better address the impacts of natural hazards - Sherman
- Participate in the Community Rating System - Springfield

*Objective 4.c. Assess local regulations (building codes, zoning ordinances, subdivision ordinances, public health codes, etc.) to determine how they can better address the impacts of natural hazards.*

- Convene county-wide Task Force to develop storm water, drainage and erosion control practices plan – Sangamon County
- Assess local regulations (building codes, zoning ordinances, subdivision ordinances, public health codes, etc.) to determine how they can better address the impacts of natural hazards - Sherman
- Participate in the Community Rating System - Springfield

*Objective 4.d. Consider natural hazards when updating/creating plans for the community.*

- Include natural hazards mitigation information in future changes/updates to the County Comprehensive Plan – Sangamon County
- Implement natural barrier area for Route 124 and Business Route 55 to mitigate blizzard road conditions - Sherman
- Develop a storm water master plan and regulations - Springfield
- Include natural hazards mitigation ideas in future changes/updates to the City Comprehensive Plan – Springfield
- Implement facilities plan - Springfield

*Objective 4.e. Update/create a response plan that addresses each natural hazard that could affect the community.*

- Develop a storm water master plan and regulations - Springfield
- Update Overflow Emergency Response Plan – Springfield
- Implement facilities plan - Springfield

**Goal 5** **Preserve and protect the rivers and floodplains of Sangamon County.**

***Objective 5.a. Establish a county-wide task force to develop a storm water drainage and erosion control master plan.***

- Participate in county-wide task force to develop a storm water drainage and erosion control master plan – Jerome, Leland Grove, Mechanicsburg, Springfield
- Convene county-wide Task Force to develop storm water, drainage and erosion control practices plan – Sangamon County
- Develop a storm water master plan and regulations - Springfield

***Objective 5.b. Assure water is available in case of drought.***

- Maintain Jacksonville Branch by dredging, trimming trees, removing brush, and cleaning culverts, and coordinate activities with Jerome and Springfield – Leland Grove
- Maintain and improve the Town & County storm water drainage system between MacArthur Blvd and Jacksonville Branch and coordinate activities with Jerome and Springfield – Leland Grove
- Deepen, grade and clean all storm water drainage ditches and culverts, and coordinate activities with Jerome and Springfield – Leland Grove
- Pursue supplemental water supply - Springfield

## MITIGATION ACTIONS - PRIORITIES AND IMPLEMENTATION

The 2008 Project Prioritization Committee created the following method for prioritizing actions. 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.

## Natural Hazard Mitigation Projects by Community – Prioritized (including a Comprehensive Range of Actions for Each Hazard)

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| AUBURN | SS, T | A | Storm/tornado shelter to hold 100 people | Auburn City Council | 75% Federal 25% City | 3 yrs. | 2.a. | Deferred (Funding) |
| | SS,T | A | Construct new municipal center building able to withstand severe weather | Auburn City Council | 75% Federal 25% City | 3 yrs. | 2.a. | NEW |
| | SS,T | A | Provide additional storm siren | Auburn City Council | City | 3 yrs. | 1.a. | Deferred (Funding) |
| | SS,T | A | Construct lightning and storm shelters for all parks | Auburn City Council | City | 3 yrs. | 2.a. | NEW |
| | SS, T, F | A | Purchase generator for fire department, police, dispatch, and City Garage | Auburn City Council | 75% Federal 25% City | 3 yrs. | 3.a. | NEW |
| | ALL | A | Purchase mobile generator for lift stations | Auburn City Council | 75% Federal 25% City | 3 yrs. | 3.a. | NEW |
| | SS, F | B | Improve storm drainage in Western Acres | Auburn City Council | 75% Federal 25% City | 3 yrs. | 2.g. | NEW |
| | SS, F | B | Improve storm drainage South of Jackson Street | Auburn City Council | 75% Federal 25% City | 3 yrs. | 2.g. | NEW |
| | F | B | Provide flood protection for sanitary lift station at Divernon Road | Auburn City Council | 75% Federal 25% City | 3 yrs. | 2.g. | NEW |
| | F | B | Grade and clean all storm water drainage ditches and culverts | Auburn City Council | 75% Federal 25% City | 3 yrs. | 2.g., 3.d. | NEW |

AUBURN continued

| Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|
| D | B | Install water loop line to serve the Route 4 and Route 104 areas. | Auburn City Council | 75% Federal 25% City | 3 yrs. | 3.b. | NEW |
| SS, T | B | Shatter-proof glass for municipal building | Auburn City Council | 75% Federal 25% City | 3 yrs. | 2.a. | Deferred (Funding) |
| SS, T | B | Signs to warn of storm hazards | Auburn City Council | 75% Federal 25% City | 2 yrs. | 1.a. | Deferred (Funding) |
| SS | B | Lightning signs at baseball, football fields and parks | Auburn City Council | 75% Federal 25% City | 2 yrs. | 1.a. | Deferred (Funding) |
| ALL | J | Educate residents to protect themselves & property | Auburn City Council | 75% Federal 25% Village | Ongoing | 2.b | Ongoing |
| SS,T | J | Pursue local activation of storm sirens based on use of additional weather alert radios tuned to Auburn's alert frequency | Auburn City Council | City | 1 yr. | 1.a. | NEW |
| ALL | J | Utilize Village website to post all hazards alerts, safety and preparedness information | Auburn City Council | City | 1 yr. | 1.a., 1.c., 1.e., 2.b. | NEW |
| ALL | J | Collect names and addresses for elderly and special needs citizens for wellness checks and potential need for additional resources | Auburn City Council | City | 1 yr. | 2.d. | NEW |

