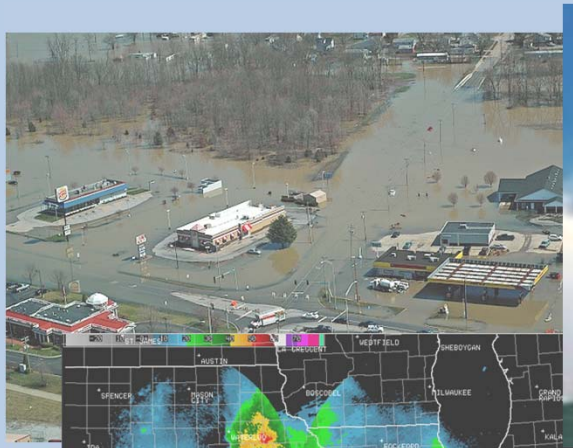
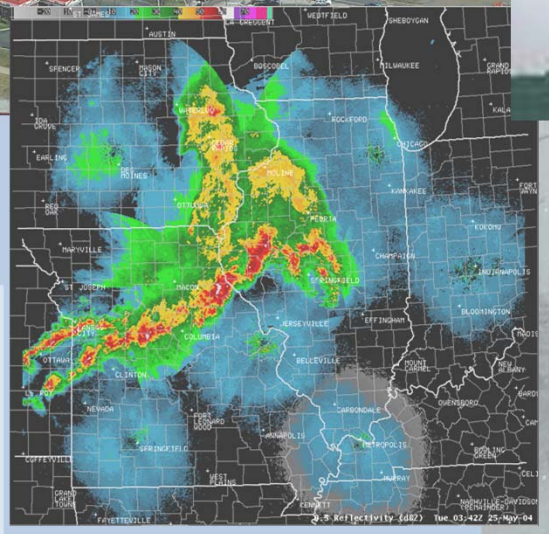
Tri-County Regional Planning Commission Hazard Mitigation Plan

How is mitigation playing in Peoria?



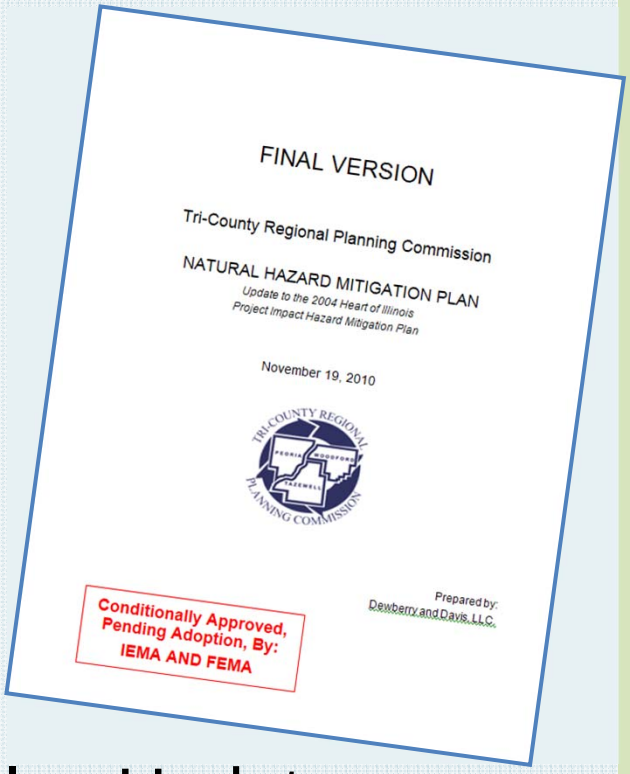


5-Year Update

Dewberry

Presentation Outline

- Updating the 2005 plan
  - Background Information
- Peoria Highlights:
  - Findings of HIRA
  - Mitigation Actions
    - 2005 Actions Completed
    - 2010 Actions Added
- Where do we go from here?
  - 5 year update = 2015
  - Addition of Section IX: 2010 Plan Update
  - Peoria County has volunteered to head update



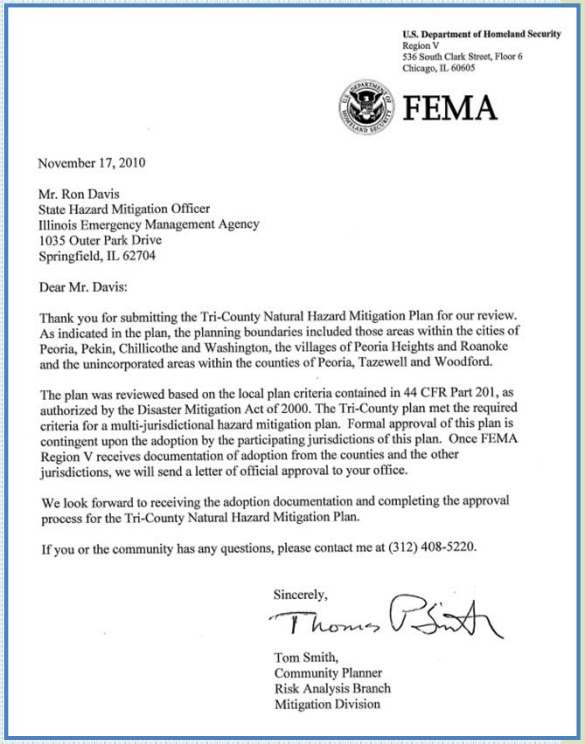
Dewberry

HMP Timeline Overview

- 2004/2005 HMP created with the oversight of Heart of Illinois Project Impact (HOPI) and assistance of Dewberry
  - HOPI disbanded when Project Impact ended
- HMP 5-year update (2010) with Tri-County Regional Planning Commission (TCRPC)

2010 Plan Update Process

- ✓Data Collection & 2004/2005 Plan Evaluation
- ✓Hazard Identification and Risk Assessment Revision
- ✓ Evaluation & Revision of Mitigation Goals, Strategies and Projects
- ✓ Capability Assessment
- ✓ Plan Maintenance
- ✓ Draft Plan Submittal and Review
- ✓Plan Submission to IEMA & FEMA
- ✓ Plan Adoption assisted by TCRPC



U.S. Department of Homeland Security
Region V
536 South Clark Street, Floor 6
Chicago, IL 60605

FEMA

November 17, 2010

Mr. Ron Davis
State Hazard Mitigation Officer
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, IL 62704

Dear Mr. Davis:

Thank you for submitting the Tri-County Natural Hazard Mitigation Plan for our review. As indicated in the plan, the planning boundaries included those areas within the cities of Peoria, Pekin, Chillicothe and Washington, the villages of Peoria Heights and Roanoke and the unincorporated areas within the counties of Peoria, Tazewell and Woodford.

The plan was reviewed based on the local plan criteria contained in 44 CFR Part 201, as authorized by the Disaster Mitigation Act of 2000. The Tri-County plan met the required criteria for a multi-jurisdictional hazard mitigation plan. Formal approval of this plan is contingent upon the adoption by the participating jurisdictions of this plan. Once FEMA Region V receives documentation of adoption from the counties and the other jurisdictions, we will send a letter of official approval to your office.

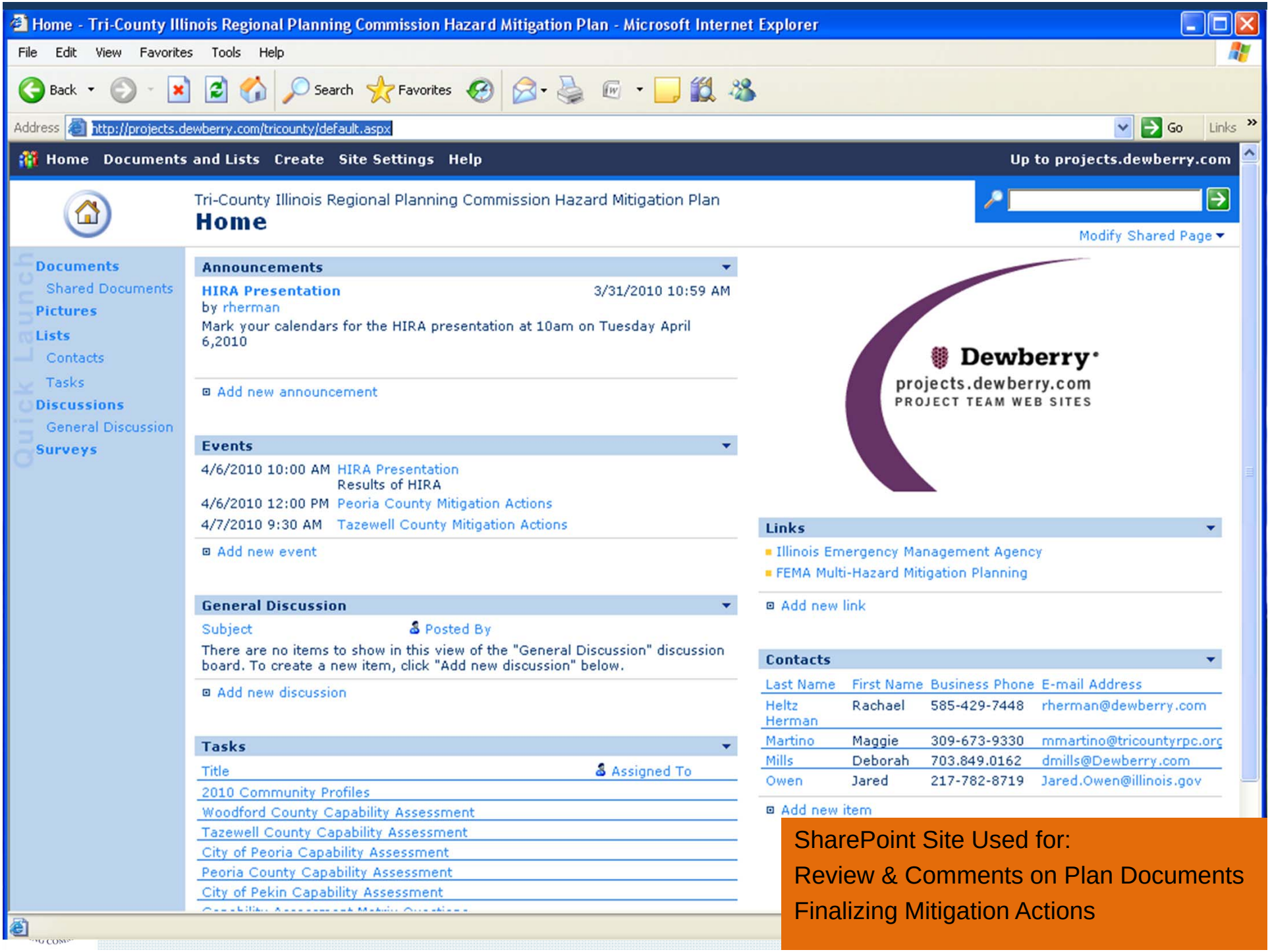
We look forward to receiving the adoption documentation and completing the approval process for the Tri-County Natural Hazard Mitigation Plan.

