FRANKLIN COUNTY MULTI-HAZARD MITIGATION PLAN

FEMA

IEMA
ILLINOIS EMERGENCY MANAGEMENT AGENCY

Meeting 1

June 10, 2021

10:00 AM

Welcome and Introductions

Ryan Buckingham, *EMA Director – Franklin County EMA*

Cary Minnis, *Executive Director – Greater Egypt*

Agenda

1. Welcome and Introductions
   Ryan Buckingham, EMA Director - Franklin County EMA
   Cary Minnis, Executive Director – Greater Egypt

2. Multi-Hazard Mitigation Planning Process
   Tyler Carpenter, Environmental Planning Director, Greater Egypt

3. Responsibilities of Planning Partners

4. Franklin County Historical Hazards
   Kelsey Bowe, Environmental Planner, Greater Egypt

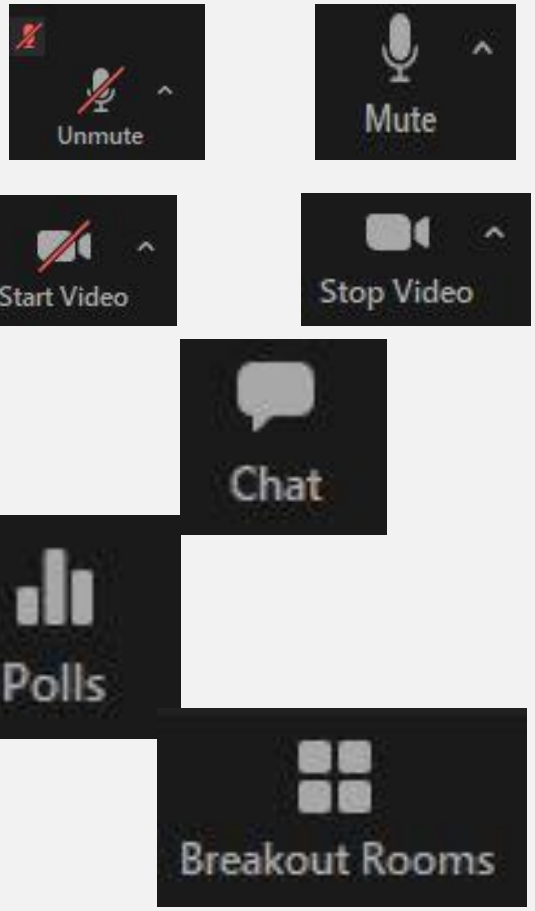
5. Critical Facilities Data Overview

6. Hazard Ranking Exercise
   Ciara Nixon, Environmental Planner, Greater Egypt

7. Adjourn

Zoom Meeting Notes

1. Meeting Recording
2. Mute/Unmute
3. Video On/Off
4. Chat Box
5. Polls
6. Breakout Rooms



Multi-hazard Mitigation Planning Process

Tyler Carpenter, Environmental Planning Director - Greater Egypt

- Hazard Mitigation and Assistance
- Multi-hazard Mitigation Planning Process
  - Planning Team
  - Risk Assessment
    - Identify Hazards
    - Vulnerability Assessment
    - Hazard Ranking Exercise
  - Develop Mitigation Strategies
  - Match Requirements
- Adoption of Plan

Hazard Mitigation and Assistance

Disaster Mitigation Act of 2000

- Amended from the Robert T. "Stafford Act"
- Focus on pre-disaster hazard mitigation
- FEMA-approved Hazard Mitigation Plan required
- Five year updates to the plan

Hazard Mitigation and Assistance

Assistance and Funding Opportunities:

HMGP – Hazard Mitigation Grant Program

- Hazard mitigation projects following Presidential disaster declaration

FMA – Flood Mitigation Assistance

- Planning and projects to reduce or eliminate risk of flood to buildings

PDM – Pre-Disaster Mitigation Program

- Hazard mitigation planning and projects on an annual basis

BRIC – Building Resilient Infrastructure & Communities

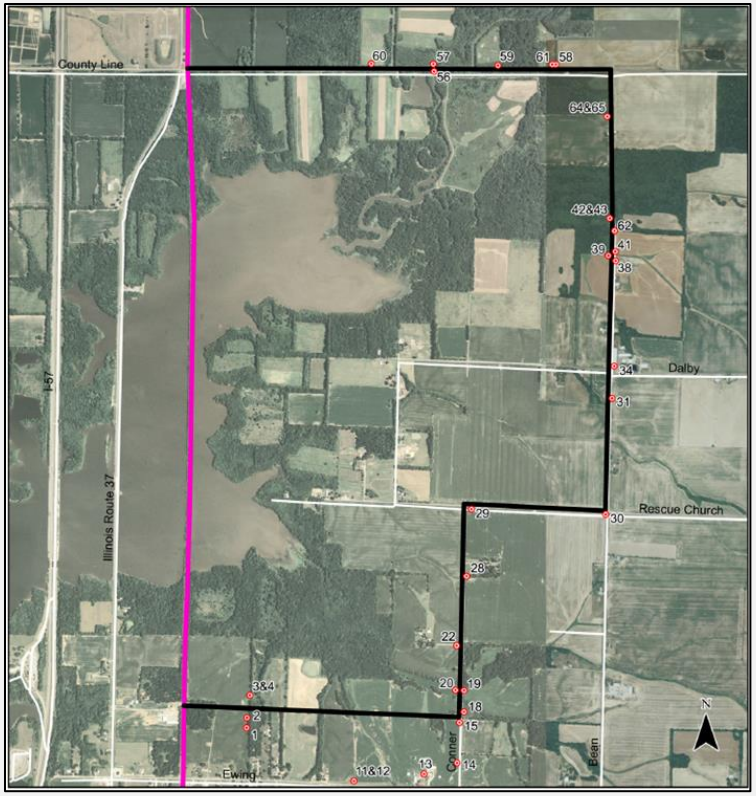
- Support for states, local communities and tribes as they undertake mitigation projects

Hazard Mitigation and Assistance

HMGP – Hazard Mitigation Grant Program

Rend Lake Water Main Bypass

- Rend Lake Conservancy District
- $2,362,065 Awarded



Hazard Mitigation and Assistance

HMGP – Hazard Mitigation Grant Program

West Frankfort Wastewater Treatment Plant Relocation

- City of West Frankfort
- $8,554,250 Awarded

Multi-hazard Mitigation Planning Process

Planning Team

- Stakeholders needed to represent jurisdictions in the county
- Attend two meetings
- Planning Team should include:
  - Emergency Management
  - Land Use/ Economic Development
  - Housing
  - Health and Social Services
  - Infrastructure
  - Natural Resources

Multi-hazard Mitigation Planning Process

Risk Assessment-Identify Hazards

- Identify hazards that threaten county

- Participate in hazard ranking exercise
  - Group determines hazards to be included in plan
  - Participating jurisdictions break out into groups to rank hazards

Multi-hazard Mitigation Planning Process

Risk Assessment-Vulnerability Assessment

- Critical Facilities

- Essential Facilities
  - Emergency Operations
  - Fire Stations
  - Police Stations
  - Schools
  - Care Facilities

Multi-hazard Mitigation Planning Process

Risk Assessment-Risk Analysis

- Results of Hazard Ranking exercise will determine hazards to be modeled

- HAZUS- GIS-based software that identifies and quantifies risk of natural hazards such as:
  - Physical damage
  - Economic Loss
  - Social Impacts

Multi-hazard Mitigation Planning Process

Develop Mitigation Strategies

- Mitigation strategies for identified hazards

- Two strategies for every identified hazard per jurisdiction

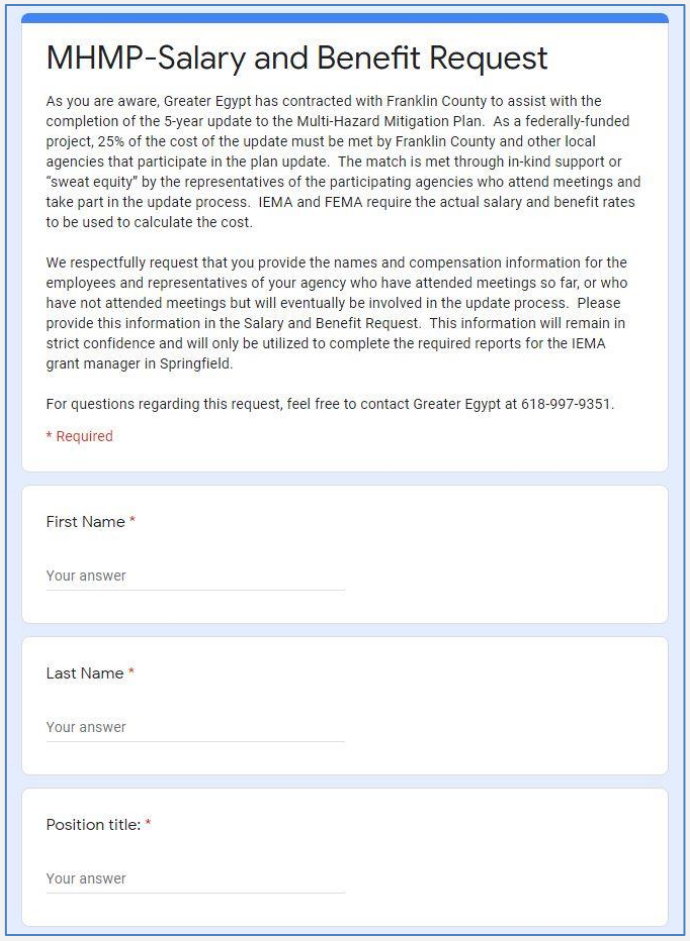
Multi-hazard Mitigation Planning Process

Match Requirements

- 75% Federal Dollars for Planning
- 25% Local Match Needed

- Match is Met by Your Participation
  - Meeting Attendance
  - Outside Work on Plan
  - Travel
  - Other Costs

- MHMP Match Survey



MHMP-Salary and Benefit Request

As you are aware, Greater Egypt has contracted with Franklin County to assist with the completion of the 5-year update to the Multi-Hazard Mitigation Plan. As a federally-funded project, 25% of the cost of the update must be met by Franklin County and other local agencies that participate in the plan update. The match is met through in-kind support or "sweat equity" by the representatives of the participating agencies who attend meetings and take part in the update process. IEMA and FEMA require the actual salary and benefit rates to be used to calculate the cost.

We respectfully request that you provide the names and compensation information for the employees and representatives of your agency who have attended meetings so far, or who have not attended meetings but will eventually be involved in the update process. Please provide this information in the Salary and Benefit Request. This information will remain in strict confidence and will only be utilized to complete the required reports for the IEMA grant manager in Springfield.

For questions regarding this request, feel free to contact Greater Egypt at 618-997-9351.

* Required

First Name *

Your answer

Last Name *

Your answer

Position title: *

Your answer

Adoption of Plan

- Participating Jurisdictions must adopt plan
- Approval-Pending-Adoption status (FEMA)
- County Adoption

Planning Timeline

Mitigation Planning Timeline	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
	1	2	3	4	5	6	7	8	9	10	11	12	13
Meetings: Goals and Objectives													
Meetings: Public involvement													
Meetings: Mitigation Activities													
Write Plan													
Review Plan													
Finalize Plan													
Print Plan													
State/ Federal Review													

Responsibilities of Planning Partners

- Represent an authorized jurisdiction in the county
- Attend two meetings during planning process
- Complete Hazard Ranking exercise for your jurisdiction
- Propose two mitigation strategies for each hazard
- Assist with meeting match requirements through participation

FRANKLIN COUNTY MULTI-HAZARD MITIGATION PLAN

Historical, current, and potential hazards

List of critical facilities to be reviewed and updated

FEMA

IEMA

FEMA definitions

- Hazard Extent: Strength or magnitude of hazard. Can be measured with scientific scales (Tornado EF Scale, Palmer drought severity index, etc.), measurements of the hazard (flood height, snow depth, etc.), or other factors such as duration and speed of onset.
- Hazard Impacts: Consequences/effects of the hazard on a community and its assets. Examples include number of injuries/deaths, dollar amount of property/crop damage, number of days without power, etc.