| AUBURN continued | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| | SS,T, F | J | Develop protocol for local EMS, police, fire & dispatch to more closely monitor National Weather Service, County OEM & dispatch alerts | Auburn City Council | City | 1yr. | 1.b. | NEW |
| | ALL | J | Continue educational program in schools and for other citizens | Auburn City Council | City | Ongoing | 2.b. | NEW |
| | SS,T | J | Develop agreements with churches & businesses with basements to be used as storm shelters | Auburn City Council | City | 1 yr. | 2.a. | NEW |
| | ALL | J | Develop protocol for more regular contact with citizen hazard spotters | Auburn City Council | City | 1 yr. | 1.b. | NEW |
| | ALL | J | Investigate utilizing a Groupcast notification system to warn residents | Auburn City Council | City | 1 yr. | 1.a.,1.c., 1.e. | NEW |
| | ALL | J | Develop unified dispatch for Fire, EMS, ambulance, Police & utilities available to citizens 24/7 | Auburn City Council | City | 1 yr. | 1.d., 1.e., 2.e. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| AUBURN continued | ALL | J | Create email notifications to warn about natural hazards events | Auburn City Council | City | 1 yr. | 1.a., 1.c., 1.e. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| BUFFALO | SS, T, WS | A | Provide central storm shelter: reinforce upgrade Village Hall to survive storm disaster situations and be able to handle needs of citizens using building as a shelter | Buffalo Village Board Buffalo Fire District | 75% Federal 25% Village | 3yrs. | 2.a. | Deferred (space & funding) |
| | SS, T, WS | J | Provide alternate storm shelters utilizing the Buffalo Fire Station and Lutheran Church | Buffalo Village Board Buffalo Fire District | No cost | 1 yr. | 2.a. | NEW |

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|---|---|---|---|---|---|---|---|---|
| CANTRALL | SS, T, WS | J | Provide disaster preparedness materials to the residents of Buffalo | Buffalo Village Board | Village Board | 1 yr. | 2.b. | NEW |
| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
| | F | B | Look at improving drainage water coming from new school | Cantrall Village Board | Village | 2 yrs. | 3.d. | Deferred (Funding) |
| | SS, T,WS | J | Provide weather radios to those in need | Cantrall Village Board | Village | Ongoing | 1.a. | Ongoing |
| | EA, F, SS, WS, T | J | Adopt Building Codes | Cantrall Village Board | Village | 1 yr. | 4.a. | NEW |

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|---|---|---|---|---|---|---|---|---|
| CHATHA | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
| | SS, T,WS | A | Bury power lines going to critical facilities | Chatham Electric Dept. | 75% Federal 25% Village | 1 yr. | 3.a. | In progress |
| | SS, T, WS | J | Develop electrical GIS system | GIS/Chatham Electric Dept. | 75% Federal 25% Village | 1 yr. | 3.a. | In progress |

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|---|---|---|---|---|---|---|---|---|
| | ALL | J | Utilize automated telephone system to notify residents of impending hazards as well as information transfer after storm | Chatham Village Board | Village | 3 yrs. | 1.a., 1.c., | Deleted other opt. utilized |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| CURRAN | SS, T | A | Construction of safe room | Curran Village Board | 75% Federal 25% Village | 2 yrs. | 2.a. | Unknown |
| | SS, T | B | Installation of storm siren | Curran Village Board | Village | 1 yr. | 1.a. | Unknown |
| | F | B | Improve drainage/retro fit storm sewer | Curran Village Board | Village | 1 yr. | 3.c. | Unknown |
| | SS, T, WS | J | Trim trees of excessive height and remove dead material | Curran Village Board | Village | 1 yr. | 3.d. | Unknown |

| Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|

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|---|---|---|---|---|---|---|---|---|
| DAWSON | SS,T,WS | A | Put power lines underground at Village Hall | Dawson Village Board | 75% Federal 25% Village | 2 yrs. | 3.a. | Unknown |
| | F | B | Build a dike to protect water plan from flooding | Dawson Village Board | 75% Federal 25% Village | 3 yrs. | 2.g. | Unknown |
| | SS,T,WS | J | Insist Ameren does better maintenance work on trees close to power lines | Dawson Village Board | No cost | 1 yr. | 3.d. | Unknown |
| | **Hazard** | **Priority** | **Project** | **Implementation Responsibility** | **Funding Sources** | **Time Frame** | **Goal** | **Status** |
| DIVERNON | SS,T,WS | J | Give away weather radios to those in need | Divernon Village Board | Village | 1 yr. | 1.a. | Completed |
| | ALL | J | Brochures/newsletters sent out for weather emergencies, heating/cooling places and what to do in case of emergency | Divernon Village Board | Village | 1 yr. | 2.b. | Ongoing |
| | SS, T, WS | J | Use e-alert system to educate and alert the community to impending natural hazard events as well as to transfer information after the storm | Divernon Village Board | Village | 1 yr. | 1.a. | Ongoing |
| | F | J | Educate residents who own property in the floodplain about regulatory requirements | Divernon Village Board | Village | 1 yr. | 2.b. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| ILLIOPOLIS | ALL | B | Educate residents and local businesses on steps they can take to protect their lives and property in a natural hazard event. | Illiopolis Village Board | Village | 1 yr. | 2.b. | Unknown |
| | **Hazard** | **Priority** | **Project** | **Implementation Responsibility** | **Funding Sources** | **Time Frame** | **Goal** | **Status** |
| J E R O M E | EH, SS, T, WS | B | Purchase backup generator for municipal center | Jerome Village Board | Village | 1 yr. | 3.a. | Deferred (Funding) |
| | ALL | J | Distribute mitigation information through Neighborhood Watch | Jerome Police Dept | Village | 1 yr. | 2.b. | Ongoing |
| | F | J | Better drainage by keeping culverts clean | Jerome Public Works | Village | 1 yr. | 3.d. | Ongoing |
| | ALL | J | Notify residents of availability of police building to be used as an emergency information center | Jerome Village Board | Village | 1 yr. | 1.a., 2.a. | NEW |
| | F | J | Participate in county-wide task force to develop a storm water drainage and erosion control master plan | Jerome Village Board Jerome Public Works | Village | 1 yr. | 5.a. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| LELAND GROVE | F,SS | A | Maintain Jacksonville Branch by dredging, trimming trees, removing brush, and cleaning culverts and coordinate activities with Jerome and Springfield. | City of Leland Grove | Federal 75%City 25% | 3 yrs | 3.d. ,5.b. | NEW |
| | F,SS | A | Maintain and improve the Town & Country storm water drainage system between MacArthur Blvd and Jacksonville Branch and coordinate activities with Jerome and Springfield. | City of Leland Grove | Federal 75% City 25% | 3 yrs | 3.d., 5.b. | NEW |

LELAND GROVE continued

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|---|---|---|---|---|---|---|---|
| F,SS | A | Deepen, grade and clean all storm water drainage ditches and culverts and coordinate activities with Jerome and Springfield. | City of Leland Grove | Federal 75% City 25% | 3 yrs. | 3.d., 5.b. | NEW |
| F | J | Participate in county-wide task force to develop a storm water drainage and erosion control master plan | City of Leland Grove | Village | 1 yr. | 5.a. | NEW |
| | | | | | | | |
| **Hazard** | **Priority** | **Project** | **Implementation Responsibility** | **Funding Sources** | **Time Frame** | **Goal** | **Status** |
| F | J | Produce educational materials to teach residents the importance of maintaining a free flowing culvert and drainage system. | City of Leland Grove | Federal 75% City 25% | 3 yrs. | 1.e., 2.b. | NEW |
| F,SS | J | Produce educational materials to inform residents who own property in the floodplain about regulatory requirements and encourage those residents to maintain private bridges and culverts. | City of Leland Grove | Federal 75% City 25% | 3 yrs. | 1.e., 2.f | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| MECHANICSBURG | SS, T, F, WS | B | Improve drainage in areas that are flood prone on the northwest side of town and in Griffith Creek Subdivision. | Village of Mechanicsburg | 75% Federal 25% Village | | 3.c., 3.d. | NEW |
| | ALL | B | Purchase additional radios for emergency responders | Village of Mechanicsburg | 75% Federal 25% Village | | 1.c. | NEW |
| | ALL | B | Improve communication technology issues between fire department and Sangamon County agencies | Village of Mechanicsburg Fire Dept. | 75% Federal 25% Village | | 1.c. | NEW |