If you or the community has any questions, please contact me at (312) 408-5220.

Sincerely,

Thomas P. Smith

Tom Smith,
Community Planner
Risk Analysis Branch
Mitigation Division



SharePoint Site Used for:

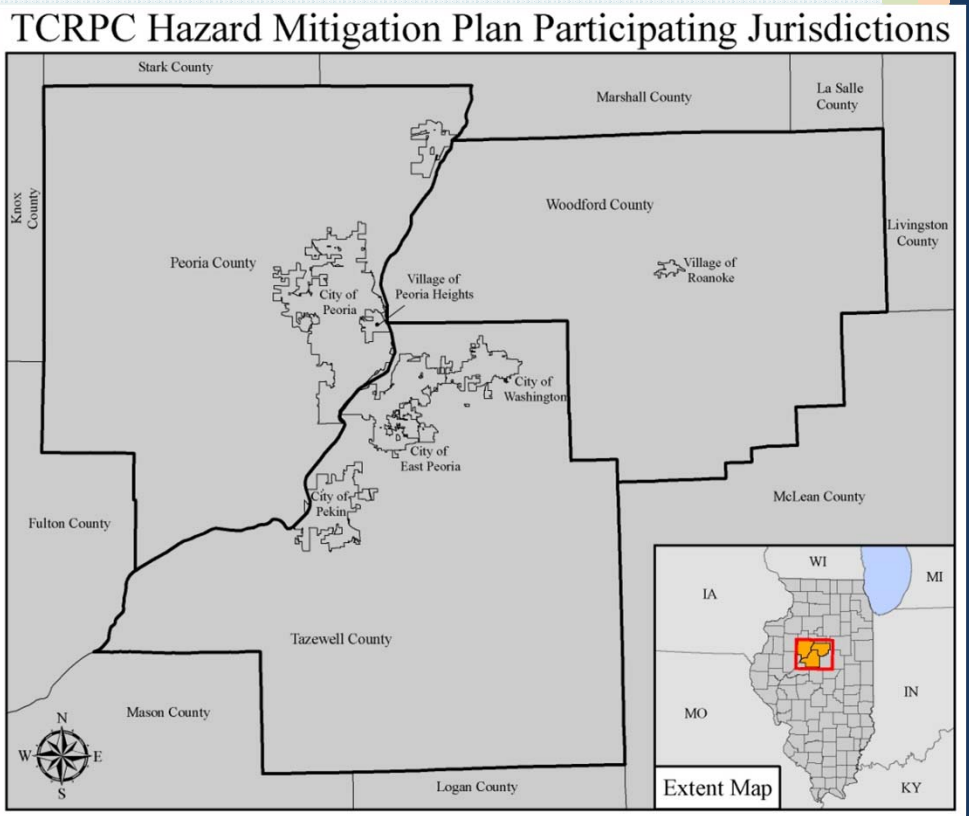
Review & Comments on Plan Documents

Finalizing Mitigation Actions

HIRA

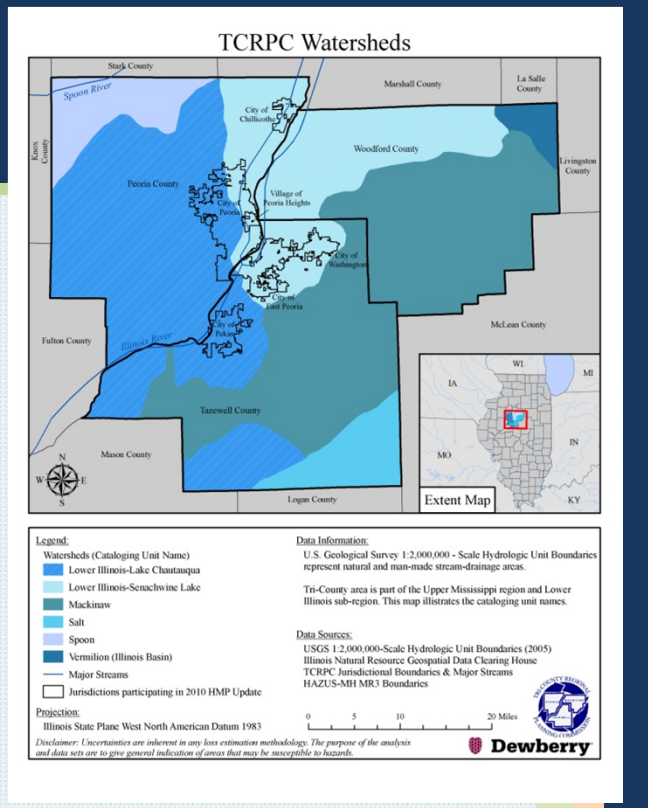
RISK ASSESSMENT: *§201.6(c)(2): The plan shall include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.*

- 2010 HIRA Update
  - Review & slight revision to HIRA and Vulnerability assessment
  - "Base" 2004 hazard identification still valid
  - Incorporate **new** jurisdictions into HIRA
    - Peoria County
      - City of Peoria
      - Village of Peoria Heights
      - City of Chillicothe
    - Tazewell County
      - City of East Peoria
      - City of Washington
      - City of Pekin
    - Woodford County
      - Village of Roanoke
    - ~~Village of Bartonville~~



Background

- Community Profiles
- Critical/Essential Facilities
- Demographics
  - Population
  - Housing
- Land Use & Development Trends
  - Illinois: Tri-County Area Land Cover
  - Data requested from Steering Committee



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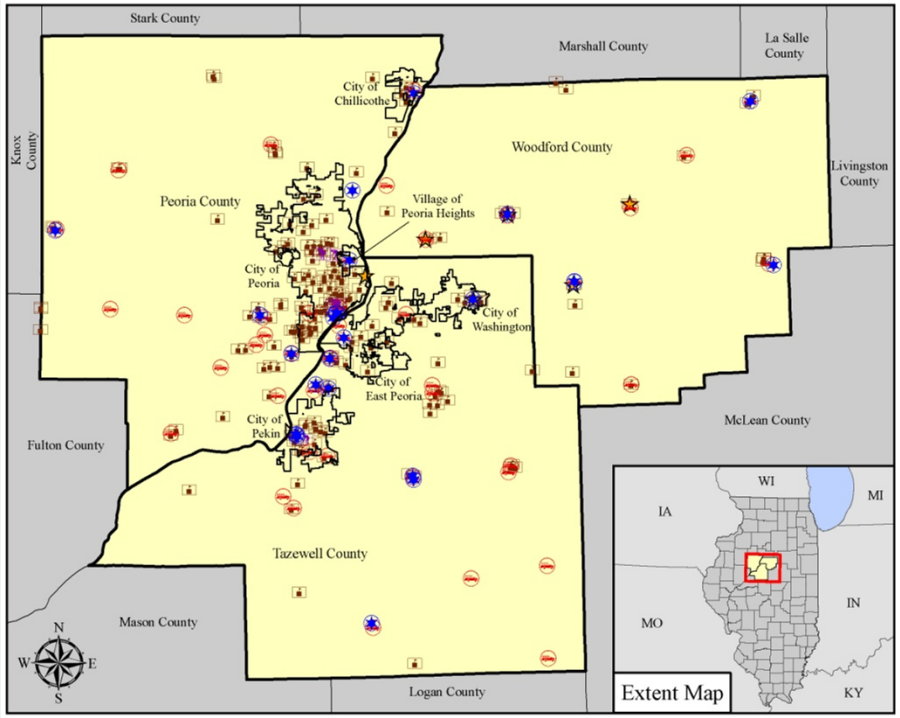
Local Critical Facilities & HAZUS Essential Facilities

TCRPC HAZUS-MH Essential Facilities



Legend:

HAZUS Essential Facilities
- Emergency Operation Center
- Fire Station
- Police Station
- Hospital (Large)
- Hospital (Medium)
- trico_hzSchool
- Jurisdictions participating in 2010 HMP Update

Data Information:

HAZUS-MH default essential facilities include those vital to emergency response and recovery following a disaster. Results from HAZUS can be greatly improved with a detailed inventory of essential facilities developed with local input.

Mitigation strategies address the limitations of this data.