Hazards Overview

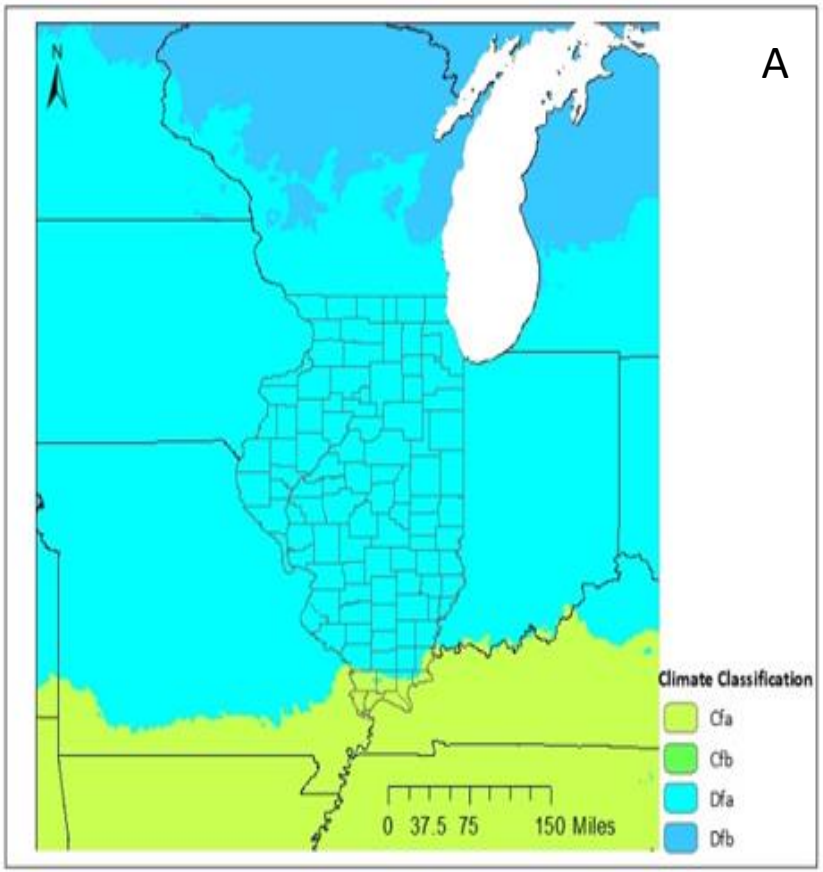
This list is not a ranking of hazard risk

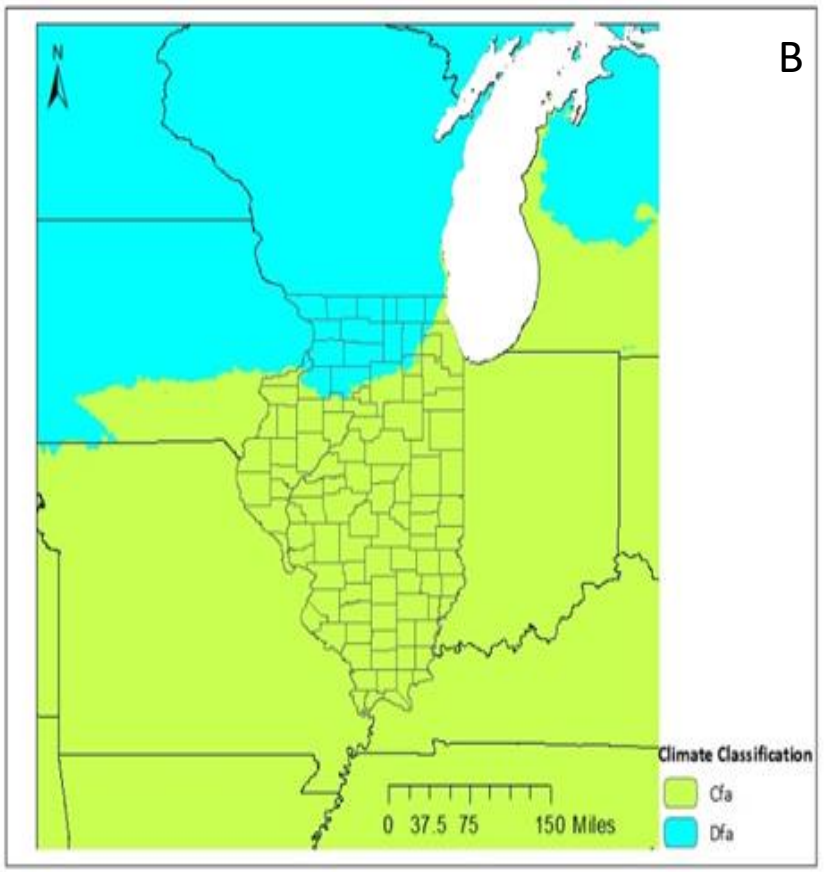
1. Tornados & derechos
2. Earthquakes
3. Ground Failure (sinkholes)
4. Floods & dam failure
5. Severe weather
   - Thunderstorms/hail
   - Ice/snow storms
   - Drought & excessive heat
6. Hazardous materials release
7. Pests/ invasive

Historical records will be presented when available, in some cases data is lacking from federal and state sources, local knowledge from planning partners is welcome to improve detail of plans

Emerging hazard – climate change

- Global average temperature has already risen by 1.8 degrees F since 1901
- Specific effects will be discussed with each hazard when relevant





1. Tornados

- Violently rotating column of air, attached to base of cloud and extending to ground
- Can be long lived with wide damage paths, but small scale tornados are more common
- Wind gust speeds usually estimated by damage indicators, may vary from 65 to 200+ mph

Derechos

- Long lived wind storm with damage occurring along a straight path and continuing in one direction
- Wind gusts must exceed 57 mph to be considered a derecho
- Seasonal, 70% occurring May-August

Both are associated with and may develop from thunderstorms

Tornados

Extent defined with the Enhanced-Fujita Scale, adopted by the national weather service in 2007

Enhanced Fujita Number	3-Second Gust Speed (mph)	Selected Degrees of Damage Descriptions
0 Gale	65-85	Loss of <20% roofing material, loss of siding. Loss of rooftop HVAC.
1 Moderate	86-110	Broken glass, loss of >20% roofing material. Manufactured homes overturn but remain intact. Collapse of exterior walls of many types of building. Broken wood electrical poles. Trees uprooted or snapped.
2 Significant	111-135	Houses shift off foundations, collapse of roofs. Manufactured homes destroyed. Collapse of exterior walls of many types of building. Complete destruction of some isolated buildings. Bent or broken steel and concrete electrical poles. Trees snapped and debarked.
3 Severe	136-165	Top floor exterior and interior walls may collapse. Collapse of rigid frames in metal buildings. Damage to wall cladding and roof slabs of institutional buildings (hospitals, courthouses).
4 Devastating	166-200	Collapse of most walls, total destruction of residential houses. Destruction of large buildings such as shopping malls. Significant damage to institutional

DI Number	Damage Indicator
1	Small Barns or Farm Outbuildings (SBO)
2	One- or Two-Family Residences (FR12)
3	Manufactured Home – Single Wide (MHSW)
4	Manufactured Home – Double Wide (MHDW)
5	Apartments, Condos, Townhouses [3 stories or less] (
6	Motel (M)
7	Masonry Apartment or Motel Building (MAM)
8	Small Retail Building [Fast Food Restaurants] (SF
9	Small Professional Building [Doctor's Office, Bra
10	Strip Mall (SM)
11	Large Shopping Mall (LSM)
12	Large, Isolated Retail Building [K-Mart, Wal-Mar
13	Automobile Showroom (ASR)
14	Automobile Service Building (ASB)
15	Elementary School [Single Story; Interior or Exte
16	Junior or Senior High School (JHSH)
17	Low-Rise Building [1-4 Stories] (LRB)
18	Mid-Rise Building [5-20 Stories] (MRB)
19	High-Rise Building [More than 20 Stories] (HRB)
20	Institutional Building [Hospital, Government or (IB)
21	Metal Building System (MBS)
22	Service Station Canopy (SSC)
23	Warehouse Building [Tilt-up Walls or Heavy-Tim Construction](WHB)
24	Transmission Line Towers (TLT)
25	Free-Standing Towers (FST)

National Weather Service DIs and an example Degree of Damage scale

Table 4.

One- and Two-Family Residences (FR12)

Typical Construction

- Asphalt shingles, tile, slate or metal roof covering
- Flat, gable, hip, mansard or mono-sloped roof or combinations thereof
- Plywood/OSB or wood plank roof deck
- Prefabricated wood trusses or wood joist and rafter construction
- Brick veneer, wood panels, stucco, EIFS, vinyl or metal siding
- Wood or metal stud walls, concrete blocks or insulating-concrete panels
- Attached single or double garage

DOD*	Damage description	EXP	LB	UB
1	Threshold of visible damage	65	53	80
2	Loss of roof covering material (<20%), gutters and/or awning; loss of vinyl or metal siding	79	63	97
3	Broken glass in doors and windows	96	79	114
4	Uplift of roof deck and loss of significant roof covering material (>20%); collapse of chimney; garage doors collapse inward or outward; failure of porch or carport	97	81	116
5	Entire house shifts off foundation	121	103	141
6	Large sections of roof structure removed; most walls remain standing	122	104	142
7	Top floor exterior walls collapsed	132	113	153
8	Most interior walls of top story collapsed	148	128	173
9	Most walls collapsed in bottom floor, except small interior rooms	152	127	178
10	Total destruction of entire building	170	142	198

* DOD is degree of damage

Tri State Tornado: March 18, 1925

- Missouri, Illinois, Indiana
- Path length of 219miles and width of 3/4mile
- Continued for over 3 hours
- 695 lives lost – still the record for any tornado in US history
- 2,027 injured
- 15,000 homes destroyed

Tornado records 1950-2021

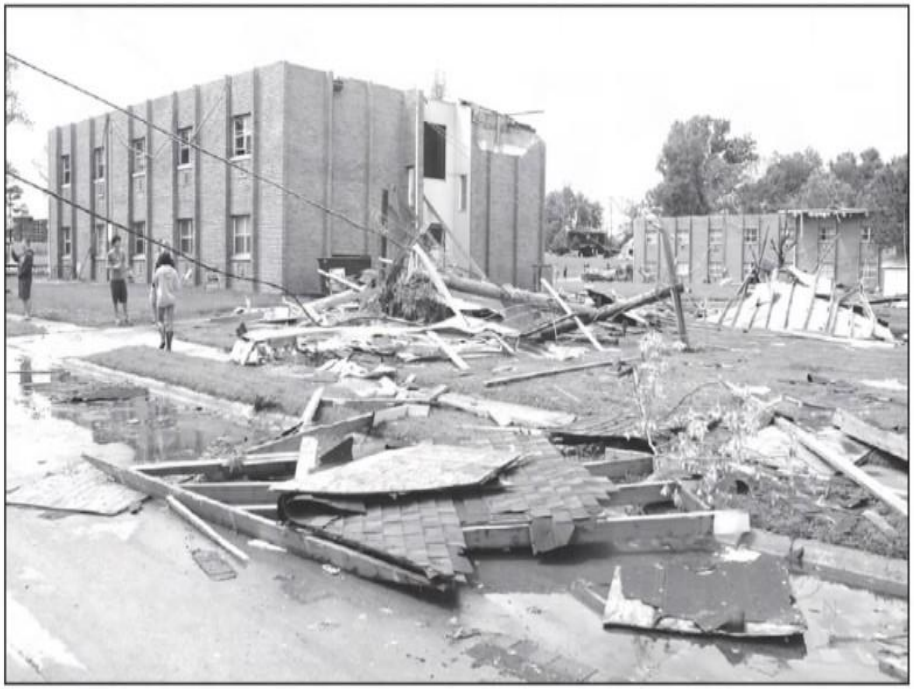
Records of tornados that caused death, injury, or property damage in Franklin County IL. Source: NOAA storm events database

Date	Location	Rating	Deaths	Injuries	Property Damage
12/18/1957	Not listed	F4	0	10	$2.500M
2/9/1960	Not listed	F2	0	0	$2550.00K
4/27/1971	Not listed	F3	1	20	$2.500M
4/27/1994	West Frankfort	F1	0	1	$500.00K
4/19/1996	Mulkeytown	F1	0	0	$20.00K
11/10/2002	Royaltown	F0	0	0	$1.00K
6/8/2009	Mulkeytown	EF1	0	0	$6.00K
4/19/2011	Royatown	EF1	0	0	$80.00K

Derechos in Illinois

Currently no federal database of derecho events, any information from planning partners is welcome

- May 2009, winds across Southern Illinois lasted over an hour, wind speeds measured 106mph in Carbondale and 120mh in Murphysboro, many residents were without power for weeks, 1 person was killed
- August of 2020, a derecho went from Nebraska through Indiana. 850,000 acres of crops were damaged, 750,000 homes in Illinois lost power, 2 people were killed



THE SOUTHERN FILE PHOTO

The roofs of Royal Apartments on East Mill Street were torn off during the May 8 derecho.