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|---|---|---|---|---|---|---|---|---|
| MECHANICSBURG continued | ALL | B | Purchase backup generators for Village Hall and fire station | Village of Mechanicsburg Fire Dept. | 75% Federal 25% Village | | 2.a., 2.g. 3.a | NEW |
| | T | B | Purchase two additional storm warning sirens | Village of Mechanicsburg | 75% Federal 25% Village | 3 yrs. | 1.a. | NEW |
| | DR | C | Connect Griffith Creek Subdivision to city water by installing 1.2 miles of 6" water line | Village of Mechanicsburg | 75% Federal 25% Village | | 3.b. | NEW |
| | ALL | J | Create list of at-risk residents who need to be checked on during a hazard related event | Village of Mechanicsburg | Village | | 1.c., 2.d. | NEW |
| | F | J | Adopt Floodplain Ordinance | Village of Mechanicsburg | Village | 1 yr. | 4.b. | NEW |
| | **Hazard** | **Priority** | **Project** | **Implementation Responsibility** | **Funding Sources** | **Time Frame** | **Goal** | **Status** |
| | F | J | Participate in county-wide Task Force to develop stormwater drainage and erosion control plan | Village of Mechanicsburg | Village | 1 yr. | 5.a. | NEW |
| | ALL | J | Establish protocol for mobile command center to respond to natural hazard events | Village of Mechanicsburg | Village | 1 yr. | 1.c., 1.d. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| NEW BERLIN | SS, T, WS | A | Emergency generator for high school emergency shelter | New Berlin School Dist | New Berlin School District | 1 yr. | 2.a. | Deferred (funding) |
| | SS, T | B | Outdoor siren for west end of Village limits (new residential and commercial area) | New Berlin Village Board | Village | 1 yr. | 1.a. | Completed |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| PAWNEE | F | B | Sidewalk and storm sewer replacement | Pawnee Village Board | State Village | 1 yr. | 3.c. | Completed |
| | F | A | Install storm sewer from 10th Street to Horse Creek. | Pawnee Village Board | 75% Federal 25% Village | 1 yr. | 3.c. | NEW |
| | F | B | Relocate sanitary lift station on Hwy 104 East that is located in the floodplain | Pawnee Village Board | 75% Federal 25% Village | 3 yrs. | 3.c. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| PLEASANT PLAINS | F | B | Southwest storm sewer project-repair and maintenance | Pleasant Plains Village Board | Village | 2 yrs. | 3.c. | Unknown |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| RIVERTON | SS,T, WS | A | Bury power lines to Village wells | Riverton Village Board | 75% Federal 25% Village | 1 yr. | 3.a. | Unknown |
| | SS,T, WS | A | Create storm shelter(s) or safe room(s) for use in severe weather | Riverton Village Board | 75% Federal 25% Village | 2 yrs. | 2.a. | Unknown |
| | F | B | Drainage improvements in 200 block of Blackburn | Riverton Village Board | Village School District | 1 yr. | 3.c. | Unknown |

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|---|---|---|---|---|---|---|---|---|
| | SS | B | Erect signage "Ballparks to be evacuated during periods of lightning" | Riverton Village Board | 75% Federal 25% Village | 6 mo | 1.a | Unknown |
| | ALL | J | Create volunteer network for checking on citizens with disabilities during storm/ inclement weather | Riverton Village Board | Village | 6 mo | 2.e. | Unknown |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| ROCHESTER | SS,T | A | Safe room in middle school | Rochester School District | 75% Federal 25% School Dist | 6 mo | 2.a. | Removed (School dropped plans) |
| | F | A | Storm sewer repair on N. Walnut | Rochester Public Works | Village Public Works Dept | 1 yr. | 2.g. | In progress |
| | F, T | B | Community information on potential flooding | Rochester Emergency Management | 75% Federal 25% Village | | 1.a. | Completed |
| | F | B | Shifting main sewer line due to flooding erosion | Rochester Public Works Dept. | 75% Federal 25% Village | 1 yr. | 2.g. | Completed |

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|---|---|---|---|---|---|---|---|---|
| | F | B | Flood protection for Sewage Pump House in Rochester Community Park | Rochester Village Board | Village | 1 yr. | 2.g. | In progress |
| | F | B | Clean and repair other storm sewers and culverts | Rochester Public Works | Village Public Works Dept | Ongoing | 3.d. | Ongoing |
| | EH, WS | J | Establish warming/cooling stations in Village | Rochester Citizen Corp | Village Citizen Corps | 1 yr. | 2.a | In progress |
| | F | J | Monitor condition of culverts | Rochester Public Works Dept. | Village | 1 yr. | 3.d. | Ongoing |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| S A N | F | A | Acquire repetitively damaged flood prone properties | Regional Planning Comm. | 75% Federal 25% County | Ongoing | 2.f. | Ongoing |
| | SS, T | A | Provide safe rooms in new county facilities | County Board | 75% Federal 25% County | Ongoing | 2.g. | Ongoing |

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|---|---|---|---|---|---|---|---|---|
| | EA, F, MS, SS, T, WS | B | Create education program for builders and home owners regarding building designs that will provide protection during hazard events | County Building Dept. | 75% Federal 25% Springfield Area Home-builders assoc. and Energy Education Council | 1 yr. | 2.b. | Deleted (Budget) |
| | ALL | B | Create and present school programs regarding the many aspects of natural hazards | County Building Dept. | 75% Federal 25% County | 1 yr. | 2.b. | Completed |
| | WS | C | Increase installation of snow fences along problem stretches of road | County Highway Dept. | 75% Federal 25% County | 2 yrs. | 3.c. | Ongoing |
| | DF, EA, F, MS, SS, T, WS | C | Provide a mobile building permit department to be activated in damaged areas after a natural hazard | County Building Dept. | County | 3 yrs. | 4.c. | Deleted Use other Co. unit |
| | F | C | Shoot elevations of buildings in the FEMA floodplain | County GIS Dept. | 75% Federal 25% County | 3 yrs. | 4.b. | Deferred (Budget) |
| S | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
| | F | J | Adopt Erosion Control Ordinance | County Board | County | | 4.c. | Completed |