Data Sources:

HAZUS-MH MR3 Essential Facilities (2009)
TCRPC Jurisdictional Boundaries
HAZUS-MH MR3 Boundaries

Projection:

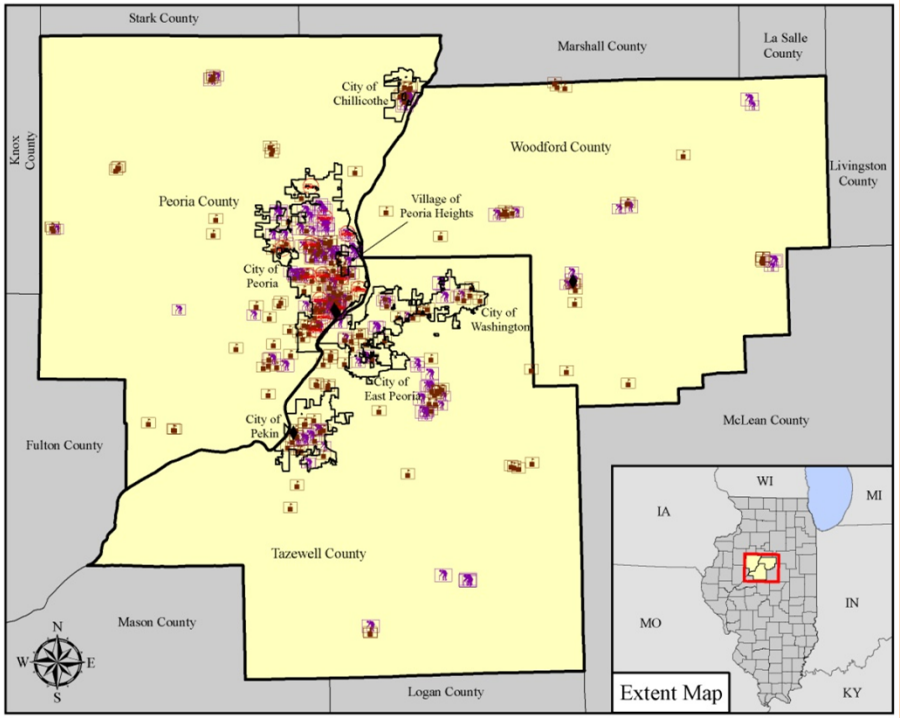
Illinois State Plane West North American Datum 1983

0 5 10 20 Miles

Disclaimer: Uncertainties are inherent in any loss estimation methodology. The purpose of the analysis and data sets are to give general indication of areas that may be susceptible to hazards.

Dewberry

TCRPC Critical Facilities



Legend:

TCRPC Critical Facilities
- Courts
- Fire Departments
- Educational Institutions
- Medical Facilities
- Nursing Homes
- Jurisdictions participating in 2010 HMP Update

Data Information:

Tri-County Regional Planning Commission provided the available spatial data for critical facilities in the planning region. This is Illinois Department of Transportation (IDOT) data that has been enhanced with local information.

Mitigation strategies address the limitations of this data.

Data Sources:

TCRPC Jurisdictional Boundaries and Critical Facilities
HAZUS-MH MR3 Boundaries

Projection:

Illinois State Plane West North American Datum 1983

0 5 10 20 Miles

Disclaimer: Uncertainties are inherent in any loss estimation methodology. The purpose of the analysis and data sets are to give general indication of areas that may be susceptible to hazards.

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Population

County	1980	2000	% Pop Change (1980 - 2000)	2008 Estimate	% Pop Change (2000 - 2008)
Peoria	200,466	183,433	-8.50%	183,655	0.12%
Tazewell	132,078	128,485	-2.72%	131,524	2.37%
Woodford	33,320	35,469	6.45%	38,503	8.55%

County	2010	2020	% Pop Change (2010 – 2020)	2030	% Pop Change (2010 – 2030)	% Pop Change (1980 – 2030)
Peoria	187,876	194,083	3.30%	193,314	2.89%	-3.57%
Tazewell	139,616	154,567	10.71%	165,373	18.45%	25.21%
Woodford	39,362	43,845	11.39%	46,857	19.04%	40.63%

from Illinois Department of Commerce and Economic Opportunity (DCEO) Population Projections

Dewberry

HAZUS-MH MR4 Building Stock

Building Stock Exposure by General Occupancy

County	Residential	Commercial	Industrial	Agriculture	Religion	Government	Education	Total
Peoria County	$10,640,670	$2,866,035	$612,974	$64,763	$280,054	$122,585	$180,922	$14,768,003
Tazewell County	$7,327,678	$1,319,896	$349,008	$64,386	$176,496	$49,214	$142,255	$9,428,933
Woodford County	$2,035,515	$262,070	$156,219	$43,657	$52,851	$12,273	$61,096	$2,623,681
Total	$20,003,863	$4,448,001	$1,118,201	$172,806	$509,401	$184,072	$384,273	$26,820,617

All values are in thousands of dollars

Building Stock Exposure by General Building Type

County	Wood	Steel	Concrete	Masonry	Manu. Housing	Total
Peoria County	$8,713,957	$1,024,356	$1,241,365	$3,720,168	$68,315	$14,768,161
Tazewell County	$1,086,436	$116,270	$168,349	$468,455	$13,552	$1,853,062
Woodford County	$242,480	$19,425	$29,625	$87,593	$4,361	$383,484
Total	$10,042,873	$1,160,051	$1,439,339	$4,276,216	$86,228	$17,004,707

Dewberry

Federally Declared Disasters [1965 – January 2010]

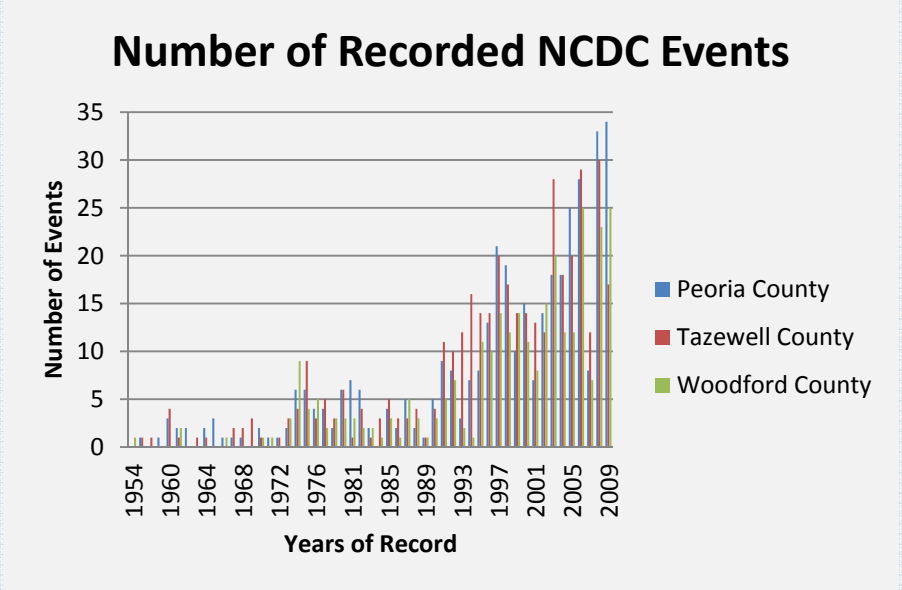
- 55 Declared Disasters in Illinois, 13 in TCRPC
  - Wind Related Events (severe storms & wind, thunderstorms)
  - Flood (flooding & flash floods)
  - Rain (torrential & excessive rain)

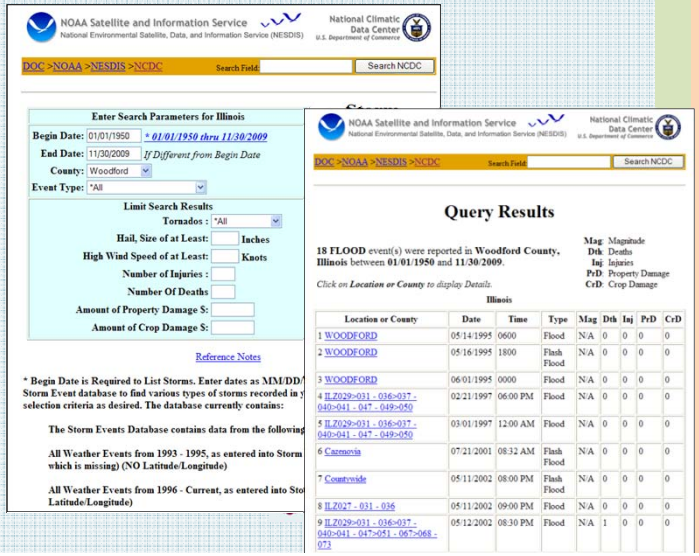
Disaster Number	Date	Hazard Type/Name	Tri-County Declarations
373	4/26/1973	Severe Storms/Flooding	Peoria Tazewell
438	6/10/1974	Severe Storms/Flooding	Peoria Woodford Tazewell
583	4/30/1979	Severe Storms/Flooding	Peoria Woodford Tazewell
674	12/13/1982	Tornado/Severe Storms/Torrential Rain/Flooding/Severe Winds	Peoria Woodford Tazewell
735	3/29/1985	Severe Storms/Excessive Rain/Ice Jam/Flooding	Peoria Woodford Tazewell
776	10/7/1986	Torrential Rain/Flash Flood	Tazewell
871	6/22/1990	Thunderstorms/Severe Winds/Tornado/Torrential Rain/Flooding	Woodford Tazewell
997	7/9/1993	Great Midwest Flood	Peoria
1053	5/30/1995	Tornado/Thunderstorms/Severe Storms/Severe Winds/Torrential Rain/Flash Floods	Peoria Tazewell
1416	5/21/2002	Severe Storms/Tornado/Flooding/Excessive Rainfall	Woodford
1469	5/3/2003	Severe Storms/Tornado/Flooding/Excessive Rainfall	Tazewell
1681	2/9/2007	Severe Winter Storm	Woodford
1800	10/3/2008	Severe Storms/Flooding	Peoria Woodford

NCDC: Number of Events

- NCDC Storm Events
  - 1,077 Events
    - 72% from High Wind
    - 11.6% from Winter Storm
  - 80% of events from 1990 – 2009

Number of NCDC Events					
County	Extreme Heat	Flood	Severe Storms	Tornado	Winter Storm
Peoria County	7	17	296	15	47
Tazewell County	7	14	287	50	42
Woodford County	7	18	191	35	41





NCDC: Categories & Damages

- Property Damages (% of total Property Damages $$)
  - Tornado (88.8%)
  - Severe Storms (10.2%)
  - Winter Storm (0.82%)
  - Flooding (0.16%)
  - Extreme Heat (0%)

Number of NCDC Events					
County	**Extreme Heat**	**Flood**	**Severe Storms**	**Tornado**	**Winter Storm**
Peoria	7	17	296	15	47
Tazewell	7	14	287	50	42
Woodford	7	18	191	35	41