C. Burdick, The Southern Illinoisan March 4 2021; C. Hale, The Southern Illinoisan Dec 27 2009
McFetridge, The Southern Illinoisian Apr 30 2021; R.Tronsco, The Southern

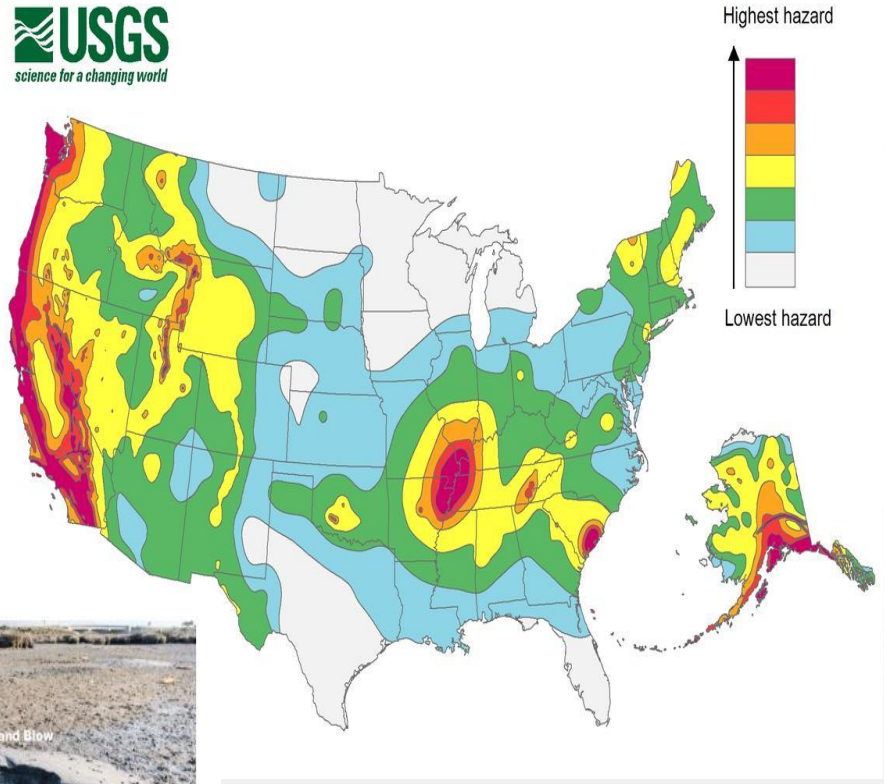
Photo from The Southern Illinoisian Oct 26.2009

Hazard Risk

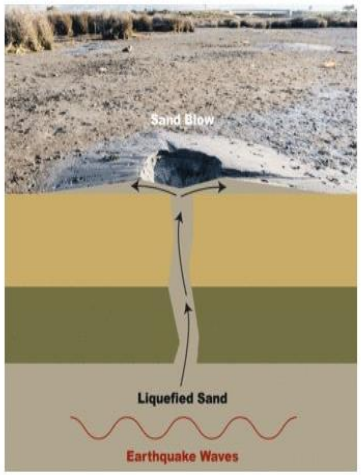
- All of Franklin county has the same risk of a tornado or derecho
- Derechos typically occur between May and August and are less common than tornados

2. Earthquakes

- Extent:
  - Magnitude- physical size of earthquake
  - Energy release- measure of the frequencies of shaki
  - Intensity- strength o shaking/levels of damage
- Effects: damaged buildings and infrastructure, sand blows, liquefaction, and landslides



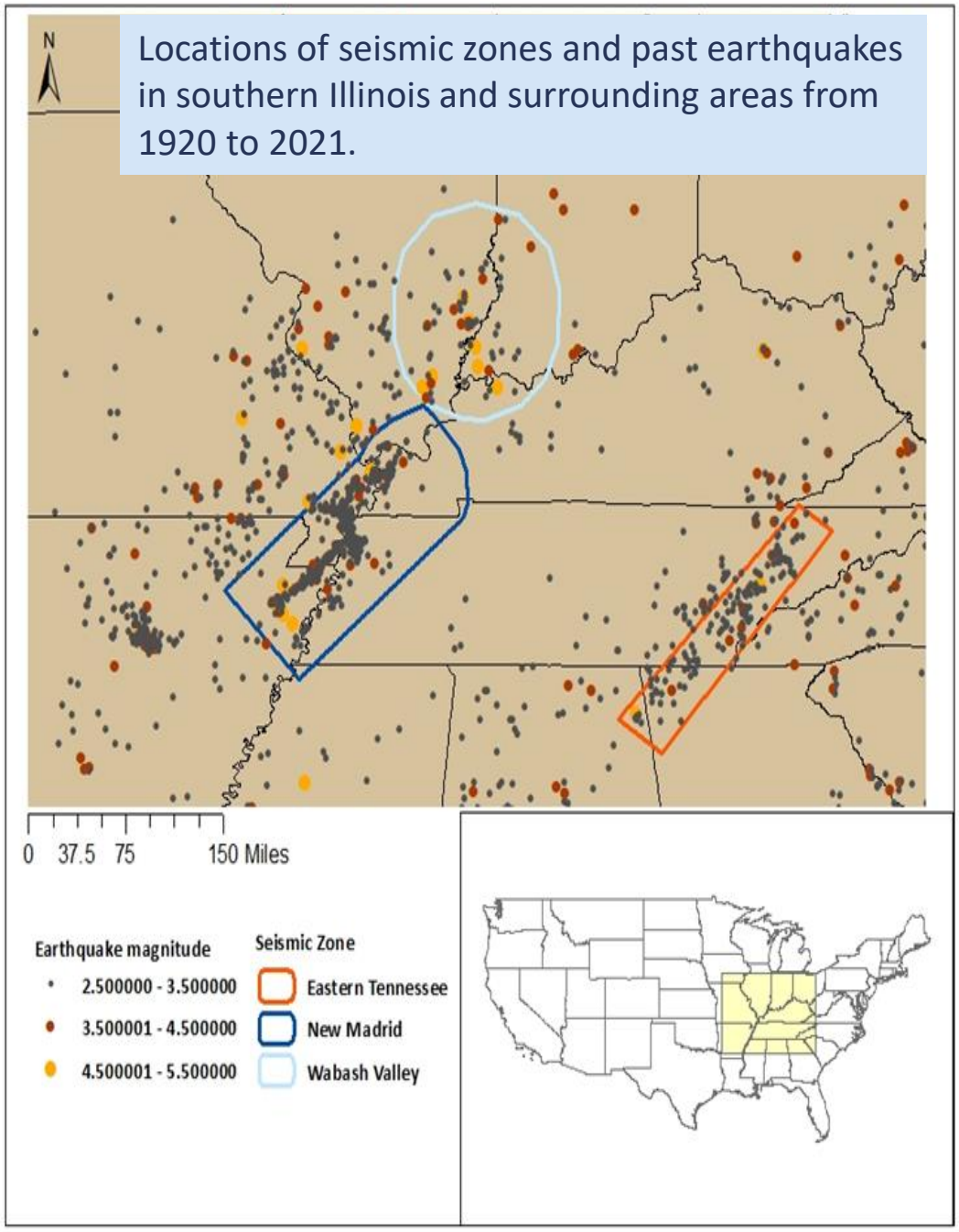
USGS long term earthquake risk model (2018)



Photograph and schematic cross-section illustrating earthquake-induced liquefaction and formation of sand dikes and sand blows. The photo was taken on February 14, 2016 after the Christchurch, New Zealand earthquake. (modified from the original) (Credit: Martin Luff. Public domain.)

https://www.youtube.com/watch?v=b_aIm5oi5eA

Mercalli Intensity	Shaking	Damage/Description
I	Not felt	Not felt except by a very few under especially favorable conditions
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors. Many people do not recognize it as an earthquake. Vibrations similar to the passing of a truck.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very Strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structured. Some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.



The only recorded earthquake in Franklin county was a magnitude 3.1 that occurred NE of West Frankfort on Jan 23, 1991.

Data Sources: USGS earthquake catalog, USGS 2008 national seismic hazard

New Madrid Earthquake

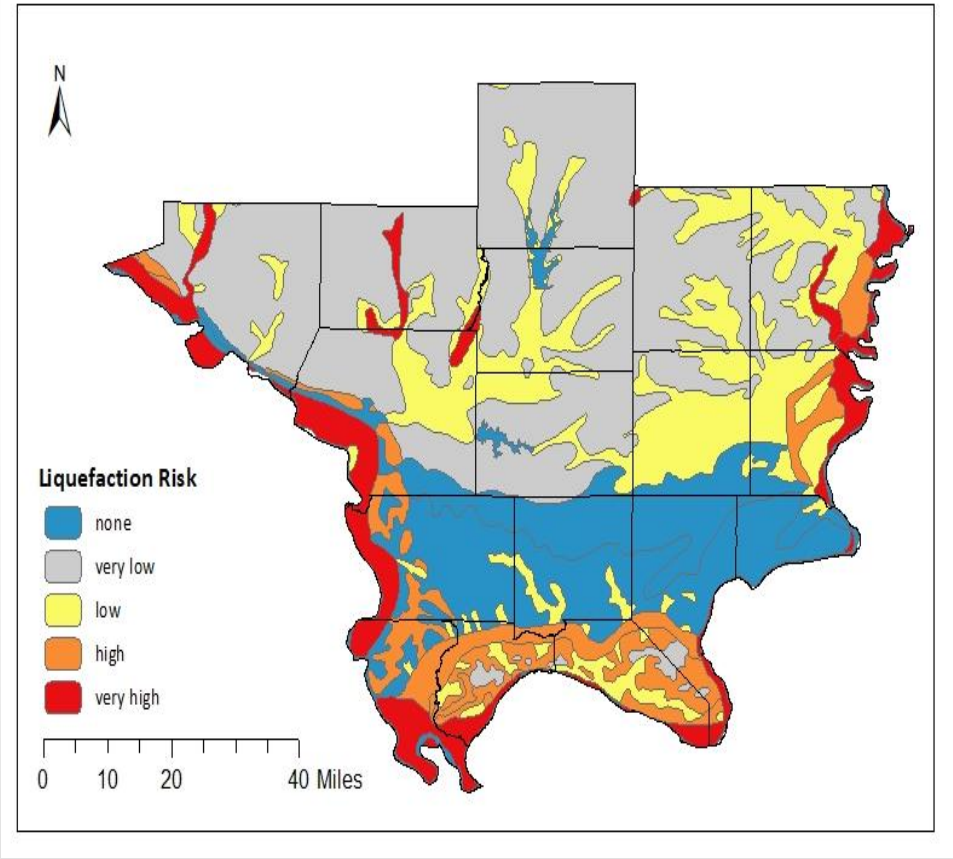
- December, January, February of 1811-1812
  - 3 large earthquakes, estimated magnitude 7, with hundreds of aftershocks
  - The February earthquake destroyed the town of New Madrid MO
  - Damage included river bank failure, landslides, sand blows, and reversal of the flow of the Mississippi
  - Among the 5 worst earthquakes to ever occur in the lower 48 states

An earthquake fissure that later filled with sand. [Myron L. Fuller, The New Madrid Earthquake (Washington, DC: US Department of the Interior, 1912)] 7 of 8

Missouriencyclopedia.org

Risk

- Earthquakes could occur anywhere in Franklin County
- Severe earthquakes (magnitude 7 or higher) within the New Madrid or Wabash Velley seismic zones can be felt hundreds of miles away from the epicenters
- Areas most at risk for liquefaction and sand blows are floodplains where the water tables is within 5 feet of the surface
- Severe earthquakes in the New Madrid seismic zone are estimated to occur every 500 years



3. Ground Failure

Subsidence of the land due to sinkholes from karst features or underground mines

- Karst: types of bedrock that dissolve in water over time
  - Limestone and dolomite/dolostone
- Coal mining in IL since early 1800s
  - Many with poor historical records of location
  - Most coal mines in Franklin County are underground "room and pillar" mines
- Extent: type (mine vs karst; pit, sag, or trough subsidence) and size of sinkhole
- Impacts: road closures, damage to underground facilities damage to buildings, lowering of water table, injury/death in cases of mining accidents or suddenly appearing sinkholes

Delbert Goss of Ewing inspects Zeigler mine squeeze damage

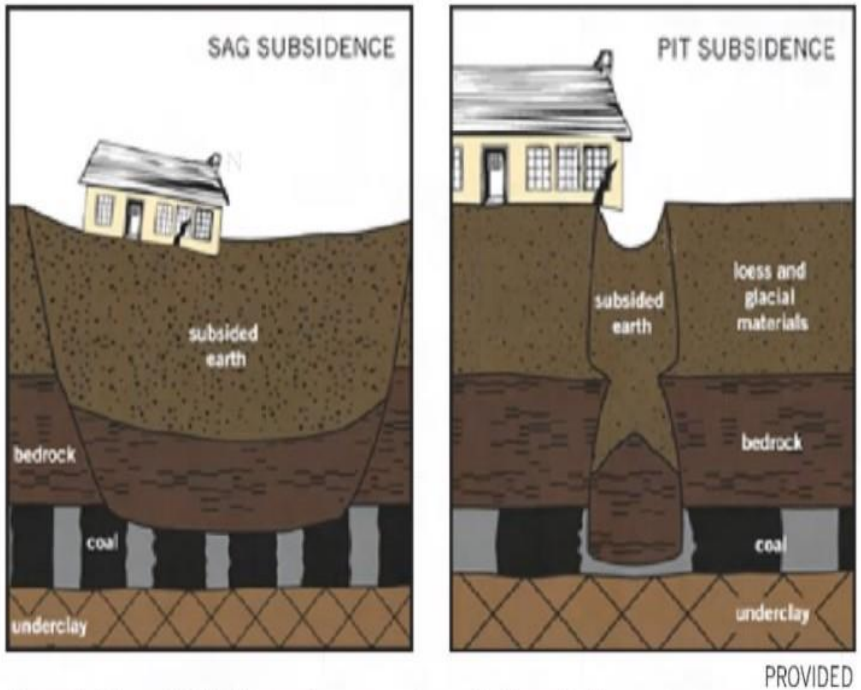
Buildings damaged

Mine squeeze hits Zeigler

By Jim Hatton
Of The Southern Illinoisan

dow.
—Green's Drug Store, No. 11 Circle; front door jammed shut

The Southern Illinoisian September 25, 1970



PROVIDED

Sag subsidence (left), the most common type of mine subsidence, appears as a gentle depression in the ground and can spread over an area as large as several acres. Collapse of pillars supporting the mine roof is a typical cause. Pit subsidence (right), forms a bell-shaped hole 6-8 feet deep and from 2-40 feet across and occurs when a shallow mine roof collapses.