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|---|---|---|---|---|---|---|---|---|
| | F | J | Create education materials regarding the importance of erosion control | County Building Dept. County Highway Dept. | County | 1 yr. | 2.b. | Deleted (Budget) |
| | F | J | Create volunteer network to monitor condition of road culverts (modified to communicate with Township Commissioners) | County Highway Dept | County | 3 yrs. | 3.d. | Modified |
| | F | J | Create award program to recognize good erosion control practices | County Board | County | 1 yr. | 4.c. | Deleted (Budget) |
| | SS, T, WS | J | Create educational program regarding use of weather radios | County Office of OEM | County | 6 mo. | 1.a. | Completed |
| | WS | J | Educate public on County's Road condition warning system | County Board Office | County | 1 yr. | 1.c. | Ongoing |
| | MS | J | Prepare mine subsidence informational materials | County Building Dept. Regional Planning Comm. | County | 1 yr. | 2.b. | Deferred (Budget) |
| | F | J | Continue participation in the Community Rating System | Regional Planning Comm. | County | Ongoing | 4.b. | Ongoing |
| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |

| SANGAMON COUNTY continued | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | SS, T | J | Work with state legislators to provide business tax credit for manufactured home parks that install storm shelters | County Board County Building Dept. | County | 1 yr. | 2.a. | Deleted (Budget) |
| | ALL | J | Work with local humane groups to explore creating accommodations for pets displaced by natural hazard events in Sangamon County | County Animal Control County Office of OEM | County | 3 yrs. | 2.a. | Completed |
| | ALL | J | Maintain current working response groups | County Office of OEM | County | Ongoing | 1.d. | Ongoing |
| | ALL | J | Develop response plans to ensure that all small communities are involved | County Office of OEM | County | 2 yrs. | 1.d. | Completed |
| | F | J | Convene county-wide Task Force to develop storm water, drainage and erosion control practices plan. | County Board Regional Planning Comm. County Highway Dept. | County | 3 yrs. | 4.c., 5.a. | NEW |
| | F | J | Provide information to NFIP communities about the CRS program | Regional Planning Comm. | County | 3 yrs. | 4.b. | NEW |
| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |

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|---|---|---|---|---|---|---|---|---|
| SANGAMON COUNTY continued | DF | J | Use GIS and latest aerial photography to review and update inundation impact below the Lake Sangchris Dam | County GIS Dept. | County | 2 yrs. | 2.d. | |
| | ALL | J | Include natural hazards mitigation information in future changes and updates to county comprehensive plan | County Board | County | 3 yrs. | 4.d. | NEW |
| | EA, F, SS, T, WS | J | Promote the adoption of International Building Codes in Sangamon County communities and provide opportunity to enter into an inter-governmental agreement with the County Building Dept. for enforcement | County Building Dept. | Permit fees | Ongoing | 4.a. | Ongoing |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S H E R M A N | SS, T | A | Provide shelter in new Village Hall | Sherman Village Board | 75% Federal 25% Village | 5 yrs | 2.a. | In progress |
| | ALL | A | Install generator in new Village Hall | Sherman Village Board | 75% Federal 25% Village | 5 yrs | 3.a. | NEW |
| | SS, T | A | Provide shelter in Waldrop Park | Sherman Village Board | 75% Federal 25% Village | 2 yrs | 2.a. | NEW |
| | WS | B | Implement natural barrier area for Route 124 and Business Route 55 to mitigate blizzard road conditions | Sherman Village Board | 75% Federal 25% Village | Ongoing | 3.c., 4.d. | |
| | SS, T | B | Provide shatter proof glass at Police Dept | Sherman Village Board | 75% Federal 25% Village | 1 yr. | 2.g. | NEW |
| | SS, T | B | Provide shatter proof glass at Village Hall | Sherman Village Board | 75% Federal 25% Village | 5 yrs | 2.g. | NEW |
| | SS, T, WS | B | Bury power lines going to critical facilities | Sherman Village Board | 75% Federal 25% Village | 5 yrs | 2.g., 3.a. | NEW |
| | ALL | C | Publication of preparedness brochure | Sherman EMA | 75% Federal 25% Village | 1 yr. | 2.b. | Completed |
| | ALL | C | Make preparedness brochure available in print as well as the existing digital format | Sherman Village Board | Village | 1 yr. | 1.e., 2.b., 2.c. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| SHERMAN continued | ALL | C | Identify residents with special needs | Sherman EMA | Village | 1 yr. | 2.d. | NEW |
| | ALL | J | Purchase 2-way radios for use during a natural hazard event | Sherman EMA | Village | 6 mo. | 1.a., 1.d. | Completed |
| | ALL | J | Provide weather radios to Village residents and public buildings including businesses | Sherman Village Board | 75% Federal25 % Village | 1 yr. | 1.a., 1.b., 1.e. | NEW |
| | ALL | J | Assess local regulations (building codes, zoning ordinances, subdivision ordinances, Public health codes, etc.) to determine how they can better address the impacts of Natural hazards. | Sherman Village Board Sherman Zoning Dept | Village | 1 yr. | 4.a., 4.b., 4.c. | Ongoing |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| SOUTHERN VIEW | SS, T, WS | A | Design and construct a new municipal building to withstand severe weather | Southern View Village Board | 75% Federal 25% Village | 3 yrs. | 2.g. | |
| | SS, T | B | Supplement to civil defense siren system | Southern View Village Board | Village | 3 yrs. | 1.a. | |
| | SS, T, WS | J | Provide weather radios to citizens who can't afford them | Southern View Village Board | Village | 3 yrs. | 1.a. | |
| | ALL | J | Identify residents with special needs and coordinate with neighborhood watch lists to provide assistance in seeking shelter and during recovery | Southern View Village Board | Village | 3 yrs. | 2.d. | |
| | ALL | J | Create pamphlet specific to Southern View with information regarding preparation and recovery related to natural hazards | Southern View Village Board | Village | 1 yr. | 2.b. | |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| S P R I N G F I E L D | SS, T | A | Establish, install or identify storm shelters for existing mobile home developments | Office of Public Works | 75% Federal 25% City | 1 yr. | 2.a. | Ongoing |
| | SS, T, WS | A | Bury power lines to critical infrastructure facilities | CWLP-Electric Division | 75% Federal 25% City | 1 yr. | 3.a. | Deleted (Budget) |
| | F | A | Acquire repetitively flood-damaged properties in the floodplain | Office of Public Works | 75% Federal 25% City | Ongoing | 2.f. | Ongoing |
| | SS,WS,F | A | Develop a storm water master plan and regulations | Office of Public Works | 75% Federal 25% City | 2 yrs. | 2.e., 2.f., 2.g., 3.c., 3.d., 4.a., 4.d., 4.e., 5.a. | NEW |
| | SS,WS | A | Update Overflow Emergency Response Plan | Office of Public Works | 75% Federal 25% City | Ongoing | 4.e. | NEW |
| | ALL | A | Install generator for Public Works Complex | Office of Public Works | 75% Federal 25% City | 1 yr. | 3.a. | NEW |
| | DR | A | Pursue supplemental water supply | CWLP-Water Division | City | Ongoing | 3.b., 5.b. | NEW |
| | ALL | B | Educate citizens regarding proper actions to take to mitigate and prepare for natural hazards | Springfield Homeland Security | 75% Federal 25% City | 1 yr. | 2.b. | Ongoing |