Total NCDC Property Damages				
County	**Flood**	**Severe Storms**	**Tornado**	**Winter Storm**
Peoria County	*N/A*	$ 3,162,950	$36,550,101	$ 209,253
Tazewell County	*N/A*	$4,806,781	$41,486,025	$199,288
Woodford County	$144,484	$1,405,500	$3,267,242	$343,773
Total	**$144,484**	**$9,375,231**	**$81,303,368**	**$752,314**

HIRA Category	NCDC Categories Included
Drought	*No events in Tri-County recorded in NCDC*
Earthquake	*No events in Tri-County recorded in NCDC*
Extreme Heat (12 years of record)	Excessive Heat Heat
Flood (16 years of record)	Flash Flood Flood
Severe Storms (54 years of record)	High Wind Strong Wind Thunderstorm Wind Thunderstorm Winds Tstm Wind Hail Lightning
Tornado (55 years of record)	Tornado
Winter Storm (14 years of record)	Blizzard Extreme Cold Extreme Cold/Wind Chill Frost/Freeze Heavy Snow Ice Storm Winter Storm Winter Weather

Plan Update: Evaluation of Ranking

- NCDC events evaluated to determine if additional data/knowledge would yield different hazard ranking results
- Ranking resulted in similar scheme as 2004 plan
  - Additional time investment determined not to yield better results
  - Hazards were “Grouped” to better align with Illinois State Ranking

2010 Hazard Categorization	TRCPC 2010 Update	State of Illinois HMP 2007	2004 Hazard Type	HOI Project Impact 2004
Flood	High	Primary Hazard	Flood - Flash	Medium-High
			Flood - Riverine	High
Severe Storms & Tornados	High	Primary Hazard	Severe Thunderstorm	Medium-High
			Wind Event - Microburst/Straight line	High
			Tornado - All Other Categories	Medium-High
			Tornado (F0)	High
			Tornado (F1)	High
			Tornado (F2)	Medium-High
Winter Storms	High	Primary Hazard	Winter Storms	Medium-High
Land/Mine Subsidence	Medium-High	Low Probability and/or Minor Impact	Land/Mine Subsidence	Medium-High
Landslide	Medium	Low Probability and/or Minor Impact	Landslide	Medium
Drought	Medium	Primary Hazard	Drought	Medium
Extreme Heat	Medium	Primary Hazard	Extreme Heat	Medium
Wildfire	Medium	Low Probability and/or Minor Impact	Wildfire	Medium
Earthquake	Medium	Primary Hazard	Earthquake	Medium

Flood – High Hazard Ranking

- Risk Assessment
  - Probability (100-yr and Annualized)
    - HAZUS-MH
  - Impact & Vulnerability
    - HAZUS-MH
  - Risk
    - Critical Facility Risk
      - 2004 Analysis Results
      - HAZUS-MH
    - Jurisdictional Risk
      - 2004 Analysis Results
      - HAZUS-MH

Source: Village of Roanoke, Woodford County. March 2009 Illinois River

Flood

- Jurisdictional Losses (HAZUS & 2004/2005 estimates)
- Critical/Essential Facilities
  - 2004/2005 Analysis still relevant, text needs to be presented in table
  - 2010 Update based on HAZUS-MH MR4 analysis
  - Probabilistic scenarios for the 100-year flood event that results in moderate damage:
    - 2 fire stations
    - 1 police station
    - 2 schools

Plan and/or Methodology	Loss Estimate	Methodology
2004 HOI HMP	**$5,874,748**	Based on study are in Peoria County of 190 structures
2010 TCRPC UPDATE	**$ 16,460,000**	HAZUS-MH MR4 riverine analysis
NCDC Total Loss	**$144,484**	Total reported NCDC property damages
NCDC Ann. Loss	**$9,030**	Total reported NCDC property damages divided by total number of years of record
2007 IL HMP	**$129,549,923**	Based on number and value of structures in census tract x floodplain % of tract x 20% damaged

NFIP Policy & Claim Information

County	Community Name	Policy Statistics (as of 3/31/2010)		Claim Statistics 1/1/1978 – 3/31/2010	
		Policies In-Force	Insurance In-Force	Total Losses	Total Payment
PEORIA COUNTY	*BARTONVILLE, VILLAGE OF**	9	1,490,600	11	$ 27,359
	CHILLICOTHE, CITY OF	24	2,523,300	153	$1,152,306
	PEORIA COUNTY	334	40,329,900	1,518	$10,868,737
	PEORIA HEIGHTS, VILLAGE OF	30	3,603,300	294	$2,128,983
	PEORIA, CITY OF	136	32,486,100	388	$ 2,482,432
TAZEWELL COUNTY	PEKIN, CITY OF	12	2,493,600	54	$142,403
	*CREVE COEUR, VILLAGE OF**	*2*	763,100	2	$2,604
	EAST PEORIA, CITY OF	92	28,649,000	106	$569,863
	*NORTH PEKIN, VILLAGE OF**	*13*	2,226,300	23	$145,996
	TAZEWELL COUNTY	69	10,535,800	173	$863,235
	WASHINGTON, CITY OF	52	6,078,700	14	$41,991
WOODFORD COUNTY	*SPRING BAY, VILLAGE OF**	*29*	3,406,700	89	$502,474
	ROANOKE, VILLAGE OF				
	WOODFORD COUNTY	94	11,222,200	260	$1,489,550
	ILLINOIS TOTAL	**47,799**	**$7,774,098,800**	**39,364**	**$347,608,410**

*Jurisdiction not participating in 2010 update

Source: http://bsa.nfipstat.com/ 6/20/2010

Repetitive Loss Properties

Total Paid as of 8/27/2009 = $13,751,203

County	Community Name	Number of Properties	Total Number of Losses	Total Paid
PEORIA COUNTY	*BARTONVILLE, VILLAGE OF**	*2*	*4*	*$25,672*
	CHILLICOTHE, CITY OF	10	40	$434,066
	PEORIA COUNTY	234	866	$8,101,205
	PEORIA HEIGHTS, VILLAGE OF	44	194	$1,649,154
	PEORIA, CITY OF	37	161	$1,397,067
			TOTAL Included in HMP:	$11,581,492
			TOTAL:	$11,6607,164
TAZEWELL COUNTY	PEKIN, CITY OF	7	24	$73,923
	*CREVE COEUR, VILLAGE OF**	*2*	*5*	*$16,957*
	EAST PEORIA, CITY OF	4	12	$65,074
	*NORTH PEKIN, VILLAGE OF**	*2*	*11*	*$104,056*
	TAZEWELL COUNTY	29	85	$604,896
	WASHINGTON, CITY OF	2	4	$29,934
			TOTAL Included in HMP:	$773,827
			TOTAL:	$894,840
WOODFORD COUNTY	*SPRING BAY, VILLAGE OF**	*7*	*18*	*$137,108*
	ROANOKE, VILLAGE OF	N/A		
	WOODFORD COUNTY	52	165	$1,395,884
			TOTAL Included in HMP:	$1,395,884
			TOTAL:	$1,532,992

Not included in 2010 Tri-County Hazard Mitigation Plan Update

berry

HAZUS-MH MR4 Analysis

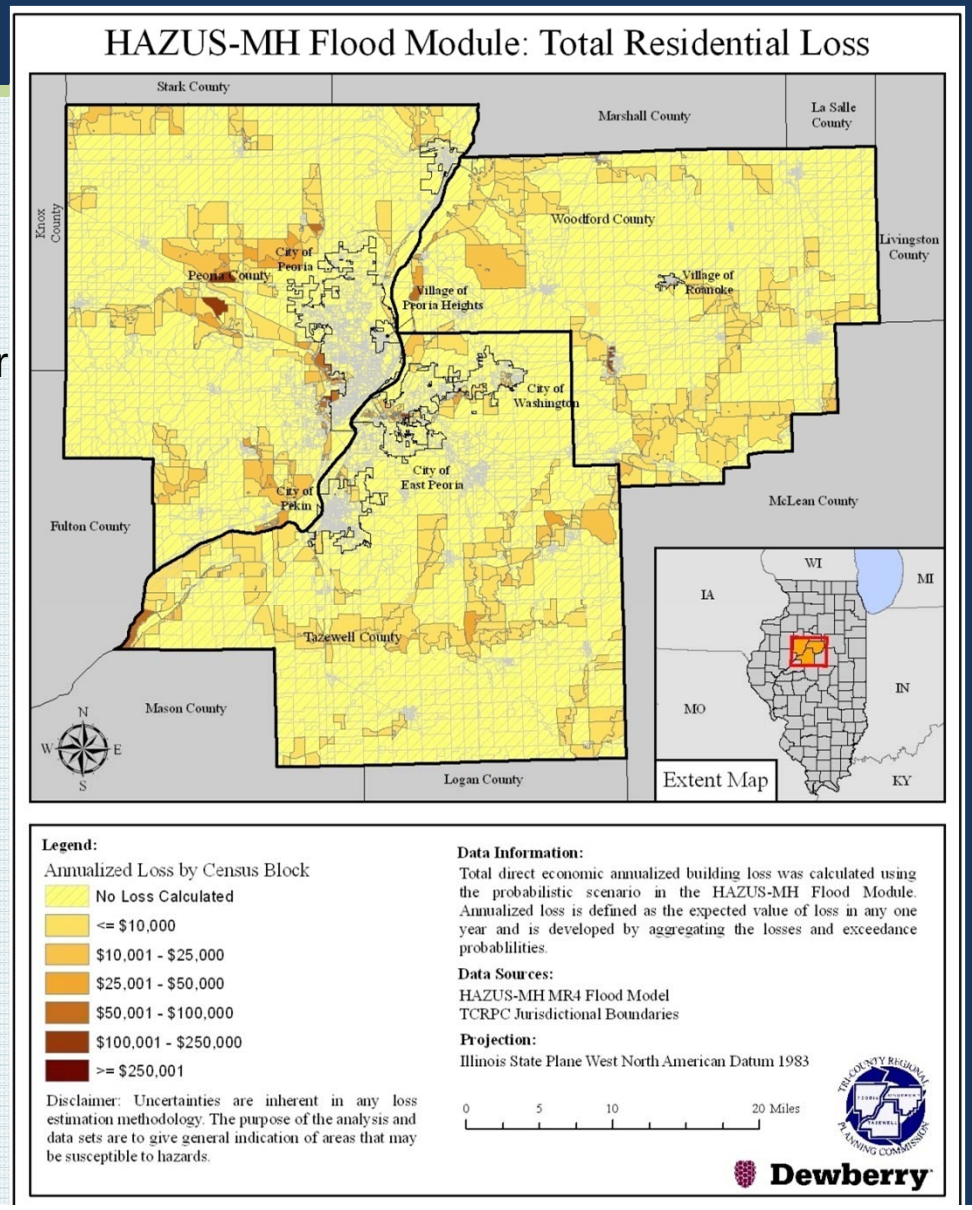
- Flood Runs completed by TCRPC
- $16,460,000 annually in damages due to flood events
  - Represents 13.49% of the total replacement value of the total building stock.
  - Property or “capital stock” losses make up about $16,360,000 (building, content, and inventory)
  - Business interruption accounts for 1% of the annualized losses and includes income, rental, wage, and relocation costs.
  - Residential losses made up 48.2% of the total loss.