Left: The Southern April 1, 2013
Original diagram from Illinois Mine Subsidence Insurance Fund
Right: The Southern December 15, 1954
Bottom: The Southern March 25, 1990

Old Du Quoin Mine Collapses

Old mine workings, reaching under Du Quoin residences, caved in Monday and Tuesday leaving a 50-foot long hole in the back yard of Nick Gidak, 202 N. Line St.

During the cave-in two sections of concrete sidewalk were swallowed up. The earth's first and largest collapse occured less than 10 yards from Mrs. Gidak as she entered the house. Water gushed up from the hole.

Gidak, himself a former miner, said the cave-in, which lies in a northwest-southwest direction across his garden area, occured in

Some subsidence claims fall through gaping loophole

By Pete Rosenbery
Of The Southern Illinoisan

Expanding the existing mine subsidence law was one of three ideas West Frankfort area residents heard Saturday from U.S. Rep. Glenn Poshard.

Poshard said the 11-year-old Illinois Mine Subsidence Insurance Fund approved by state legislators allows subsidence claims to be paid only in cases of mine collapse.

That was news to many of the residents, including Virginia Bryant of West Frankfort, who helped spearhead the meeting.

Bryant labeled the provision is a "legal loophole" and said residents were unaware of the strict wording.

"This is a total shock and surprise to us," she said.

Poshard, a Carterville Democrat, met with about 30 residents in a public forum Saturday to discuss what he had learned after meeting with a representative of the insurance fund early last week.

There have been increasing concerns that claims filed with insurance companies were not being paid through the fund, although properties were affected by mine subsidence.

'I'm not blaming the (insurance) companies; I'm blaming the process.'
U.S. Rep. Glenn Poshard

Although a mine does not have to collapse for subsidence to occur, Poshard, who met with Illinois Mine Subsidence Insurance Fund general manager Edmund Murphy last week, said he was told that if the subsidence is not related to a mine collapse, the insurance companies don't have to pay claims.

Poshard said he does not believe the narrow interpretation of the law was the legislative intent when the mine subsidence fund was established in 1979. He said any legislator "certainly would have been thinking subsidence; not collapse."

In fact, Poshard said, the information booklet given to people when subsidence insurance is purchased — along with wording on insurance premiums — alludes only to mine "subsidence" and not mine collapse.

The narrow interpretation of the law by both the insurance companies and the commission that oversees the fund regarding subsidence claims have been upheld in legal challenges, Poshard said.

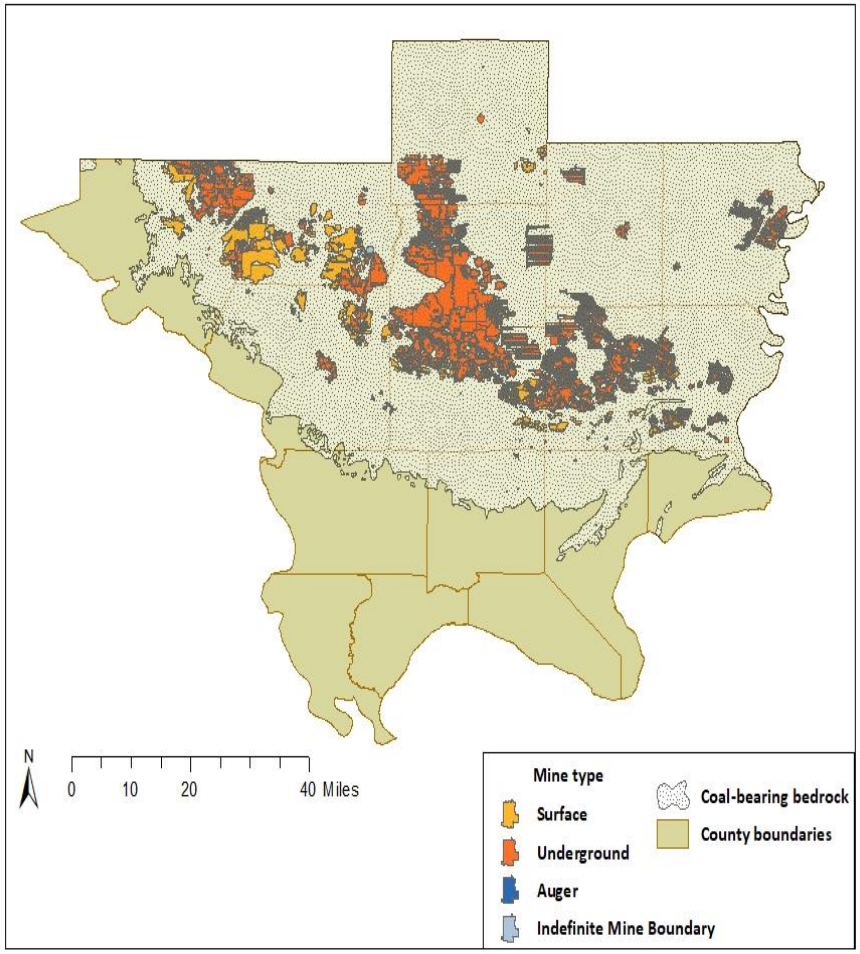
The legislature needs to make clear what subsidence means, he said.

"If they mean it to mean mine collapse ... then things aren't going to change," Poshard said.

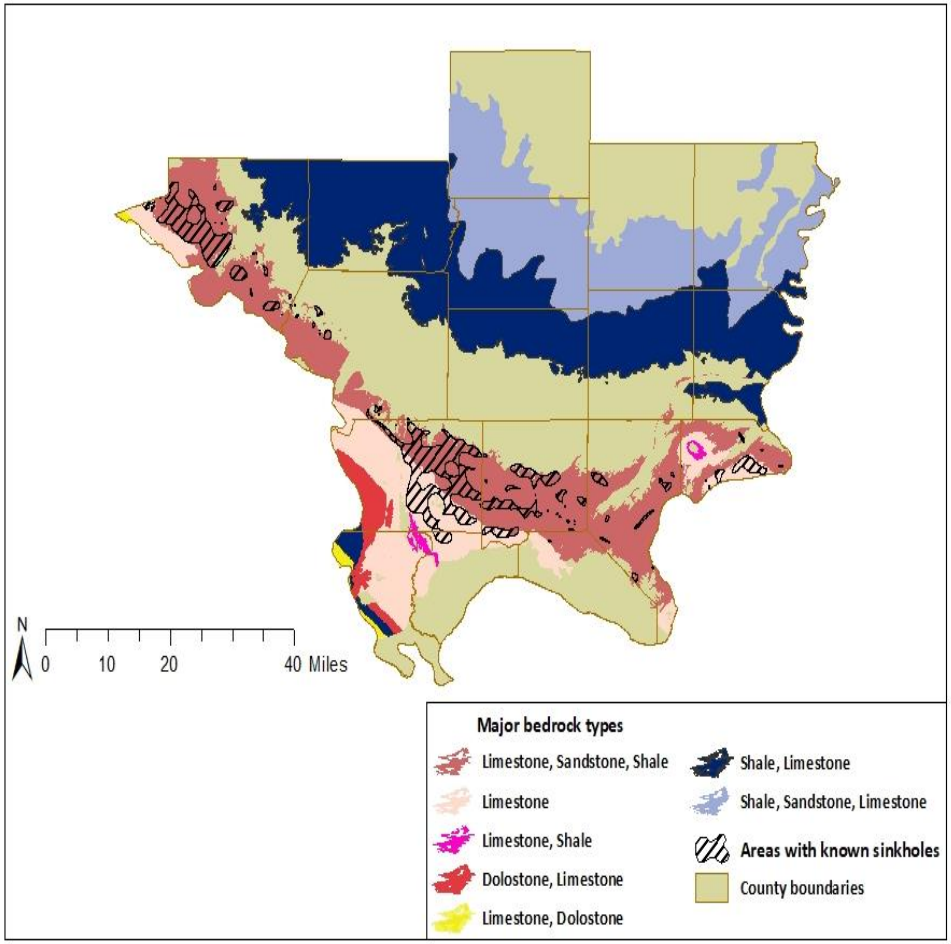
If the law is meant for mine subsidence "and all the other things associated with a huge hole in the ground 200 feet below your house," the wording could be legislatively

See Subsidence, A2

Locations of known and suspected coal mines in southern Illinois



Locations of karst bedrock and known sinkholes in southern Illinois



Data Sources: Illinois State Geological Survey (ISGS)

Recent sinkholes

- ❖No national or state database for mine-related sinkholes, reports can sometimes be found from local news sources
- February 2020: Smith Ave in Du Quoin was closed due a 14 ft deep sinkhole from mine subsidence
- June 2020: road closures on I-14 near Macedonia to make repairs from mine subsidence

- The IL Abandoned Mine Lands (AML) emergency program, operated through IDNR, has completed 225 projects since 1984, 90% of which were due to subsidence and shaft failures.
- ISGS estimates there are 330,000 housing units throughout Illinois at risk of mine subsidence

Watch your step: Another 'mine' sinkhole pops up on east side of Du Quoin

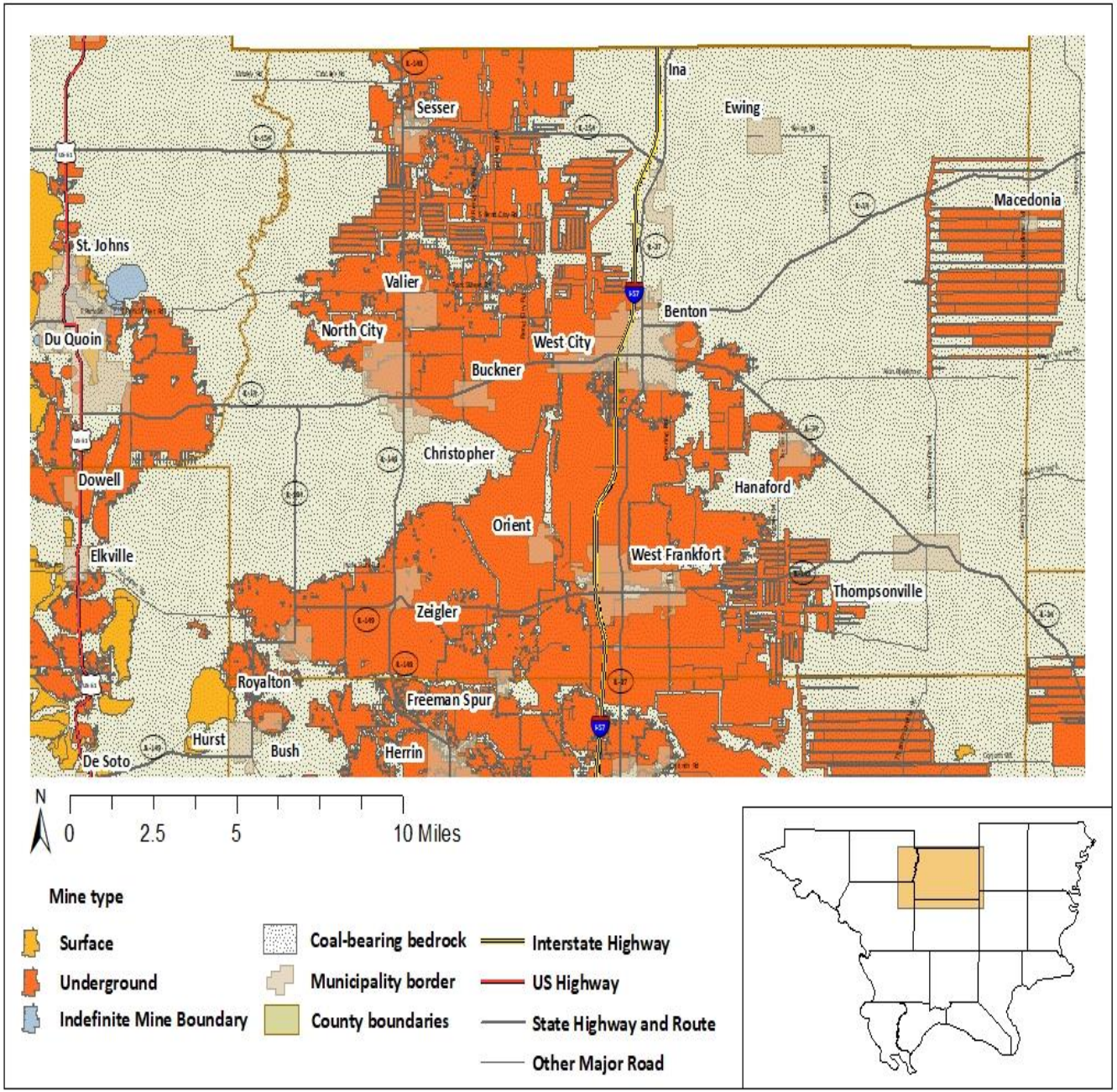
Facebook Twitter Print

Smith Avenue between North Vine and Grafway streets. The sinkhole was about 8 feet across and 14 feet deep.
Courtesy of the City of Du Quoin/Facebook