SPRINGFIELD continued

| Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|
| SS,WS | B | Monitor sensitive areas, then perform alternatives analysis to address sewer capacity issues | Office of Public Works | City | Ongoing | 1.b. | NEW |
| FF,SS | B | Install signage for flood prone areas with elevation markers | Office of Public Works | City | 1 yr. | 1.a., 2.g., 3.c. | NEW |
| F | B | Improve local drainage areas prone to flooding | Office of Public Works | City | Ongoing | 2.g., 3.c. | NEW |
| DF | C | Develop Emergency Action Plan in the event of a breach of Spaulding and/or Saddle Dams | CWLP- Water Division | City | 1 yr. | 4.d. | Completed |
| DR | C | Develop Emergency Action Plan in the event of a loss of the City water supply | CWLP-Water Division | City | 1 yr. | 3.b. | Completed |
| ALL | J | Explore possibility of developing and purchasing a reverse 911 system for the City, Sangamon County and E-911 | Springfield Homeland Security | City, County, E-911 | 1 yr. | 1.a. | Completed (use Alert Sense) |
| ALL | J | Identify at-risk populations within the community and establish a list | Springfield Community Relations/Homeland Security | City Staff | 1 yr. | 2.d. | Ongoing |

SPRINGFIELD continued

| Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|
| ALL | J | Include natural hazards mitigation ideas in future changes and updates to the City Comprehensive Plan | Office of Public Works | City Staff | Ongoing | 4.d. | Ongoing |
| SS, T, WS | J | Continue tree trimming efforts around power lines | CWLP-Electric Division | City | Ongoing | 3.d. | Ongoing |
| F, SS, WS | J | Participate in the Community Rating System | Office of Public Works | City | 1 yr. | 4.b., 4.c. | NEW |
| FF, SS, WS | J | Develop a maintenance and inspection plan rating public infrastructure | Office of Public Works | City | 2 yrs. | 3.d. | NEW |
| F, SS, WS | J | Implement facilities plan | Office of Public Works | City | Ongoing | 2.g., 3.c., 4.d., 4.e. | NEW |
| ALL | J | Update Land Subdivision Ordinance and Comprehensive Plan | Office of Public Works | City | 2 yrs. | 2.f., 3.c. | NEW |
| ALL | J | Develop and purchase a text messaging and email alert system | Springfield Homeland Security | City | 1 yr. | 1.a. | Completed (use Alert Sense) |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| THAYER | SS, T | A | Have an engineer evaluate the Headstart School Building and Community Center for a safe area | Thayer Village Board | 75% Federal 25% Village | 1 yr. | 2.a. | Unknown |
| | SS, T, WS | B | Bury power lines to critical facilities | Thayer Village Board | 75% Federal 25% Village | 2 yrs. | 3.a. | Unknown |
| | ALL | B | Backup generator for safe haven | Thayer Village Board | Village | 2 yrs. | 2.a. | Unknown |
| | SS, T | J | Siren testing once a month | Thayer Village Board | Village | 1 mo. | 1.a. | Unknown |
| | ALL | J | Prepare a list of at-risk citizens | Thayer Village Board | Village | 3 mo. | 2.d. | Unknown |
| | ALL | J | Develop a list of supplies to have on hand | Thayer Village Board | Village | 3 mo. | 2.b. | Unknown |