County	Building	Content	Inventory	Relocation	Income	Rental	Wage	Annualized Loss
Peoria County	$19,757	$10,371	$0	$14	$1	$3	$2	$30,153
Tazewell County	$48,321	$26,301	$0	$87	$3	$21	$10	$74,758
Woodford County	$16,579	$10,538	$0	$21	$4	$3	$12	$27,157
Total	**$84,657**	**$47,210**	**$0**	**$122**	**$8**	**$27**	**$24**	**$132,068**
								All values are in thousands of dollars

TCRPC 2010 HAZUS Analysis

- 593 buildings damaged from flooding
  - Wood buildings account for 445
  - Manufactured homes only account for 7.4 % of damaged buildings but have the highest percentage of severe damages

Source: Village of Roanoke, Woodford County, IL. March 2009 Flooding on Illinois River



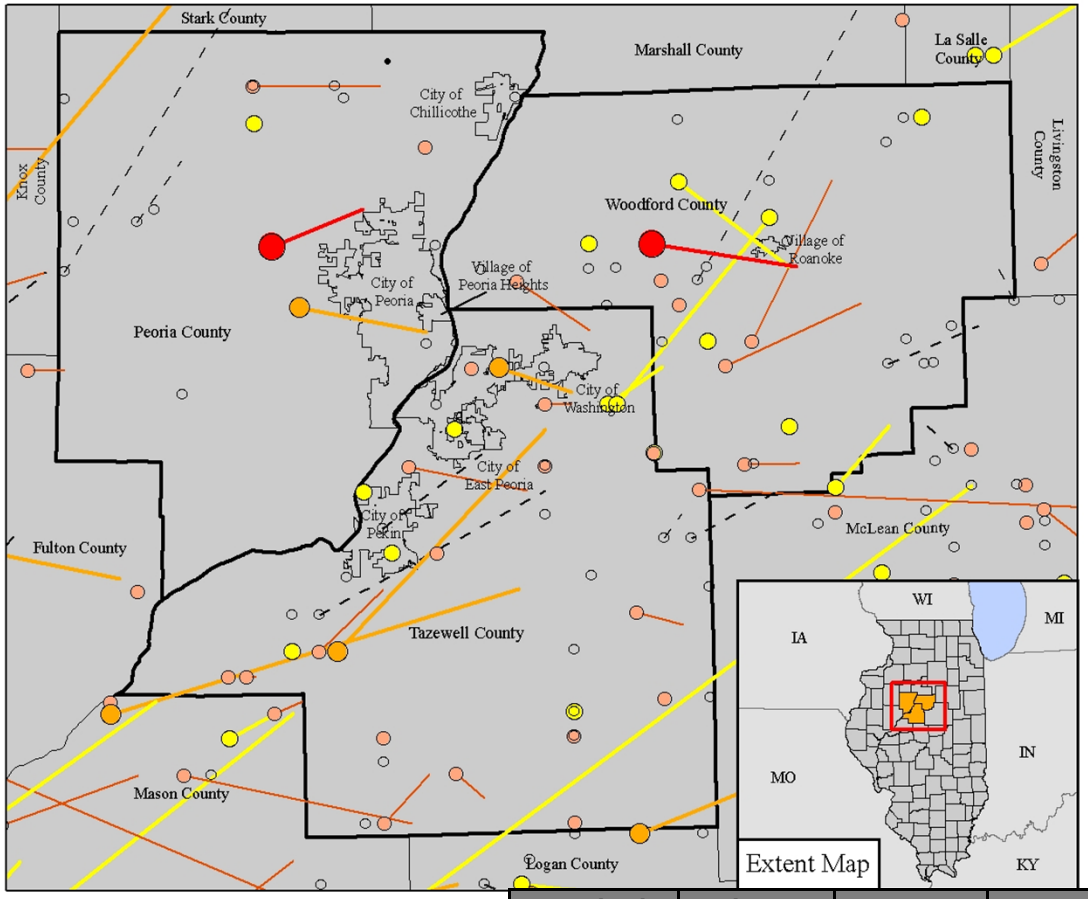
Severe Storms & Tornados – High Hazard Ranking

- Analysis from 2004
  - Based on 2000 Census Data & May 10, 2003 event
- Risk Assessment
  - Probability
  - Impact & Vulnerability
  - Risk
    - Critical Facility Risk
    - Jurisdictional Risk

Supercell July 13, 2004: F4 Tornado Roanoke, IL

Source: National Weather Service

Historic Tornado Tracks 1950 - 2009



City of Elmwood EF-F2 Tornado June 5, 2010
Source: Andrew Braun, Peoria County, IL

Tornado F-Scale

- unrecorded
- 0
- 1
- 2
- 3
- 4
- 5

N, W, E, S

0 5 10

Magnitude	Unknown	F0	F1	F2	F3	F4	TOTAL
Peoria County	3	8	2	1**	2	1	17 (2 from other sources)
Tazewell County		24	15	8	3		50
Woodford County		20	8	6		1	35
City of Peoria	5						5 (from other sources)
Total	8	52	25	15	5	2	107
Property Damages	**N/A**	**$182,000**	**$5,939,000**	**$7,328,000**	**$19,025,000**	**$250,000**	**$32,724,000**

**No record of specific tornadoes for the cities and villages participating in this plan.*
***Tornado on6/5/2010 not included in totals. See above Hazard History in HMP.*

Tornado Loss Estimation

2010 Annualized Loss from NCDC: $1,478,243

2004/2005 Loss using 5/10/2003 Tornado variables:

Table V-5: Tornado Occurrence by Jurisdiction*							
Magnitude	**Unknown**	**F0**	**F1**	**F2**	**F3**	**F4**	**TOTAL**
Peoria County	3	8	2	1	2	1	17 *(2 from other sources)*
Tazewell County		24	15	8	3		50
Woodford County		20	8	6		1	35
City of Peoria	5						5 *(from other sources)*
TOTAL	**8**	**52**	**25**	**15**	**5**	**2**	**107**
Property Damages	**N/A**	**$182,000**	**$5,939,000**	**$7,328,000**	**$19,025,000**	**$250,000**	**$32,724,000**

2007 Illinois State Plan Annualized Loss:

Tornado Loss Estimates		
Rank	County	Estimated Loss
13	Tazewell County	$307,037
16	Woodford County	$16,283
64	Peoria County	$104,340
Tri-County Total		**$427,660**
State Total		$28,328,271

Annual Probability x Average Damage = Estimated Loss per year

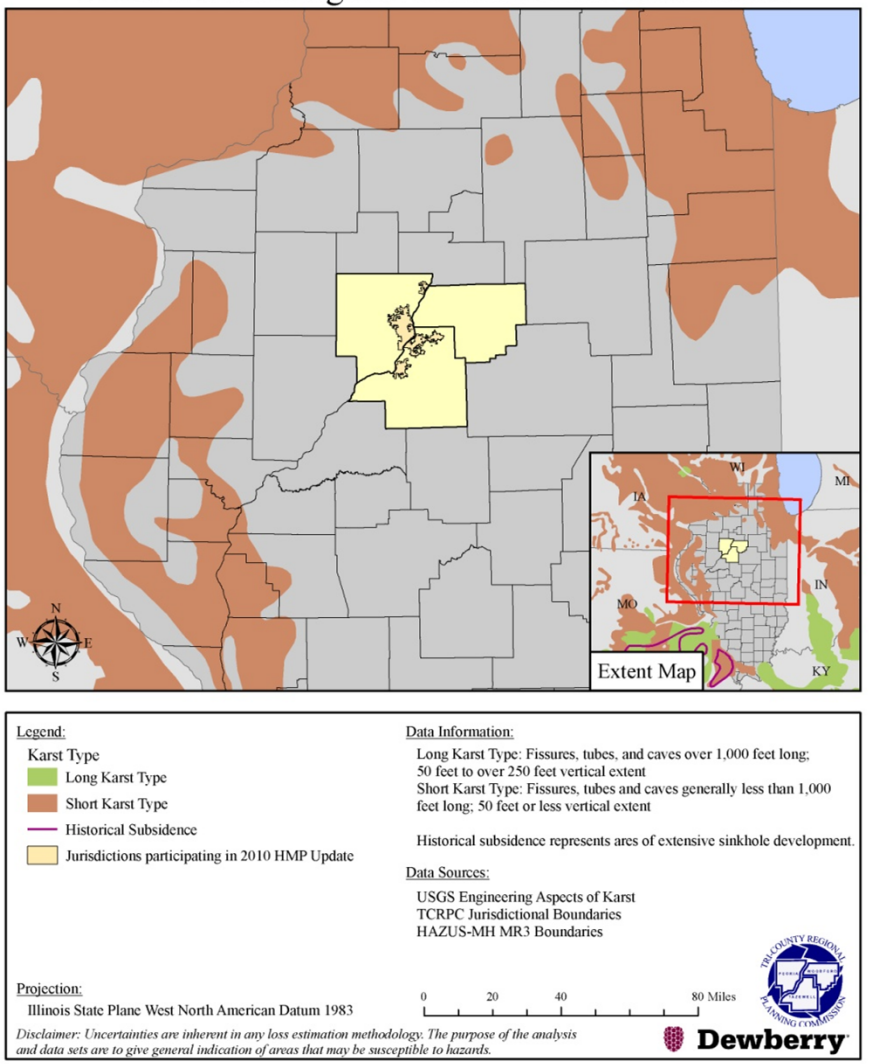
F4 Tornado hitting Parson Plant July 13, 2004

Source: Scott Smith, NWS.