R. Trappe, Benton News 2.29.2020

Risk

- Highest risk are areas over underground mines
- Karst sinkholes are not a major concern



Locations of known and suspected coal mines in Franklin county

4. Floods

Flash Flood: rapid flooding of upstream tributaries and/or urban areas when drainage systems become overwhelmed

Riverine Flood: widespread, long lasting flood conditions of major rivers

In June, the Chester Bridge and Highway 51 disappear into the Mississippi River approaching McBride, Missouri.
Courtesy of Joggerst Aerial Photography/Used with permission

By JERRY NOWICKI
Capitol News Illinois Jnowicki@capitolnewsillinois.com

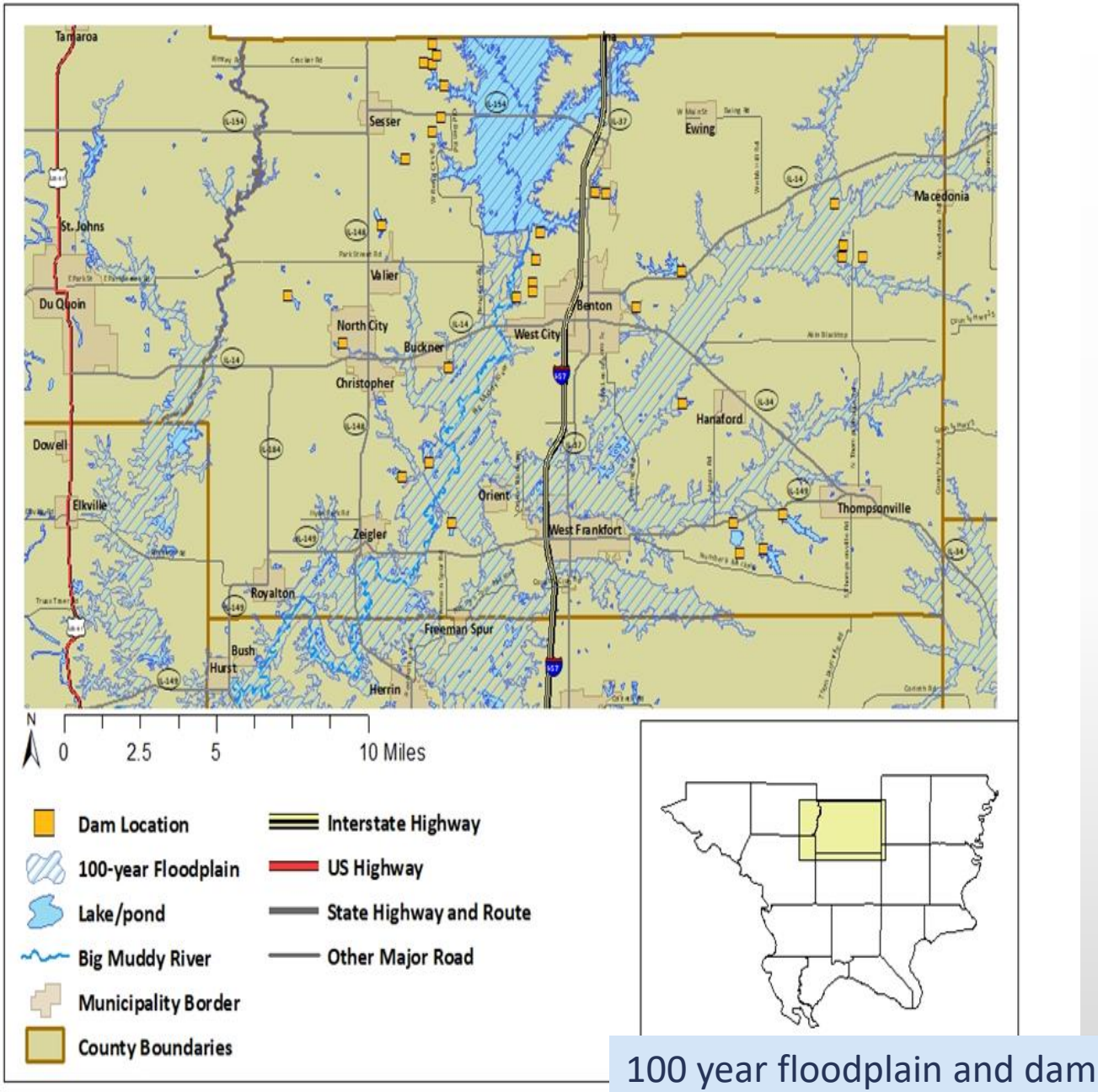
updated: 7/17/2019 11:52 AM

Dam failure

Usually caused by

- Flooding that exceeds dam height
- Internal erosion
- Mechanical failure
- Earthquakes
  - Unlikely for IL dams, as most are earthen rather than concrete

- Extent: measured in water depth, speed of onset, duration of flood conditions, % of dam function lost
- Impacts:
  - loss of life, damaged buildings and infrastructure, damaged crops
  - Combined Sewer Overflows, increased water pollution
  - secondary impacts from loss of power/services, changes in hydrology, and



100 year floodplain and dam locations for Franklin County, IL

Data Sources: ISGS, USACE National Dam Inventory

Dams cont.

- Database maintained by U.S. Army Core of Engineers
- Incident/failure databases maintained by The Association of Dam Safety Officials (ASDSO) and the National Performance of Dams Program (NPDP)
- Dams in Illinois are not required to have Emergency Action Plans

Edenville dam failure in Midland County, MI which occurred in May 2020 after heavy rains produced a 500 year flood event, the dam was built in 1925 and was in need of multiple repairs when the failure happened. 10,000 people were evacuated and 2,000 homes were damaged.

Dam Name	Stream/River	Date completed	Hazard Potential	EAP
West Frankfort New City Lake	Stevens creek, Trib Ewing creek	1945	high	yes
Sugar Camp/Mine 1/North Refuse Disposal	Sugarcamp creek	NA	high	yes
Sugar Camp/Mine 1/Coal refuse disposal 1	Trib Middle Fork, Big Muddy river	NA	high	yes
Valier Lake	Andy Creek	1905	high	no
SI Energy/Mine 25/Slurry Cell 2	Trib Tilley creek	1987	high	yes
Rend Lake	Big Muddy River	1971	high	yes
Lake Moses	Trib Drummond Branch	1918	significant	no
Lake Benton	Marcum Branch	1939	significant	no
Lake Hamilton	Marcum Branch	1912	significant	no
Liberty Land/Mine 26/Slurry Cell 3	Sandusky Creek	1987	significant	yes
West Frankfort Old City Lake	Tilley Creek	1945	significant	yes
Ill Coal Recovery/Mine 21	Jackie Branch	1960	significant	no
Christopher Old Reservoir	Trib Andy Creek	1900	significant	no
Cambon Lake	Trib Big Muddy River	1931	significant	no
Zeigler City	Trib Big Muddy River	1948	significant	no
Ill Coal Recovery/Slurry Cell 6	Trib Jackie Branch	NA	low	no
Christopher New Reservoir	Trib Andy Creek	NA	low	no
Sugar Camp/Mine 1/Freshwater Pond	Trib Middle Fork, Big Muddy river	NA	low	no
Sugar Camp/Mine 1/Freshwater Lake	Trib Akin Creek	NA	low	no
Mirror Lake	Trib Middle Fork, Big Muddy river	2001	low	no
Ill Coal Recovery/Slurry Cell 3	Trib Jackie Branch	1984	low	no
Ill Coal Recover/Slurry Cell 2	Trib Jackie Branch	1984	low	no
Ill Coal Recovery/Slurry Cell 4	Trib Jackie Branch	1986	low	no
Liberty Land/Mine 24/Freshwater Lake	Trib Big Muddy River	1996	low	yes
Liberty Land/John Ross Plant/ Sediment Pond	Trib Tilley Creek	1988	low	yes
Freeman United	Trib Middle Fork, Big Muddy river	1960	low	no
Beaver Lake	Trib Big Muddy River	8/12/2014	low	no
Liberty Land/Mine26/Slurry Cell 4	Sandusky Creek	5/9/2014	low	yes
Liberty Land/Mine 24/Slurry Cell 2	Trib Big Muddy River	5/9/2014	low	yes
Liberty Land/Mine 24/North Pond	Trib Sugar Creek	11/11/2013	low	yes

Currently no recorded incidents or failures for any dams in Franklin County

The national average age of dams in the US is 57 years, the average age in Franklin County is 61 years

Left: Location, age, and hazard potential of all dams in Franklin County, IL

All dams in Franklin County are regulated and inspected by Illinois Department of Natural Resources (IDNR)

Flood Records 1996-2021

Flood Events in Franklin county that caused injury, property damage, or crop damage
Source: NOAA Storm Events Database

Location	Date	Injuries	Property Damage	Crop Damage
	4/22/1996	0	5000	0
	2/1/1999	0	3000	0
	5/1/2002	0	3000	0
THOMPSONVILLE	3/18/2008	0	1500000	0
THOMPSONVILLE	5/1/2011	0	30000	0
PLUMFIELD	5/1/2011	1	500000	0
PLUMFIELD	12/1/2011	0	1000	0
ZEIGLER	6/3/2013	0	0	10000
BENTON	4/29/2017	0	40000	0
ZEIGLER	5/1/2017	0	70000	0
NORTH CITY	6/23/2017	0	40000	0

Flash flood events in Franklin county that caused property or crop damage
Source: NOAA Storm Events Database

Location	Date	Property Damage	Crop Damage
WEST FRANKFORT	4/28/1996	3000000	50000
WEST FRANKFORT	5/10/1996	8000000	0
COUNTYWIDE	4/15/1998	10000	0
WEST FRANKFORT	6/29/1998	100000	0
COUNTYWIDE	1/21/1999	100000	0
COUNTYWIDE	6/27/2002	75000	0
BENTON	10/18/2004	0	10000
SESSER	5/8/2009	10000	0
WEST FRANKFORT	8/14/2016	5000	0
			0

- While there were 5 reports during the record flood year of 2019, no injuries, property damage, or crop damage were reported in Franklin County

Risk

- Flash floods may occur anywhere during heavy rainfall, impacts are generally more severe in urban areas where there are impervious surfaces, and along low lying roadways
- Riverine flood risk is limited to areas surrounding the Big Muddy river, Ewing creek, and Little Muddy River
- Dam failure risk is limited to the maximum area that could be flooded, depends on size of reservoir and how much of the dam fails

Harrisburg Fire Department rescues 4 teens from flooded roadway

Facebook Twitter Print

1 2

The north end of Brier Creek Road, where it intersects Ingram Hill Road, remains closed from flooding.
TRAVIS DENEAL PHOTO

By Travis DeNeal
tdeneal@dailyregister.com

updated: 1/15/2020 11:57 AM

HARRISBURG -- Four Harrisburg teens are safe after being rescued from flood waters outside of Harrisburg Friday night.