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|---|---|---|---|---|---|---|---|---|
| | ALL | J | Construct "Okay/Need Help" signs for residents to put in their windows during a natural disaster | Thayer Village Board | Village | 6 mo. | 2.e. | Unknown |
| | ALL | J | Have an ESDA Plan | Thayer Village Board | Village | 3 mo. | 4.e. | Unknown |
| WILLIAMSVILLE | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
| | SS, T | B | Install new storm siren and relocate existing siren to enhance coverage area | Williamsville Village Board | Village | 1 yr. | 1.a. | NEW |
| | MS | C | Educate public on underground mines | Williamsville Village Board | Village | 6 mo. | 2.b. | Completed |
| | F | B | Construct water drainage systems | Williamsville Village Board | Village | 3 yrs | 3.c. | In progress |
| | SS, T, WS | J | Assistance to public (priority to special needs) to obtain emergency radios | Williamsville Village Board | Village | 1 yr. | 1.a. | Completed |
| | EA,EH, SS, T, WS | J | Let people know where to go when power is out | Williamsville Village Board | Village | 6 mo. | 2.a. | Completed |
| | EA, F, SS, T, WS | J | Adopt Building Codes to ensure safe structures | Williamsville Village Board | Village | 1 yr. | 4.a. | In progress |

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|---|---|---|---|---|---|---|---|---|
| | EA, EH, SS, T, WS | J | Increase enrollment and utilization of existing electronic alerting system | Williamsville Village Board | Village | 1 yr. | 1.a. | NEW |
| | EA, EH, SS, T, WS | J | Utilize newsletter/website to provide information on natural hazard events and situations | Williamsville Village Board | Village | 1 yr. | 1.c. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| AMERICAN RED CROSS Illinois Capital Area Chapter | ALL | B | Take the lead on educating residents to take steps to protect themselves | Colleen Stone | 75% Federal 25% Red Cross | 6 mo. | 2.b. | Unknown |
| | ALL | B | Take the lead on educating local businesses on steps to take to protect their employees | Kyle Belz | 75% Federal 25% Red Cross | 6 mo. | 2.c. | Unknown |
| | SS, T, WS | J | Assist with obtaining bulk purchasing of crank weather radios | Colleen Stone | 75% Federal 25% Red Cross | 6 mo. | 1.a. | Unknown |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|

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|---|---|---|---|---|---|---|---|---|
| SPRINGFIELD MASS TRANSIT DISTRICT | EA,SS, T | A | Include wind resistance and seismic activity in design and construction of multi-modal center | SMTD Board | 75% Federal 25% SMTD | 7 yrs. | 2.g. | Unknown |
| | SS,T, WS | A | Bury power lines to existing mass transit facility | SMTD Board | 75% Federal 25% SMTD TRC | 1 yr. | 3.a. | Unknown |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| SPRINGFIELD METRO | F | B | Emergency pumps for storm, sewer, flood pumping | SMSD, Springfield Dept of Public Works | SMSD | 1 yr. | 2.g. | Completed |
| | F | B | Provide Vactor sewer cleaning trucks for emergency drain cleaning and flood cleanup | SMSD, Springfield Dept. of Public Works | SMSD | 6 mo. | 2.g. | Completed |
| | F | B | Install monitors at Combined Sewer Overflows to assist with flood tracking and warnings | SMSD, Springfield Dept. of Public Works | SMSD | 2 mo. | 1.b. | Completed |

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|---|---|---|---|---|---|---|---|---|
| | EA, F, SS, T, WS | J | Establish tiered system for supply of fuel (gasoline and diesel) for generators, pump stations, plant operations | SMSD | SMSD | 6 mo. | 2.g. | Completed |
| | SS,T, WS | B | Establish back-up power agreement with CWLP and Ameren to ensure continued sewer plant operations | SMSD | SMSD | 6 mo. | 2.g. | NEW |
| | F | B | Upgrade Sugar Creek Plan to handle combined sewer overloads | SMSD | SMSD | 5 yrs. | 2.g. | NEW |
| SMSD continued | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
| | F,SS, T, WS | B | Upgrade pump stations in collection system and add backup generators | SMSD | SMSD | 5 yrs. | 2.g. | NEW |

| | Hazard | Priority | Project | Implementation Responsibility | Funding Sources | Time Frame | Goal | Status |
|---|---|---|---|---|---|---|---|---|
| PARK DISTRI | SS, T | A | Construct safe shelters at Centennial Park and Southwind Park | Springfield Park District Board | 75% Federal 25% Park District | 1-3 yrs. | 2.a. | |