Land & Mine Subsidence – Medium-High Hazard Ranking

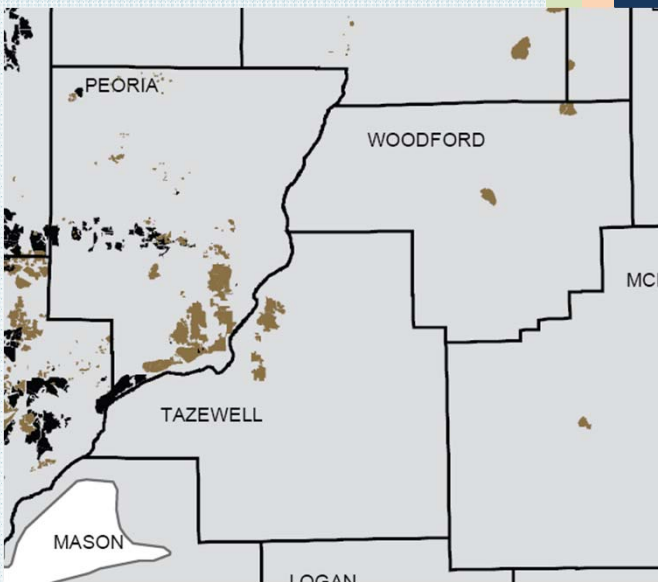
- Risk Assessment
  - Probability
  - Impact & Vulnerability
  - 1991 Study: *The Proximity of Underground Mines to Residential and Other Built-up Areas in Illinois*
  - Risk
    - Critical Facility Risk
    - Jurisdictional Risk

TCRPC Karst Regions and Historical Subsidence



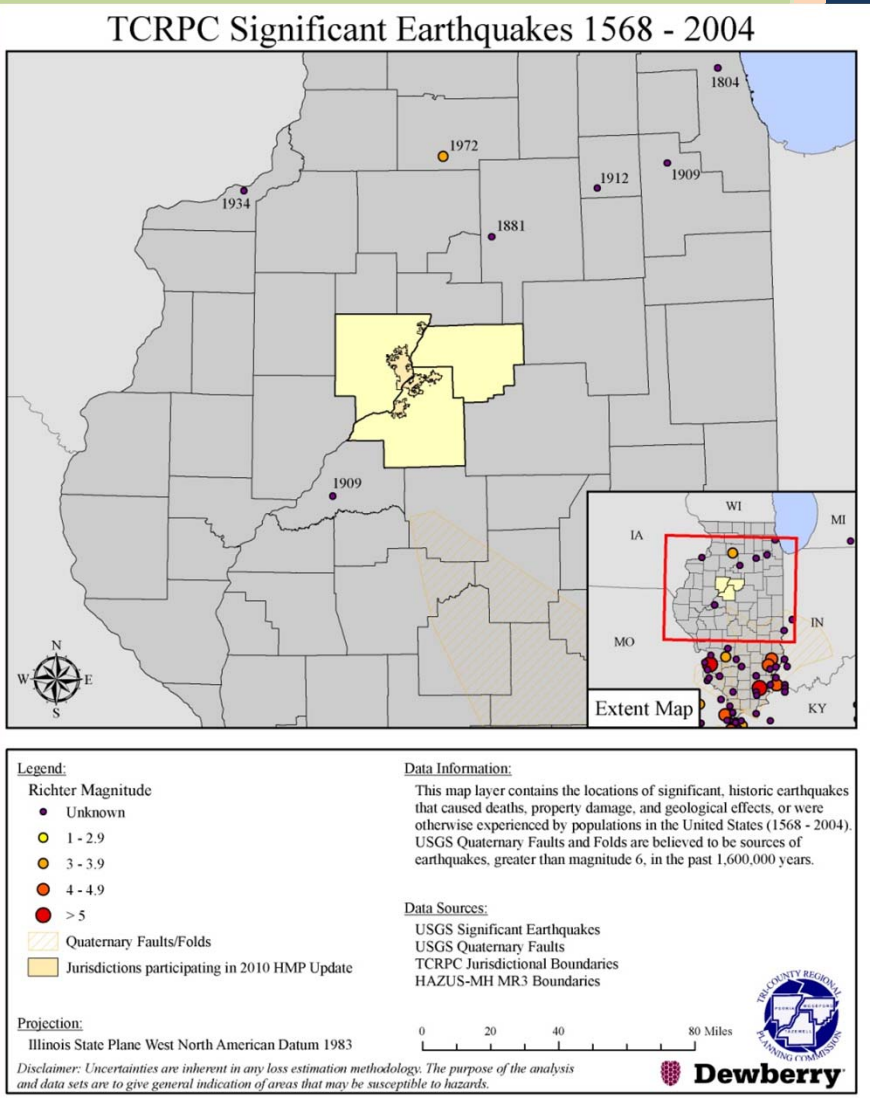
Underground Mines: 1991 Study

- *The Proximity of Underground Mines to Residential and Other Built-up Areas in Illinois*
- Critical Facilities in Undermined Land/Mine Subsidence Areas
  - Emergency Services (3 total, 2 in Roanoke)
  - Schools (24 total)
    - 6 in Peoria
    - 5 in Pekin
    - 3 in Roanoke
  - Airport (Peoria)



Earthquake – Medium Hazard Ranking

- Risk Assessment
  - Probability
  - Impact & Vulnerability
  - Risk
    - Critical Facility Risk
    - Jurisdictional Risk



Earthquake: HAZUS-MH Results

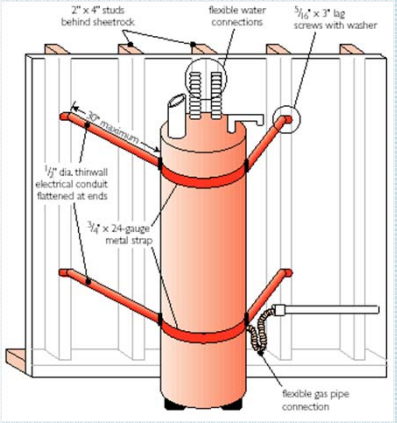
Annualized Loss

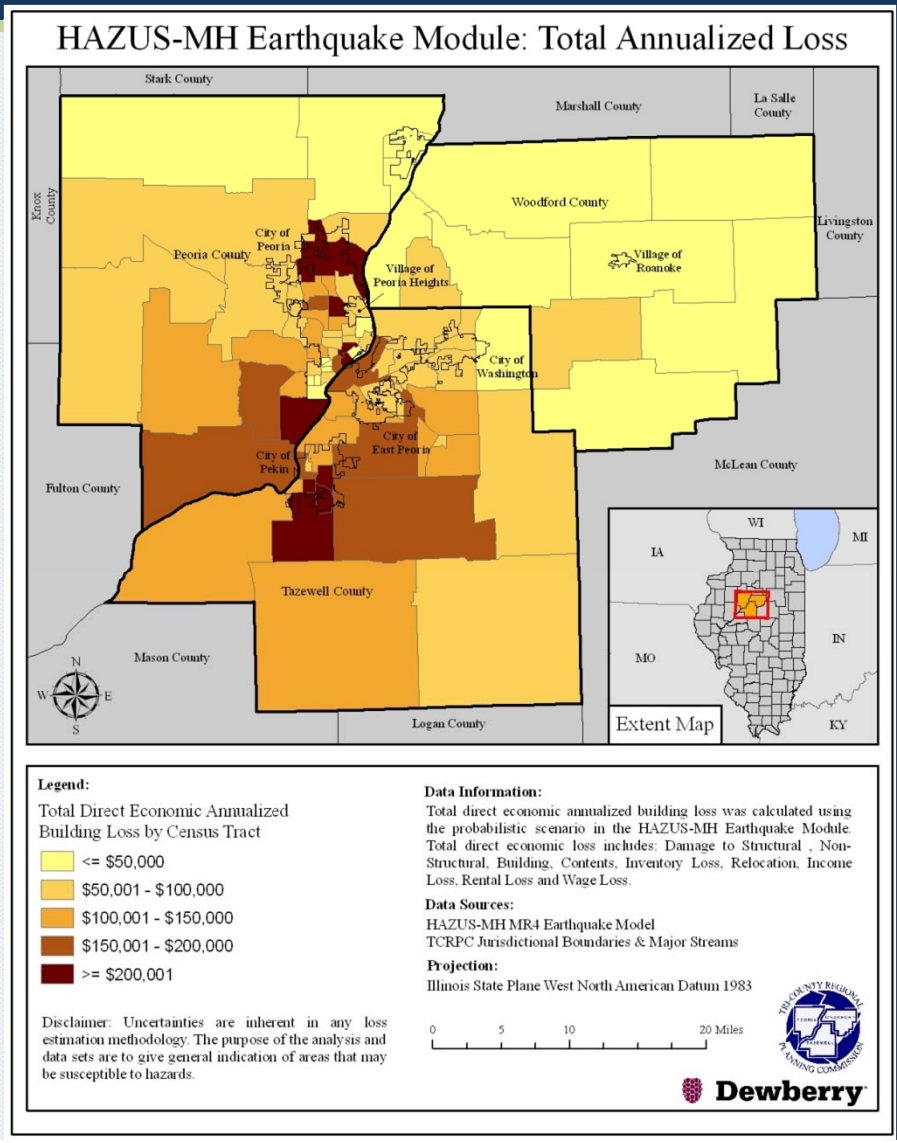
- Residential
  (GBS: 93% of buildings, 75% of building value)
- Total of all Occupancy Types

  $9.2 Million

Mitigation Actions

- Building Codes
- Others?