Climate impacts on flooding


Study says triple the population is at risk of climate-triggered floods

SETH BORENSTEIN
Associated Press
WASHINGTON

because those areas use airborne lidar radar, which is more accurate about true

The Southern Illinoisian Oct30.2019

- Extreme precipitation is expected to increase with the warming climate, which in turn increases the frequency and intensity of floods. Springtime precipitation is expected to increase in southern Illinois by 10-15% by 2050
- 2019 was the 2nd wettest year on record, with $6.2 billion in damages just for states along the Mississippi river
- The upper Mississippi river was listed as the most endangered waterway in the US in 2020, with severe floods driven by climate change

NOAA IL state climate summery, J. Salter The Southern Illinoisian Apr 15, 2020, G. Ambrose Quad City Times Mar 5.2020

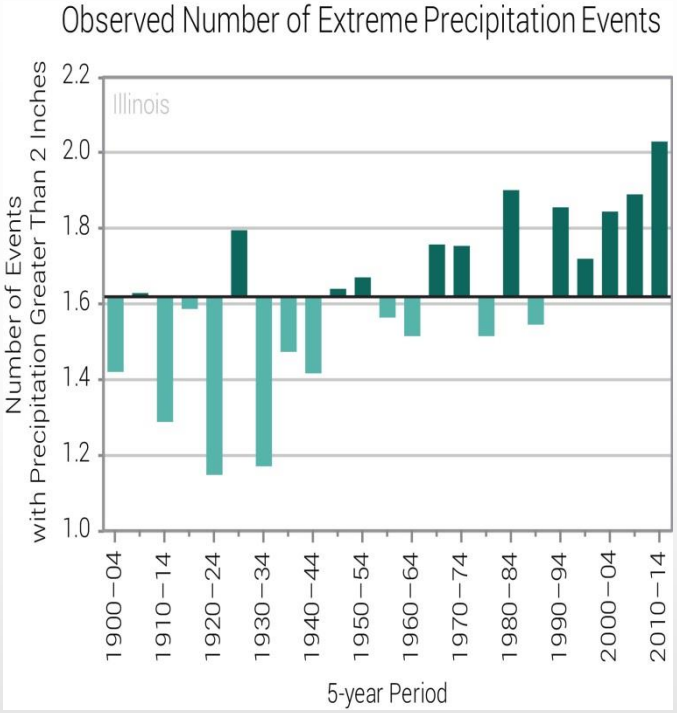
Flood relief options

- National Flood Insurance Program
  - Managed by FEMA
  - Participating communities must adopt and enforce floodplain management plans to be eligible
    - Required for homes and businesses in high risk areas, others in moderate to low risk may purchase flood insurance
- Disaster Declarations
  - Must first be made by state governors
  - President must determine appeals to declare federal disasters
  - 3 types of FEMA assistance during disasters (assistance threshold $7.5million)
    - Individual
    - Public
    - Hazard mitigation

Does your community participate in NFIP?	
Buckner	N
Ewing	N
Macedonia	N
North City	N
Orient	N
Thompsonville	N
Benton	Y
Christopher	Y
Freeman Spur	Y
Hanaford	Y
Royalton	Y
Sesser	Y
Valier	Y
West City	Y
West Frankfort	Y
Zeigler	Y

Severe weather: thunderstorms

- Extent: winds of at least 58mph, 1in diameter hail, or produce a tornado
  - or a combination of 40mph winds with 1/2in diameter hail
- Impacts: Death/injuries from lightning and hail, damage to trees, buildings, infrastructure, agriculture
- Record number of extreme precipitation events from 2010-2014, trend expected to continue



NOAA State Climate Summaries: Illinois

Historic Records 1950-p

- 141 total thunderstorms, 94 that have cause property damage and/or injury
- 101 total records of hail, 4 of which caused property damage
- 3 records of lightening causing property damage

HAIL, HAIL

Helen Hughes of Omaha, Neb., holds an ice cube at right and a hailstone at left. The hail fell in Carbondale during an electrical storm Monday. She is visiting her grandparents, Dr. and Mrs. H. W. Patterson, 105 N. University, Carbondale.

Cooler In Area

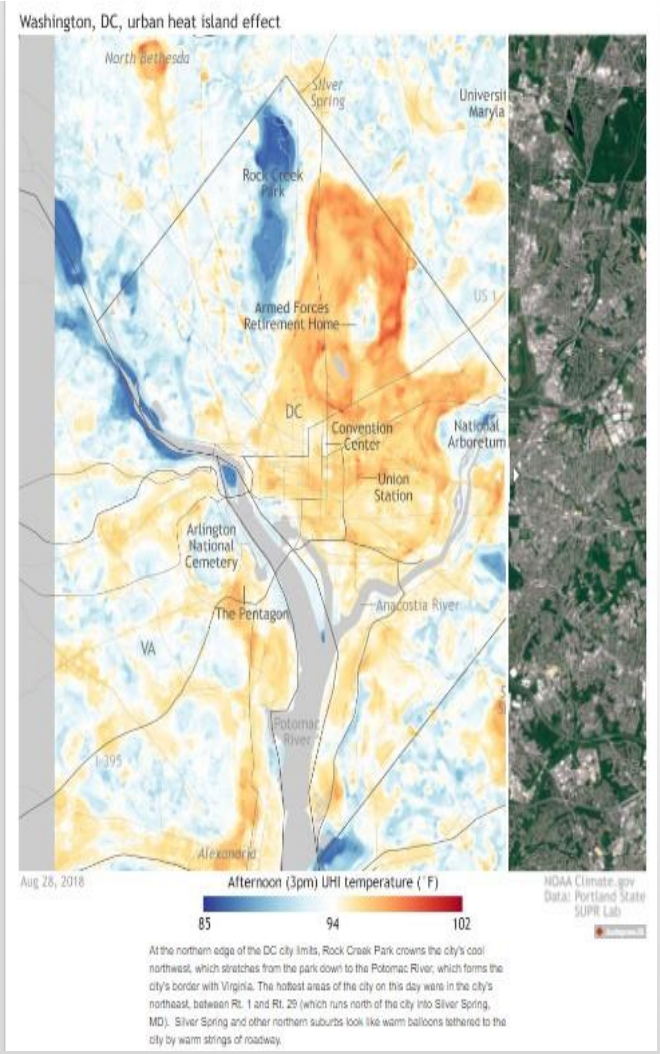
Hail Damages Apple Crop As Rain, Lightning Strike

Hail hitting orchards south of Murphysboro and Carbondale damaged apples during a bril- an oil tank flare, starting a grass fire at 400 S. Locust St., West Frankfort, at 7:45 p.m.

The Southern Illinoisian June 11, 1963

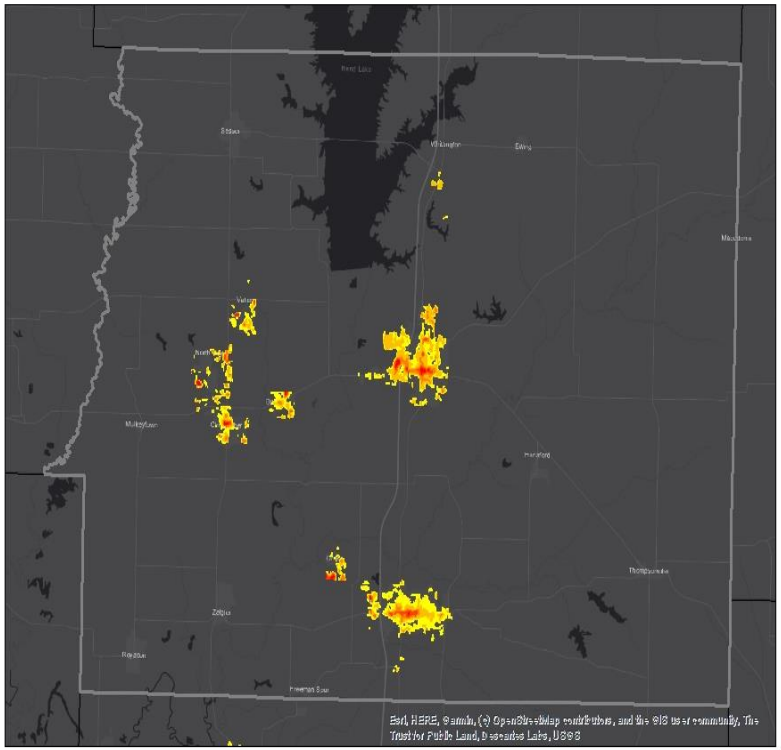
Severe weather: drought and excessive heat

- Extent: extended period of time with below average rainfall and excessive heat
  - Palmer Drought Severity Index (PDSI): an estimate of relative dryness on a scale of -10 to +10
- Impacts: heat related illness/death, disrupted growth cycles, loss of crops, wildfires, harmful algal blooms, loss of freshwater habitat, Urban Heat Island effects
- Frequency and intensity of droughts expected to increase with climate patterns



R. Lindsey, "Detailed maps of urban heat island effects in Washington, DC, and Baltimore",

Urban Heat Islands



Data source: The Trust for Public Land, Descartes Lab, ESRI base map

- 1-7 degrees hotter than surrounding natural areas
- Increased air pollution
- Higher risk of heat- related illness
- Lower water quality
- Higher energy bills

Harmful Algal Blooms (HABs)

- Form in nutrient-rich warm waters from cyanobacteria
  - Effects: toxins produced, decreased light and dissolved oxygen in water
    - Secondary economic effects from decreased tourism and fisheries population declines

LYNNE SLADKY, ASSOCIATED PRESS

An algae bloom is seen in 2018 on the Caloosahatchee River in Alva, Fla.

Left: The Southern Aug 23, 2019
Bottom: The Southern February 1, 2019

Building a better Campus Lake

Student projects shape healthier future for Southern Illinois University's lake

GABRIEL NEELY-STREIT
The Southern

CARBONDALE – In sickness and in health, Southern Illinois University's Campus Lake brings people together.

1 of 20

Historic Records

- 23 drought records (1998-2012)
  - One drought in 2007 caused $3.45 million in crop damage
- 11 records of excessive heat (2010-2019)
- No public databases of HAB occurrences, have been known to occur in late summer on Campus Lake in Carbondale, can occur in any lake during heat waves

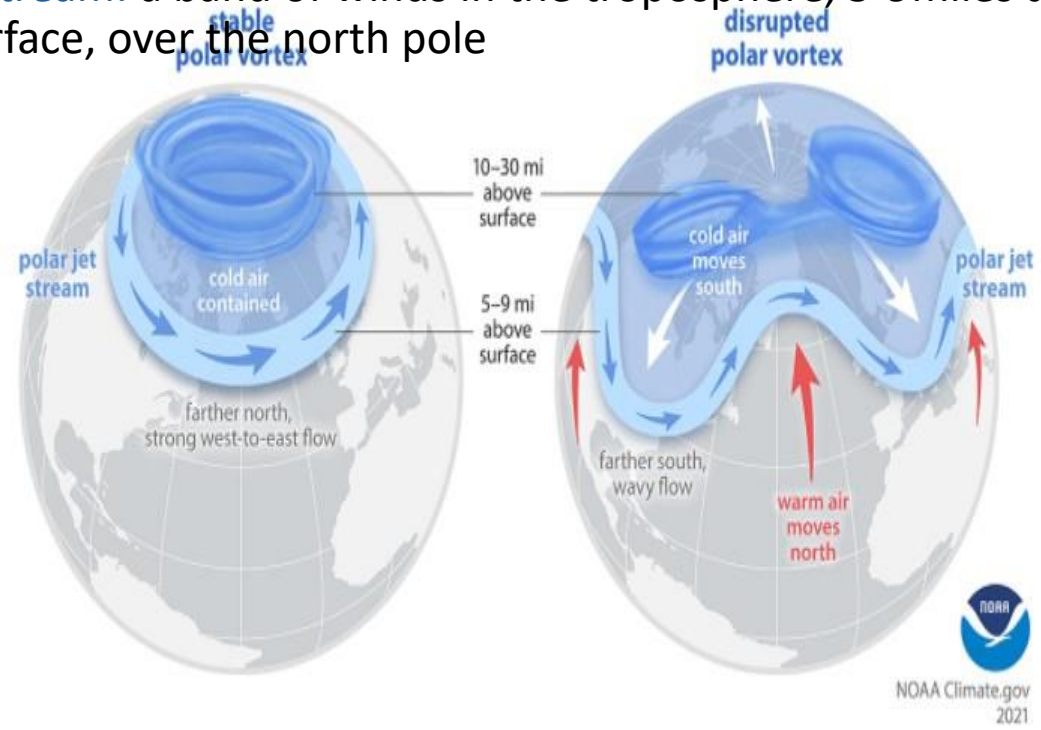
Severe weather: winter storms

- Extent: storm event that produces 6+ inches of snow in 48 hours. Ice accumulation and high wind speeds
- Impacts: Dangerous road conditions, disrupted traffic and increased accidents, power outages, damage to buildings and infrastructure, frostbite and hypothermia risk, loss of livestock
- Pattern of increasing heavy snowfall events over the past decade for the eastern US.