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|---|---|---|---|---|---|---|---|---|
| | SS, T | B | Provide educational display at Southwind Park | Springfield Park District Board | 75% Federal 25% Park District | 1 yr. | 2.b. | |
| | SS | B | Provide lightning warning signage through Park District | Springfield Park District Board | 75% Federal 25% Park District | 1 yr. | 2.a, 2.b. | |
| | SS, T | A | Construct lightning/storm shelters on golf course and parks | Springfield Park District Board | 75% Federal 25% Park District | | 2.a. | NEW |
| | SS,T | A | Install severe weather warning signage in parks, golf courses, and ball fields | Springfield Park District Board | 75% Federal 25% Park District | | 2.b. | NEW |
| | SS,T | J | Trim trees of excessive height and remove dead material | Springfield Park District Board | Park District | | 3.d. | NEW |

**DF - Dam Failure**
**SS-Severe Storm**
**DR- Drought**
**T-Tornado**
**EA-Earthquake**
**EH-Extreme Heat**
**F-Flood**
**WS-Winter Storm**
**MS-Mine Subsidence**

# Section V Plan Maintenance Procedures

The 2015 Natural Hazards Mitigation Plan is an action document based on the assessment of risks to the participating communities. It contains projects to be implemented, but also serves as a tool to integrate the concept of natural hazards mitigation into comprehensive planning efforts and regulatory structures. However, as communities grow, weather patterns change, or other variables take on a modified significance, the Hazard Mitigation Plan will need to be reviewed and updated.

## Plan Adoption, Implementation and Maintenance

The following jurisdictions met the requirements to be participants in the planning process.

Auburn, Buffalo, Cantrall, Chatham, Divernon, Jerome, Leland Grove, Mechanicsburg, New Berlin, Pawnee, Rochester, Sherman, Southern View, Springfield, Williamsville, and Sangamon County.

The draft plan was approved by the Task Force at its May 5, 2015 meeting. The Regional Planning Commission submitted the draft plan to the Illinois Emergency Management Agency (IEMA) and FEMA for review. Upon receiving final approval from FEMA, jurisdictions adopted resolutions adopting the 2015 Plan. A draft resolution as provided to the jurisdictions is included in the Appendix of this plan.

Each project included in the plan has been assigned to specific communities, or by groups of communities for implementation. Some of the mitigation actions items can be implemented by the jurisdictions with relative ease through ensuring that hazard mitigation planning efforts become part of every facet of local government. For example, several communities worked together to develop an action item to explore the development of a cross-jurisdictional storm water management plan. However, other action items that focus on improving physical infrastructure require funding resources that are not readily available.

The strategy for monitoring and evaluating the Plan is the formation of a Workgroup consisting of all community representatives and technical partners who volunteered to continue their involvement. Upon adoption of the Plan, the initial Workgroup will be structured as shown on the next page.

The Workgroup members will be responsible for monitoring and documenting implementation of the Plan by their communities. Monitoring the Plan assures that the many parties identified for implementation of projects remain aware of their responsibilities and that community leaders will continue to integrate natural hazards mitigation into local planning mechanisms. Workgroup members will also evaluate the Plan in relation to changing circumstances.

The Workgroup will meet at least twice a year to review the progress of the communities in implementing the Plan and to prepare a progress report to be submitted to the governing bodies of all communities. The report will include an evaluation of the Plan and identify any areas that may need to be revisited. The report year will start on the date the first community adopts the final Plan. Each meeting will provide time for the Workgroup members to network and explore opportunities for working together in mitigation efforts.

Every five years the Plan will be updated taking into account changing circumstances and risks. The Workgroup may schedule additional meetings for this process which needs to start early enough to provide adequate time for the review, concurrence, and adoption of each community and the approval of FEMA by the five-year anniversary date of the first community's adoption of the Plan.

Any non-participating community may choose to join the Multi-jurisdictional Plan during the 5-year update and will be responsible for providing all information needed to be integrated into the Plan.

Public participation will remain a vital part of the planning process. The website established by the Regional Planning Commission will be maintained, meetings will be open to the public, meeting notices will be posted in communities, and the media will be notified of meetings and Plan reports and updates.

Maintenance Workgroup of the
2015 Sangamon County
Multi-jurisdictional Natural Hazards Mitigation Plan

Auburn – Rich Marx
Buffalo – Daniel Miller
Cantrall – Phil Holler
Chatham – Patrick McCarthy
Divernon - Jim Copelin
Jerome – Dale Lael
Leland Grove – Paul LaMantia
Mechanicsburg – Kenneth Metcalf, Sr.
New Berlin – Terry Nydegger
Pawnee – Dave Skinner
Rochester – Joe Hill
Sherman – Mike Moos
Southern View – Judy Gordon
Springfield – Nate Bottom
Williamsville – John Brennan
Sangamon County – Brian McFadden

Springfield Homebuilders Association – Steve Sturm
Sangamon County Office of Emergency Management – Bill Russell

## Section VI  Appendices

**(Attachments to be added on May 5, 2015)**