Earthquake Results
Probabilistic Scenario

County	Total Exposure	Agricult-ural	Commercial	Educatio-nal	Govern-ment	Industrial	Religious	Residential	Annualized Loss
Peoria County	$14,768,003	$29,045	$1,717,378	$99,240	$75,676	$310,977	$131,107	**$2,724,640**	**$5,088,062**
Tazewell County	$9,428,933	$35,323	$1,011,970	$83,913	$34,935	$229,907	$96,124	**$2,413,216**	**$3,905,388**
Woodford County	$2,623,681	$6,606	$55,210	$11,106	$2,499	$29,244	$8,417	**$188,902**	**$301,984**
Total	$26,820,617	$70,973	$2,784,558	$194,259	$113,110	$570,128	$235,648	**$5,326,757**	**$9,295,433**
% of Annualized Loss		0.76%	29.96%	2.09%	1.22%	6.13%	2.54%	57.31%	*HAZUS-MH (MR4) results*
% of Exposure		0.26%	10.38%	0.72%	0.42%	2.13%	0.88%	19.86%	

All values are in thousands of dollars

County	No. of Displaced Households	No. of People Needing Short Term Shelter
Peoria County	7,322	5,042
Tazewell County	6,571	3,993
Woodford County	273	159
Total	**14,165**	**9,195**

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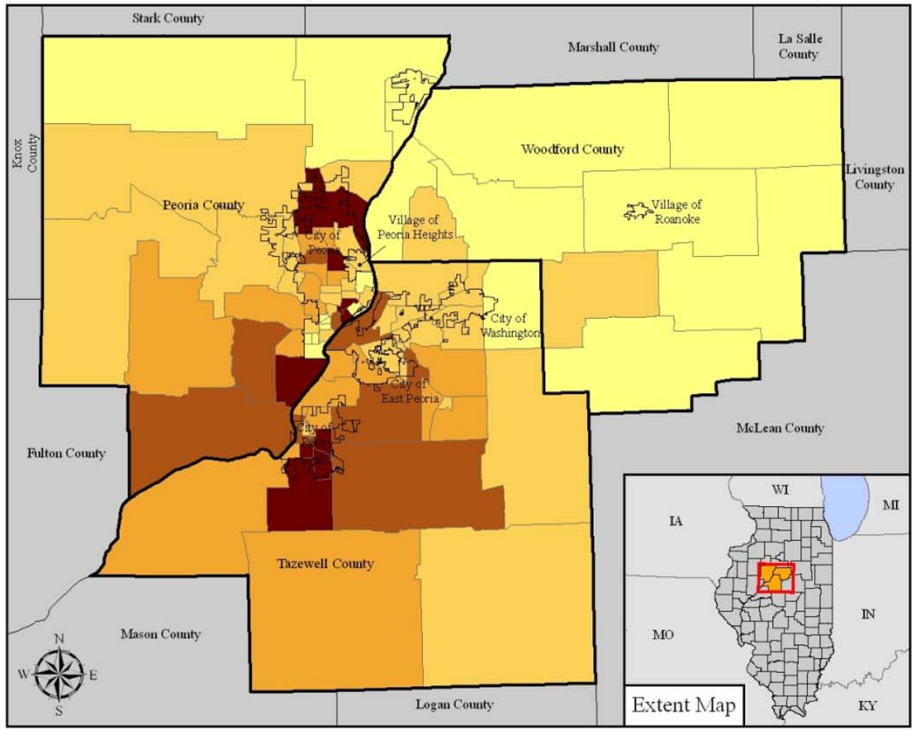
HAZUS-MH Earthquake Module: Residential Building Loss



Legend:

Total Direct Economic Residental Building Loss by Census Tract

- <= $50,000
- $50,001 - $100,000
- $100,001 - $150,000
- $150,001 - $200,000
- >= $200,001

Disclaimer: Uncertainties are inherent in any loss estimation methodology. The purpose of the analysis and data sets are to give general indication of areas that may be susceptible to hazards.

Data Information:

Total direct economic residential building loss was calculated using the probabilistic scenario in the HAZUS-MH Earthquake Module. Total direct economic loss includes: Damage to Structural , Non-Structural, Building, Contents, Inventory Loss, Relocation, Income Loss, Rental Loss and Wage Loss.

Data Sources:

HAZUS-MH MR4 Earthquake Model
TCRPC Jurisdictional Boundaries & Major Streams

Projection:

Illinois State Plane West North American Datum 1983

0 5 10 20 Miles

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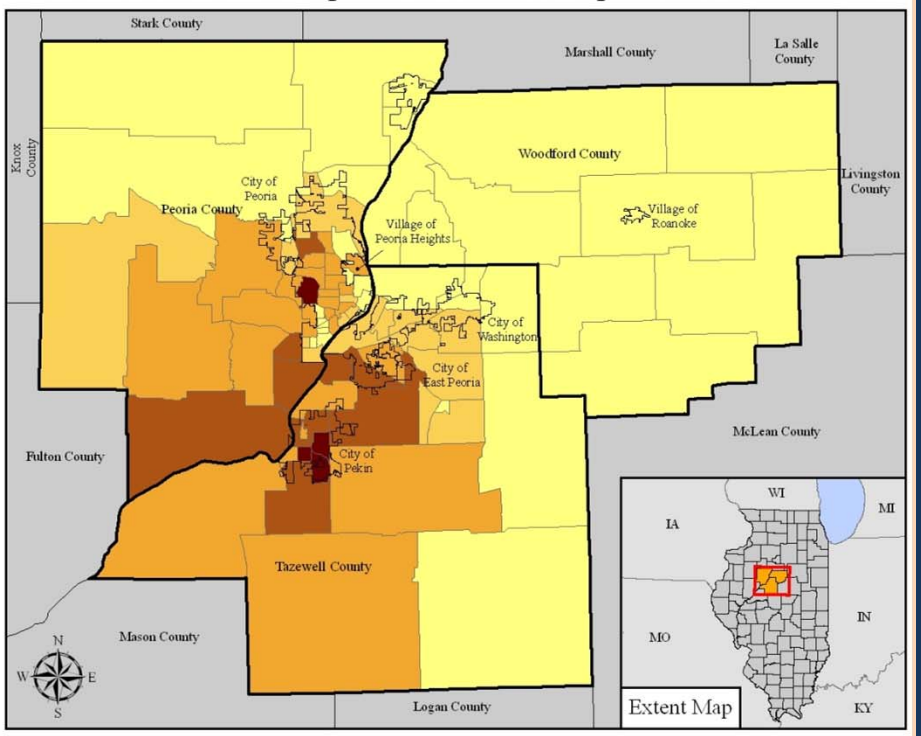
HAZUS-MH Earthquake Module: Displaced Households



Legend:

Total Number of Displaced Households by Census Tract

- <= 100
- 101 - 150
- 151 - 250
- 251 - 400
- >= 401

Disclaimer: Uncertainties are inherent in any loss estimation methodology. The purpose of the analysis and data sets are to give general indication of areas that may be susceptible to hazards.

Data Information:

Total number of displaced households due to loss of habitability was calculated using the probabilistic scenario in the HAZUS-MH Earthquake Module. Loss of habitability is calculated directly from damage to the residential occupancy inventory, and from loss of water and power.

Data Sources:

HAZUS-MH MR4 Earthquake Model
TCRPC Jurisdictional Boundaries & Major Streams

Projection:

Illinois State Plane West North American Datum 1983

0 5 10 20 Miles

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Winter Storm

Single Storm Snowfall Totals	
Date	Snowfall (in.)
February 28-29, 1900	18.0
January 16, 1911	9.9
January 6, 1918	8.5
January 12-13, 1927	14.4
February 7, 1933	8.4
March 8, 1946	9.0
January 26, 1967	9.8
December 18, 1973	10.2
December 31, 1978	9.0
January 13, 1979	12.2

- Probability
- Impact and Vulnerability
  - Snow, sleet, freezing rain, wind, storm surge, extreme cold, flooding
  - Transportation agencies and utility companies
- Risk
  - Difficult to quantify Damages
  - Economic

Winter Storm Total & Annualized Loss from NCDC (14 years of record)			
County	**Number of Events**	**Total Loss**	**Annualized Loss**
Peoria County	47	$209,253	$14,947
Tazewell County	42	$199,288	$14,235
Woodford County	41	$343,773	$24,555
	Total	**$752,314**	**$53,737**

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Total & Annualized Loss based on NCDC

Requirement 201.6(c)(2)(ii)(B): *[The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate … .*

NCDC Storm Events for HIGH Ranked Hazards

Total & Annualized Loss *(based on property damages and number of years of record)*								
County	**Flood**		**Severe Storms**		**Tornado**		**Winter Storm**	
Years of Record	**16**		**54**		**55**		**14**	
Loss Type	**Total Loss**	**Annualized Loss**	**Total Loss**	**Annualized Loss**	**Total Loss**	**Annualized Loss**	**Total Loss**	**Annualized Loss**
Peoria County	No Loss Recorded	No Loss Recorded	$3,162,950	$58,573	$36,550,101	$664,547	$209,253	$14,947
Tazewell County	No Loss Recorded	No Loss Recorded	$4,806,781	$89,014	$41,486,025	$754,291	$199,288	$14,235
Woodford County	$144,484	$9,030	$1,405,500	$26,028	$3,267,242	$59,404	$343,773	$24,555
Total	**$144,484**	**$9,030**	**$9,375,231**	**$173,615**	**$81,303,368**	**$1,478,243**	**$752,314**	**$53,737**

Tri-County region can expect approximately

$1.7 Million annualized loss due to Natural Hazards

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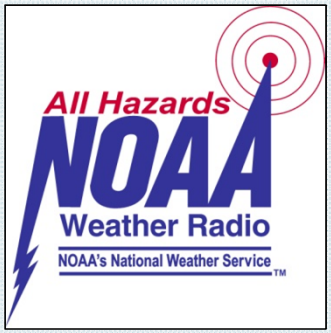
Using the HIRA Results

- Creating Mitigation Actions
  - What is the HIRA telling us?
  - Current Projects?
  - Potential Funding Sources?