Some, but not all severe winter storms are related to the polar vortex and jet stream

- NOAA Definitions
  - Polar vortex: A band of strong westerly winds that rotate in the stratosphere, 10-30 miles above the surface of the earth, over the north pole. These winds enclose extremely cold air
  - Polar Jet Stream: a band of winds in the troposphere, 5-9miles above the earth's surface, over the north pole

February 16, 2021 Carbondale IL



Credit: NOAA

Historic records 1996-present

Date	Weather Event	Property Damage
1/1/1999	Ice Storm	50000
3/3/2008	Winter Storm	30000
1/26/2009	Winter Storm	250000
2/20/2015	Winter Storm	20000

winter weather events in Franklin county that caused property damage (The February 2021 storms did not cause property damage in Franklin county) source: NOAA storm events database

Right: The Southern Illinoisian Feb 17, 2021
Bottom: The Southern Illinoisian Feb 16, 2021

Millions left without power as massive winter storm slams US

PAUL J. WEBER AND JAKE BLEIBERG
Associated Press

AUSTIN, Texas – A frigid blast of winter weather across the U.S. plunged Texas into an unusually icy emergency Monday that

Electric Reliability Council of Texas. He defended preparations made by grid operators and described the demand on the system as record-setting.

"This event was well beyond the design parameters for a typical, or even an ex-

Parts of region see 10 inches of snow

Additional accumulation in Wednesday forecast

MARILYN HALSTEAD
The Southern

A winter storm on President's Day – which some are calling Snowmageddon 2021 – blanketed Southern Illinois in snow, with most of Southern Illinois, Western Kentucky and Southeastern Missouri receiving 5 to 9 inches of snow. More snow is

Severe weather – Risk

- Equal risk throughout county

- Climate change in the Midwest is altering historic wet/dry regimes; increasing frequency and severity of both drought and heavy precipitation

Hazardous Materials Release

- Unintentional release of any material that may cause harm to human health or the environment or cause damage to critical facilities and infrastructure.
- Extent and impacts vary
- Risk areas include major highways, railroads, barge routes, and

2 die in Houston warehouse blast

Officials think explosion was accident; nearby buildings are damaged

JUAN A. LOZANO
Associated Press

HOUSTON – A massive explosion Friday leveled a warehouse in Houston, leaving at least two people dead, damaging nearby buildings and homes and rousing frightened residents from their sleep miles away, authorities said. buildings suffered heavy damage to parts of their walls and roofs.

Police Chief Art Acevedo confirmed the deaths Friday and said it was likely both people worked for the company. He said a family member of one of the people suspected to have died was a U.S. Marine currently training at Camp Lejeune, North Carolina, and called on the Marines to let the man return to Houston.

Authorities don't believe the explosion was intentional though a criminal investigation is under-

Tractor-trailer spill jams up I-57

BY BECKY MALKOVICH
THE SOUTHERN

WILLIAMSON COUNTY – Traffic was snarled for hours after a tractor-trailer carrying a "disinfectant, liquid, corrosive" overturned on Interstate 57 Tuesday night.

The crash occurred when Cameron D. southbound lane and partially blocking the right southbound lane, state police said.

The truck spilled some of its load, a hazardous material identified as "disinfectant, liquid, corrosive."

Hazardous material cleanup crews were called shortly after the 8 p.m. crash, state police said.

Peters, who was uninjured in the crash, was cited for improper lane usage.

Assisting agencies included West Frankfort fire and police departments, Herrin and Johnston City police, Williamson County Fire Protection District, Marion Fire Department HAZMAT Team, Williamson County Emergency

Above: The Southern Illinoisian January 25, 2020
Left: The Southern Illinoisian January 16, 2014

Current Hazardous Materials Data

- Federal Emergency Planning and Community Right to Know Act (EPCRA) of 1986: Any facility that uses or stores certain thresholds of federally mandated substances must report annually to state and local officials; any releases that occur must be reported immediately.
  - Implemented in the state by Illinois Emergency Management Agency (IEMA)
  - Franklin County Local Emergency Planning Committee
- Review and update if necessary

Facility Name	Address	City	Contact Person	Chemical Name	Chemical Quality (lbs.)
BOMBARDIER MOTOR CORP. OF AMERICA	451 E. ILLINOIS AVE.	BENTON	MIKE RANDOLPH	STYRENE	4
MARIAH BOATS INC.	10231 SUGAR CREEK RD.	BENTON	GUY W. COONS	STYRENE	4
	11884 COUNTRY	WEST FRANKFO	DAVID M		

Invasive Species / Exotic Weeds

Any organism non-native in an ecosystem whose introduction causes or is likely to cause harm to the economy, environment, or human health (Executive order 13112).

Illinois defines **exotic weeds** as plants not native to North America that when planted, spread vegetatively or naturalize and degrade natural communities, reduce the value of fish and wildlife habitat, or threaten Illinois endangered or threatened species (525 ILCS 10).

- Extent: varies considerably by species

- Impacts: Disruption of natural ecosystem processes, damage to native populations, property damage, decrease value of timber stands, decrease crop yield, decrease water quality, damage infrastructure, disease spread
  - Power companies spend approximately $60million annually to control zebra mussels (US dept of state archives)
  - Autumn olive removal at Pyramid State Park is expected to cost $103,000 (Les Winkler, The Southern)

LES WINKELER PHOTOS, THE SOUTHERN

Autumn olive bushes cover a hillside bordering a Pyramid State Park Lake. The Illinois Department of Natural Resources is using herbicides to eradicate the invasive species.

Autumn olive eradication at Pyramid State Park

LES WINKELER
The Southern

Left: Southern Illinoisian Sept 15 2019
Bottom: Southern Illinoisian Nov 11 1991
Bottom right: Southern Illinoisian Feb 20 2021

New Florida mosquito species 'very aggressive'

ADRIANA BRASILEIRO
The Miami Herald

MIAMI – South Florida ap-

health or to animals in South Florida, Vasquez said.

"This species is not very well established yet, so we have not seen any cases of disease transmission. But we will keep an eye on it as we do with other mosquitoes that live here," he said. Miami-Dade monitors more than 320 mosquito traps set throughout the county to analyze species and prevalence in different areas.

Health officials reported more than 60 locally transmitted cases

Zebra mussels invade region

By Phil Brinkman
Of The Southern Illinoisan

Zebra mussels, the prolific, fingernail-sized mollusks whose North American debut in the Great Lakes five years ago alarmed marine biologists, likely have taken up residence in waterways throughout Southern Illinois, researchers say.

Sightings of the mussels have been confirmed in the Ohio River as far south as Olmstead, and in the Mississippi River as far south as Alton. However, given the mus-

U.S. Rep. Richard Durbin, D-Springfield, is aimed at finding a way to stem the tide of the destructive mollusks.

Zebra mussels, so called because of their striped shells, are a European species inadvertently introduced into the Great Lakes through the discharged ballast water of commercial ships.

Their ability to filter all the nutrients from enormous amounts of water, essentially removing the bottom link of the food chain, presents a possible threat to freshwa-

based economies by forming encrustations on recreational and commercial boats, and smothering some species of native mussels. Jon Stanley, director of the National Fisheries Research Center-Great Lakes, in Ann Arbor, Mich., said the number of native clam species in Lake St. Clair decreased from 14 to two over a 3-year period of zebra mussel infestation.

"The concern is that this will be the last straw for many of these endangered species," Stanley said.

In his testimony, Sheehan proposes con-

Triploidy, as the process is known, has been used to control populations on other species, such as the Mediterranean fruit fly and some commercially produced oysters, a relative of the zebra mussel.

To succeed, Sheehan said, a large enough number of sterile mussels must be introduced for their gametes to compete. Though such an introduction would seem to exacerbate the population problem, Sheehan said the operation actually presents a unique opportunity by placing them near effluent

stances up to 100 times their density in surrounding water.

Moreover, because they do not move once they are attached to something, the sterile mussels could be inserted in the effluent stream on artificial surfaces, such as ropes or plates. As the mussels start to clog the outlets, the surfaces could be removed and the pollution-laden mussels removed.

All the while the sterile mussels are growing and thriving on the organic matter from the sewage effluent, Sheehan said, they are

Right: Southern Illinoisian Mar 29 2020
Bottom: southern Illinoisian Feb 14 2018

SIU receives 115-pound black carp specimen

TIM CROSBY
SIU Media Services

CARBONDALE – Southern Illinois University Carbondale researchers this weekend received what is believed to be the largest specimen of black carp ever brought in for scientific analysis.

The fish, a 115-pound female caught Thursday by commercial fishers on the Mississippi River near Cape Girardeau, could help unlock important secrets about the invasive species, including its range, health and reproductive potential in that river and its larger tributaries, said Gregory Whitledge, associate professor of zoology at SIU.

SIU took possession of the fish Friday, after the fishers contacted the university. SIU manages a program funded by the Illinois Department of Natural Resources that pays commercial fishers for black carp that they catch and turn over to the university for scientific research.

SIU MEDIA SERVICE

Southern Illinois University Carbondale graduate student Hudman Evans stands with what is believed to be the largest specimen of the invasive fish species black carp ever brought in for scientific analysis.

Zoologists hope new specimen will shed light on an invasive species

During the weekend, researchers, including graduate student Hudman Evans, who is writing his

Lusk Creek Wilderness area to close to remove feral pigs

MOLLY PARKER
The Southern

The Shawnee National Forest plans to temporarily close the Lusk Creek Wilderness area in Pope County beginning Monday as officials take steps to eradicate a small but problematic feral pig population.

The closure will last through next Friday, April 3, the Shawnee National Forest said in a news release.

The feral swine eradication operation is a joint effort between the Shawnee National Forest and Animal and Plant Health Inspection-Wildlife Services, which both operate under the umbrella of the U.S. Department of Agriculture.

Feral swine are an invasive species recently documented living and breeding within and around the Lusk Creek Wilderness area. It is believed that the population is relatively small due to early detection.

Feral swine are an invasive species that compete with wildlife for food resources and prey on turkey and quail nests, reptiles, amphibians, and other wildlife including threatened and endangered species.

PROVIDED

Feral swine are an invasive species recently documented living and breeding within and around the Lusk Creek Wilderness area in Pope County.

They are a serious threat to forest and wildlife resources in Illinois through competition with native wildlife for food and cover, destruction of habitat, and destruction of sensitive natural areas, according to the Shawnee National Forest. Further, infected feral swine can transmit diseases and parasites to humans, wildlife and domestic livestock, such as horses and cattle. Natural habitats among Shawnee lands, including sensitive wilderness lands, are not capable of sustaining damage from feral swine without significant ecological consequences.

"We apologize for any inconvenience this may cause; however, we believe it is imperative that control measures are taken now while the feral swine population is small and localized," the Shawnee's news release said.

The closure will prohibit any public access to the site, and area residents may notice an increased presence of USDA personnel in the project area.

molly.parker@thesouthern.com
618-351-5079
On Twitter: @MollyParkerSI

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Disease Outbreak/ Pandemics

- Detailed planning and preparedness guides available from FEMA
- Other agencies involved in pandemic planning & mitigation include US Department of Health & Human Services, Centers for Disease Control, and state/county public health departments.
- Minor disease outbreaks not typically covered by FEMA, Covid-19 was declared a national disaster and therefore some relief is available to various groups
  - Applications for funeral cost assistance for individuals/families
  - Covid-19 funding for state, local, tribal, & territorial governments can be applied for through FEMA Public Assistance Simplified Applications
    - Released March 2020
    - CARES act

Hazus county datasets

- The FEMA Hazus software statewide datasets currently use information from the 2010 Census
- Used by Hazus to model and asses risk of earthquakes and floods
- Hazus models can be ran with the default data
  - level of detail included is up to each county, updated information can better predict the physical damage and

*Any planning partners interested in reviewing and updating county datasets will be sent the excel files, a data request sheet, and format explanations