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Mitigation Goals, Objectives and Actions

- Committee review of 2004 HMP (2/8/2010 & 4/6/2010)
  - Changes to Goals & Objectives language documented
  - Status of Actions reported
- Individual Jurisdictions met to discuss additional actions to be added to the 2010 Update (4/6/2010 & 4/7/2010)
  - Determined project priority methodology (i.e. STAPLE/E: Social, Technical, Administrative, Political, Legal, Economic, and Environmental)

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Overarching Goal: *"To develop and maintain a disaster resistant community that is less vulnerable to the economic and physical devastation associated with natural hazard events."*

Goal 1: Enhance the safety of residents and businesses by protecting new and existing development from the effects of natural hazards. Protect new and existing public and private infrastructure and critical facilities from the effects of these natural hazards. [2004/2005 Goals 1 & 2 were combined together]

Goal 2: Increase the local floodplain management activities and participation in the NFIP.

Goal 3: Ensure hazard awareness and risk reduction principles are institutionalized into the Tri-County communities' daily activities, processes, and functions by incorporating it into policy documents and initiatives.

Goal 4: Enhance community-wide understanding and awareness of community hazards. Publicize mitigation activities to reduce vulnerability to hazards. [2004/2005 Goals 5 & 6 were combined together]

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2004/2005 Priority	Action #	Action Title	Category	**Project Status** Has Project Priority Changed?	Project Status (Not Started, Cancelled, Modified, In Progress, Completed)
High	1	Target FEMA's Repetitive Loss Properties throughout the Tri-County area for potential mitigation projects.	Property Protection	This has been completed by Woodford County and Peoria County	Completed & In Progress
High	2	Distribute 100 NOAA weather radios to residents that are most vulnerable to wind events, at no charge.	Emergency Services	Several areas received a grant to distributed the radios.	Completed & In Progress (is this still relevant?)
Medium	3	Label all public hydrants in the Tri-County area to assist in street identification in the event of widespread destruction.	Emergency Services	City of Peoria has completed this. City of Chillicothe has GIS locations for theirs. Peoria County has done some of this. Maintenance & updating is a key issue. May want to change instead of label just have them located with a GIS.	Completed, Modified & In Progress
Moderate	4	Develop a sign retrofitting or new sign program to decrease their vulnerability to wind hazards.	Emergency Services	**ELIMATE THIS ACTION**	Cancelled
Moderate	5	Revise the Tri-County communities' floodplain ordinances that are outdated.	Prevention	Peoria County and Tazewell has updated this.	Completed & In Progress
High	6	Target FEMA's Repetitive Loss Properties for educational outreach and mitigation activities.	Public Information and Awareness	Peoria County has a outreach program.	Completed & In Progress
High	7	Obtain official recognition of the Mitigation Advisory Committee by the Tri-County communities in order to help institutionalize and develop an ongoing mitigation program.	Public Information and Awareness	Has not been started.	Not Started
High	8	Develop recommendations for revenue sources for mitigation, planning, and projects.	Prevention	**ELIMATE THIS ACTION** and tie into other actions.	Modifed to be tied into other actions not a stand alone action
Moderate	9	Increase outreach and educational opportunities to residents, businesses, tourists, and community officials about hazards.	Public Information and Awareness	**ELIMATE THIS ACTION** and tie into action #6	Modified to be tied into action #6. Completed through relevance with #6
Moderate	10	Partner with Parent Teacher Associations and local schools to develop an annual children's and teacher's educational program which focuses on teaching children and adults about hazard seasons, effects, and mitigation opportunities.	Public Information and Awareness	Schools have crisis plans in place. Need to educate the adults. This should be tied into action #9. Add information about cell phones.	Not Started Modified to be tied into #9 (which ties into 6).
Moderate	11	Develop "hazard information centers" on the Tri-County communities websites and in public libraries where individuals can find hazard and mitigation information.	Public Information and Awareness	Peoria County does have some flood related information on their websites.	Partially Completed & In Progress

Significant Mitigation Actions for Tri-County Region

- During the HMP presentation the committee decided on several actions that would be addressed ASAP:
  1. Official Recognition of the Mitigation Advisory Committee (MAC)
     - *Peoria County volunteered to head the MAC which will include facilitating committee meetings, compiling annual reports, and helping to secure funds for updating the plan.*
  2. Start Updating the 2010 HMP
  3. Target Repetitive Loss Properties
  4. NFIP Educations
  5. Universal Siren Protocol
  6. Increase GIS capabilities locally or through TCRPC
  7. Hazard Education

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New Mitigation Actions added to the 2010 HMP

- Update the 2010 TCRPC Natural HMP
- Universal Siren Protocol for the Tri-County area
- Educational Outreach for NFIP and local administration
- Designation of additional schools and public buildings for heating centers and emergency shelters.
- Evaluation of current critical facilities and shelters to determine resistance to all hazards.
- Increasing GIS capabilities locally and through TCRPC
- Drought Preparedness & Response
- Wildfire Mitigation Plans

Action Number	Action Title	Hazard	Peoria County	City of Chillicothe	Village of Peoria Heights	City of Peoria	Tazewell County	City of Pekin	City of East Peoria	City of Washington	Woodford County	Village of Roanoke	OVERALL PRIORITY
1	Target FEMA's Rep Loss, properties, and critical facilities located in the floodplain throughout the Tri-County area for potential mitigation projects.	Flood	H	H	H	H	H	H	H	H	H	H	**High**
2	Distribute 100 NOAA weather radios to residents that are most vulnerable to wind events. Determine which facilities currently have radios and feasibility of hard-wiring. Further investigate Storm Ready programs.	All	M	H	L	H	M	M	M	M	H	L	**High**
3	Target FEMA's Rep Loss as well as participants in the NFIP for educational outreach and mitigation activities.	Flood	H	H	H	H	H	H	H	H	H	H	**High**
4	Obtain official recognition of the Mitigation Advisory Committee by the Tri-County communities in order to help institutionalize and develop an ongoing mitigation program.	All	H	H	H	H	H	H	H	H	H	H	**High**
5	Universal siren protocol for Tri-County area. Coordinate among all agencies to ensure rapid and comprehensive dissemination of necessary information and of response operations.	All	M	M	M	M	M	M	M	M	M	M	**High**
6	Examine the feasibility of designating schools and other public buildings as heating centers and emergency shelters. This includes determining safety of current shelters, long& short term shelter needs and retro-fitting existing facilities.	All	M	M	M	M	M	M	M	M	M	M	**High**
7	Develop educational materials, both web-based and in paper form, that can be used to inform the Tri-County citizenry about the benefits of the National Flood Insurance Program and how it is administered locally.	Flood	M	M	M	M	M	M	M	M	M	M	**High**
8	Update the 2010 Tri-County Regional Planning Commission Natural Hazards Mitigation Plan	All	H	H	H	H	H	H	H	H	H	H	**High**
17	Pursue the utilization of emergency management mitigation measures to address hazards in the Tri-County area, including hazard mapping (GIS); critical facility and infrastructure mapping (GIS) and hardening. Continued HAZUS-MH analysis by TCRPC.	All	H	H	H	H	H	H	H	H	H	H	**High**

Action Number	Action Title	Hazard	Peoria County	City of Chillicothe	Village of Peoria Heights	City of Peoria	Tazewell County	City of Pekin	City of East Peoria	City of Washington	Woodford County	Village of Roanoke	OVERALL RIORITY
9	Location and label all public hydrants in the Tri-County area to assist in street identification in the event of widespread destruction.	All	L	L		M	L				L		**Moderate**
10	Revise the Tri-County communities' floodplain ordinances that are outdated, continued compliance with NFIP, evaluate feasibility of joining CRS and/or increasing rating score.	Flood	H	L	L	M	H	H	L	H	H	L	**Moderate**
11	Partner with Parent Teacher Associations and local schools to develop an annual children's and teacher's educational program which focuses on teaching children and adults about hazard seasons, effects, and mitigation opportunities.	All	H	M	M	M							**Moderate**
12	Develop "hazard information centers" on the Tri-County communities websites and in public libraries where individuals can find hazard and mitigation information.	All	H	M	M	M	M	M	M	M	M	M	**Moderate**
13	Evaluate all critical facilities and shelters to determine their resistance to all hazards. This study will examine all critical facilities within the Tri-County jurisdictions and make recommendations as to ways in which the facilities can be strengthened or hardened.	All	H	M	M	M	H	M	M	M	M	H	**Moderate**
14	Contact Natural Resources Conservation Service regarding opportunities for technical assistance and financial assistance for drought preparedness and response.	Drought	L				L			L	L	L	**Low**
15	Pursue potential grants from the Illinois Department of Natural Resources for wildfire mitigation plans	Wildfire	L				L			L			**Low**
16	Pursue the U.S. Department of Agriculture's Hazardous Fuels Reduction Project assistance programs, Publicize these programs and utilize existing wildfire maps to prioritize project areas in the Tri-County area. Assist local residents in priority areas to reduce wildfire hazards.	Wildfire	L				L			L			**Low**
18	Utilize the media and schools for public information promulgation about seismic risks.	Earthquake	L				L			L			**Low**

Peoria County
Completed Mitigation Actions from 2005 (and ongoing for 2010)

- Target FEMA's Repetitive Loss Properties throughout the Tri-County area for potential mitigation projects.
- Target FEMA's Repetitive Loss Properties for educational outreach and mitigation activities.
- Locate and Label all public hydrants in the Tri-County area to assist in street identification in the event of widespread destruction.
- Revise the Tri-County communities' floodplain ordinances that are outdated, continued compliance with NFIP, evaluate feasibility of joining CRS and/or increasing rating score.
- Develop "hazard information centers" on the Tri-County communities websites and in public libraries where individuals can find hazard and mitigation information.

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Plan Maintenance

- Monitoring & Updating
  - Semi-annual review by each Jurisdiction
    - Lessened vulnerability due to implementation of action
    - Increased vulnerability from failed or ineffective action
    - Increased vulnerability from new development
  - Annual review though the MAC (headed by Peoria County)
  - 5 year update to IEMA and FEMA

Questions?

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