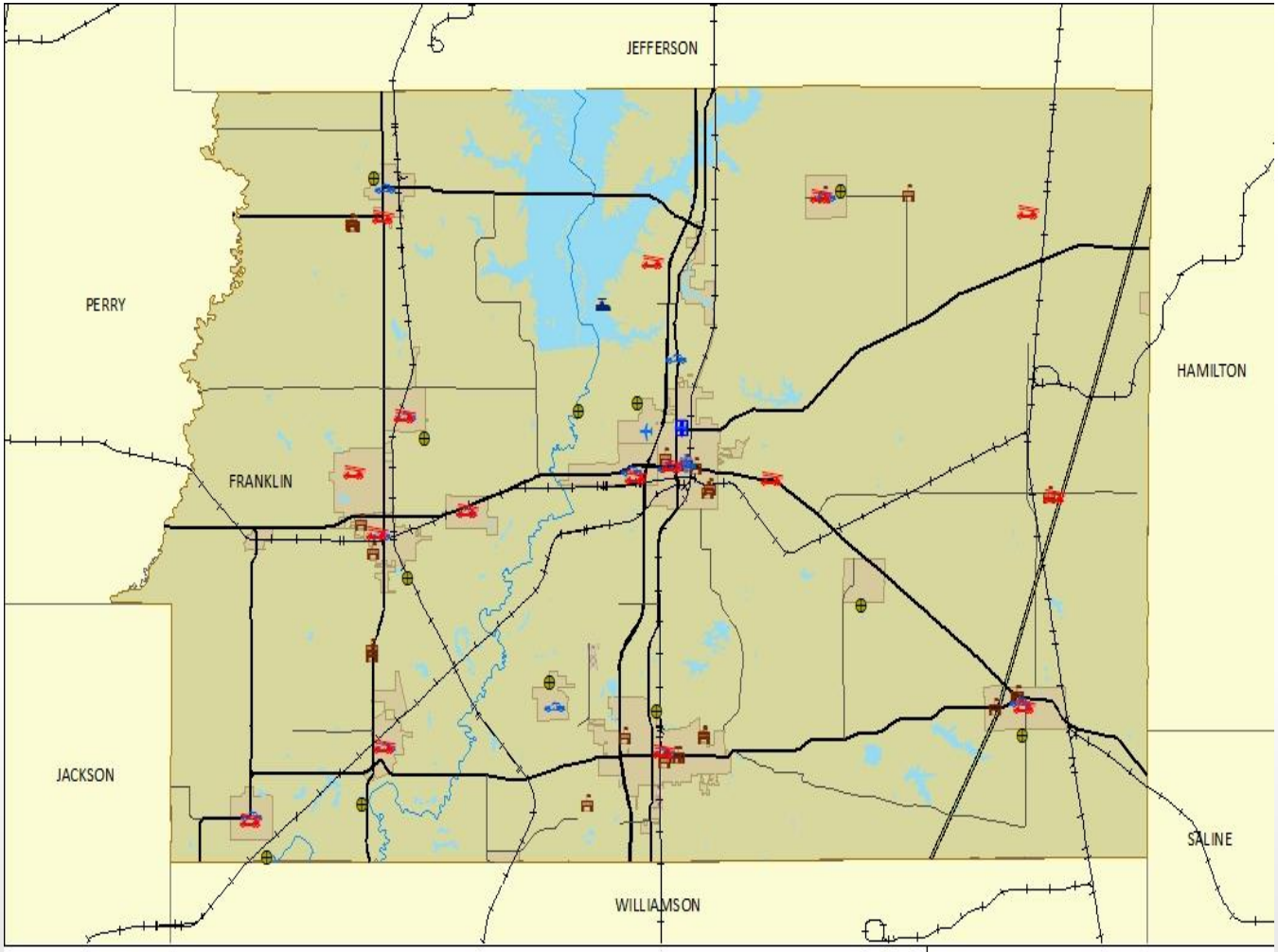
Essential & Critical Facilities

- Essential:
  - Emergency Operations Center
    - (required by FEMA, usually designated space within a police or fire station)
  - Police stations
  - Fire stations
  - Schools
  - Healthcare facilities
    - Only major hospitals included by software, others can be manually added
- Critical:
  - Transportation – Airports, highways, railways, and bridges
  - Utilities – wastewater treatment, potable water storage, water/sewer lines, gas pipelines, power plants
  - Communication – cell towers and warning sirens
  - Dams – not included in Franklin county's

Dataset fields that are likely incorrect/outdated

*Defaults are used if Hazus doesn't have the info, not all fields are necessary to run models, but they can help planning partners create more informed mitigation strategies

- Backup power
- Square footage
- Replacement cost
- Kitchen facilities
- Shelter capacity
- # of stories
- Building & foundation types


JEFFERSON
PERRY
FRANKLIN
HAMILTON
JACKSON
SALINE
WILLIAMSON
Fire Station
Police Station
Hospital
Wastewater Treatment
Airport
Potable Water Facility
School
Emergency Operations Center
Communication Facility
Railroads
Interstate Highway
State Highway and Route
Other Major Road
Natural Gas Pipeline
Big Muddy River
Lake/pond
Municipality Boundary

Emergency Operations Center

Facility Name	Address	City	Back-up Power (Yes or No)	Building Replacement Cost (thous. $)
FRANKLIN COUNTY EMERGENCY OPERATIONS ...	403 EAST MAIN STREET	BENTON	No	2796.53

Fire Stations

Facility Name	Address	City	Back-up Power (Yes or No)	Building Replacement Cost (thous. $)
CAVE EASTERN FIRE PROTECTION DISTRICT...	SOUTH MAIN STREET	THOMPSONVILLE	No	2796.53
EWING-NORTHERN FIRE PROTECTION DISTRI...	21455 EWING ROAD	MACEDONIA	No	2796.53
CHRISTOPHER FIRE DEPARTMENT	211 NORTH THOMAS STREET	CHRISTOPHER	No	2796.53
WEST CITY FIRE DEPARTMENT	1000 WEST BLAKELY STREET	WEST CITY	No	2796.53
COELLO VOLUNTEER FIRE DEPARTMENT	9095 MAIN STREET	COELLO	No	2796.53
BUCKNER VOLUNTEER FIRE DEPARTMENT	207 EAST MAIN STREET	BUCKNER	No	2796.53
ROYALTON VOLUNTEER FIRE DEPARTMENT	403 SOUTH MAIN STREET	ROYALTON	No	2796.53
BENTON FIRE DEPARTMENT	107 NORTH MAPLE STREET	BENTON	No	2796.53
CAVE EASTERN FIRE PROTECTION DISTRICT...	NORTH BOLEN STORE ROAD	THOMPSONVILLE	No	2796.53
EWING NORTHERN FIRE PROTECTION DISTRI...	8950 STEEL CITY ROAD	BENTON	No	2796.53
SESSER FIRE PROTECTION	FRANKLIN CEMETARY			2796.5

Police Stations

Facility Name	Address	City	Back-up Power (Yes or No)	Building Replacement Cost (thous. $)
BENTON POLICE DEPARTMENT	500 WEST MAIN STREET	BENTON	No	2796.53
ROYALTON POLICE DEPARTMENT	311 MAIN STREET, ROYALTON VILLAGE HAL...	ROYALTON	No	2796.53
CHRISTOPHER POLICE DEPARTMENT	208 NORTH THOMAS STREET	CHRISTOPHER	No	2796.53
WEST FRANKFORT POLICE DEPARTMENT	201 EAST NOLEN STREET	WEST FRANKFORT	No	2796.53
THOMPSONVILLE POLICE DEPARTMENT	21230 DIVISION STREET	THOMPSONVILLE	No	2796.53
ZEIGLER POLICE DEPARTMENT	303 CHURCH STREET	ZEIGLER	No	2796.53
EWING POLICE DEPARTMENT	12 NORTH MAIN STREET	EWING	No	2796.53
BUCKNER POLICE DEPARTMENT	202 EAST MAIN STREET	BUCKNER	No	2796.53

Healthcare

Facility Name	Address	City	Number of Beds	Back-up Power (Yes or No)	Building Replacement Cost (thous. $)
FRANKLIN HOSPITAL	201 BAILEY LANE	BENTON	25	No	3401.438

- Hazus only includes hospitals by default, but other healthcare facilities such as urgent care clinics and nursing homes may be added in manually

Schools

Facility Name	Address	City	Number of Students	Back-up Power (Yes or No)	Building Replacement Cost (thous. $)
ZEIGLER-ROYALTON HIGH SCHOOL	PO BOX 38	ZEIGLER	164	No	2592.386
ZEIGLER-ROYALTON JR HIGH SCHOOL	PO BOX 87	ZEIGLER	157	No	2361.951
SESSER-VALIER ELEM SCHOOL	4626 STATE HWY 154	SESSER	329	No	5069.555
CHRISTOPHER ELEM SCHOOL	501 S SNIDER ST	CHRISTOPHER	581	No	8698.894
ZEIGLER-ROYALTON ELEM SCHOOL	PO BOX 87	ZEIGLER	298	No	4608.686
THOMPSONVILLE GRADE SCHOOL	21191 SHAWNEETOWN RD	THOMPSONVILLE	247	No	3744.557
BENTON GRADE SCH K-4	1000 E MCKENZIE ST	BENTON	682	No	10355.14
	21191	THOMPSONVI			1541.0

Schools

Facility Name	Address	City	Number of Students	Back-up Power (Yes or No)	Building Replacement Cost (thous. $)
FRANKFORT INTERMEDIATE SCHOOL	800 N CHERRY ST	WEST FRANKFORT	508	No	7705.146
DENNING ELEMENTARY SCHOOL	1401 W 6TH ST	WEST FRANKFORT	504	No	7661.94
BENTON CONS HIGH SCHOOL	511 E MAIN ST	BENTON	577	No	8814.112
ECHO JUVENILE DETENTION CTR	409 E WASHINGTON ST	BENTON	15	No	259.2386
SESSER-VALIER JR HIGH SCHOOL	4626 STATE HWY 154	SESSER	134	No	2088.311
BENTON GRADE SCH 5-8	1000 FORREST ST	BENTON	474	No	7229.876
AKIN COMM CONS ELEM SCHOOL	21962 AKIN BLACKTOP	AKIN	90	No	1440.214
FRANKFORT COMM HIGH SCHOOL	601 E MAIN ST	WEST FRANKFORT	550	No	8439.656

User Defined Facilities

- Currently none listed for Franklin county
- Can be added and included into Hazus risk assessments
  - Buildings/structures with cultural or historical importance

Wastewater Treatment

Facility Name	Address	City	Back-up Power (Yes or No)	Replacement Cost (thous. $)
ORIENT STP, CITY OF	MONROE STREET	ORIENT	No	149533.1
CITY OF SESSER STP	16118 CHESTNUT STREET	SESSER	No	149533.1
ZEIGLER STP, CITY OF	ILLINOIS ROUTE 148 SOUTH	ZEIGLER	No	149533.1
THOMPSONVILLE STP	SOUTH MAIN ST	THOMPSONVILLE	No	149533.1
VALIER STP, VILLAGE OF	SOUTH MCKINLEY STREET	VALIER	No	149533.1
BENTON NORTHWEST STP, CITY OF	11983 PETROFF ROAD	BENTON	No	149533.1
WEST FRANKFORT STP, CITY OF	3716 STATE ROUTE 37	WEST FRANKFORT	No	149533.1
REND LAKE CONSERVANCY DISTRICT - STP	511 EAST MAIN STREET	EWING	No	149533.1
HANAFORD STP, VILLAGE OF	1ST EAST STREET	LOGAN	No	149533.1
CHRISTOPHER STP, CITY OF	EAST 15TH STREET	CHRISTOPHER	No	149533.1
ROYALTON STP, VILLAGE OF	PUMP STATION LANE	ROYALTON	No	149533.1
WEST CITY STP, VILLAGE OF	SUGAR CREEK ROAD	BENTON	No	149533.1

Request for photos

of the hazard itself and/or damage caused from the event

- Floods
- Tornados/derechos
- Hail and lightning
- Sinkholes
- Ice/snow storm
- Earthquakes
- Invasive species
- Relevant newspaper clippings

Include with photos:
Location and date
Name of photographer
Permission to include in MHMPs published by Greater Egypt

Send to:
kelseybowe@greateregypt.org

FRANKLIN COUNTY MULTI-HAZARD MITIGATION PLAN

Hazard Ranking Exercise

What is Hazard Ranking

- Each jurisdiction must form their own risk assessment to rank each hazard.
- The risk assessment will help to prioritize hazards.

Steps to rank hazards:

1. Create a list of potential hazards within your area.
2. Use the **risk index equation** to calculate a rank for each possible disaster within your community.
3. List the hazards in order from highest to lowest rank.

List of Possible Hazards in Illinois

- Dam Failure
- Extreme Heat
- Landslide
- Mine Subsidence
- Thunderstorm/Windstorm
- Wildfire
- Earthquake
- Flooding
- Levee Failure
- Sinkhole
- Tornado
- Winder storm/Ice storm
- Hazardous Materials Event
- Epidemic

List of Less-likely Possible Hazards

- Terrorism
- Volcanic Eruption
- Meteor Impact
- Infestation (non-native plants, animals or insects that decrease the livelihood of human life)

Are there any hazards that you do not see listed, that you would like to list for your jurisdiction?

Risk Priority Index Equation

Risk Index = Probability * Severity

- The **Probability** of an event is how likely the event will occur.
- The **Severity** of the event is the degree to which a hazard affects the functionality of society and the natural environment.

Rating the Probability of a Hazard

Probability	Characteristics
4 – Highly Likely	Event is probable within the next calendar year. These events have occurred, on average, once every 1-2 years in the past.
3 – Likely	Event is probable within the next 10 years. Event has a 10-15% chance of occurring in any given year. These events have occurred, on average, once every 3-10 years in the past.
2 – Possible	Event is probable within the next 50 years. Event has a 2-10% chance of occurring in any given year. These events have occurred, on average, once every 10-50 years in the past.
1 – Unlikely	Event is probable within the next 200 years. Event has a 0.5-2% chance of occurring in any given year. These events have occurred, on average, once every 50-200 years in the past.

Rating the Severity of a Hazard

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

Complete the Hazard Ranking Exercise

1. Form the hazards lists.
   - Be sure to list ALL possible hazards.
2. Give each hazard a probability and a severity rating.
3. Calculate the risk rank using the risk index equation.
   - Some hazards will have the same ranking.
4. Re-list your hazards from highest to lowest rankings.