Illinois Storm Ready – Weather or Not

Collaborating a Culture Shift Toward Resilient Disaster Recover in Illinois While "Staying on the Island"

Loren Wobig, P.E., CFM Wes Cattoor, P.E., CFM

























The 200m sprint

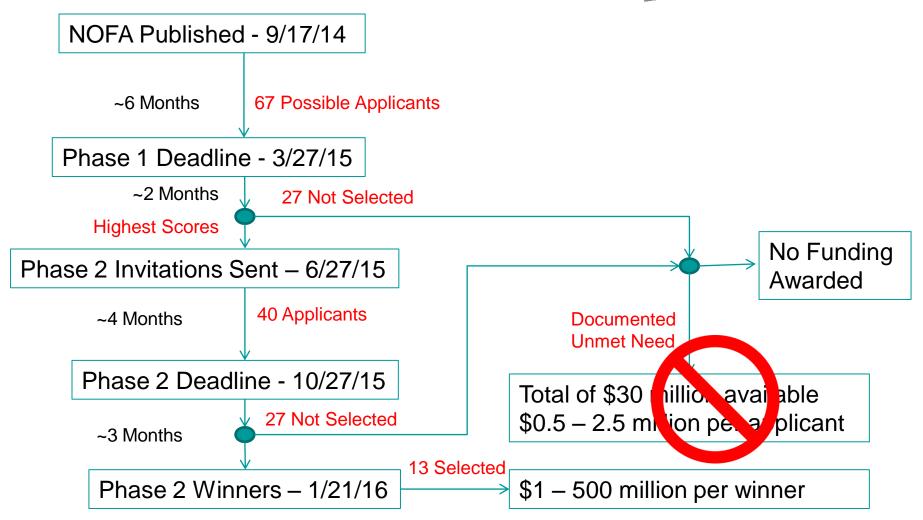
Activities of the National Disaster Resiliency

Competition

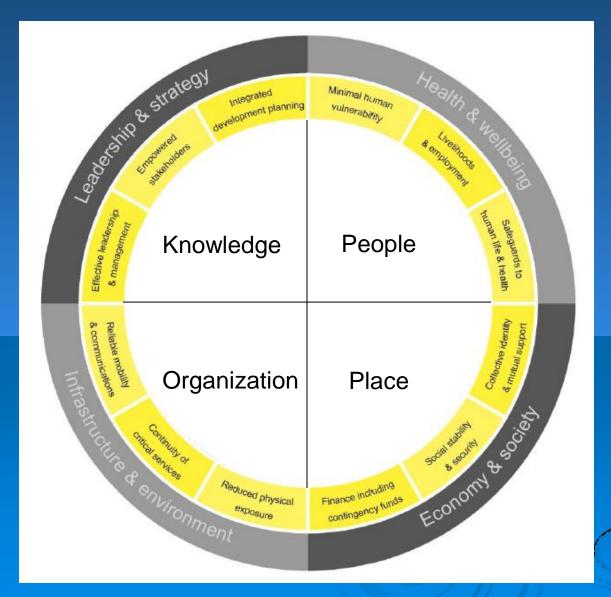


Two Phases



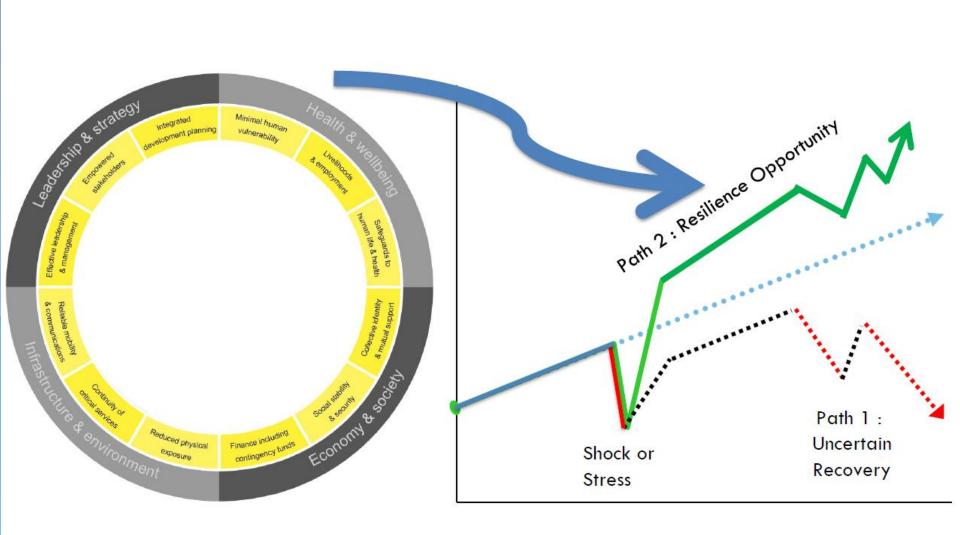


What is a Resilient Place



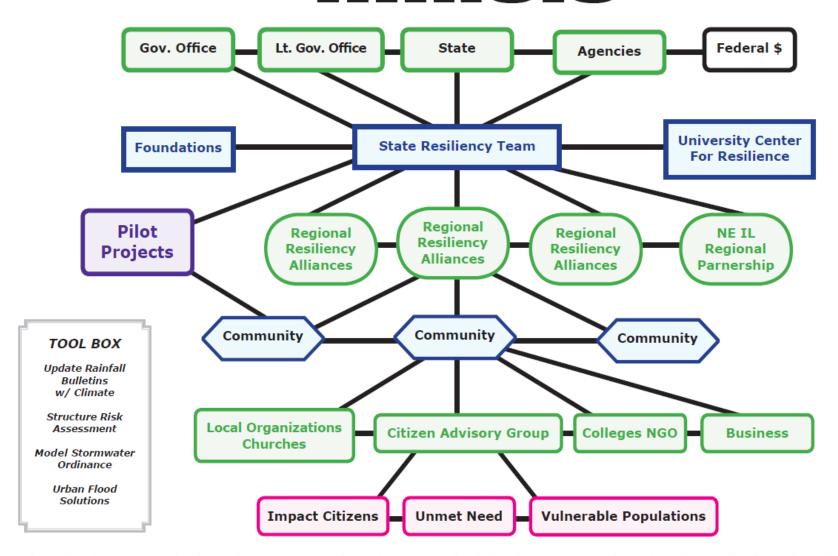
Ability to function in adverse circumstances and continue to provide support to its citizens and generate inclusive economic prosperity.

The framework can help identify alternative paths.



Illinois Resiliency Plan

Utilize a statewide program to foster state agency and regional resilience partnerships and to implement example resilient pilot projects across the state that employ science based and climate ready resilient approaches to reduce flood risks and impacts in Illinois communities while achieving additional social, economic and environmental benefits.



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Traditional Structure

(We must live in the Midwest)



Resilient Structure



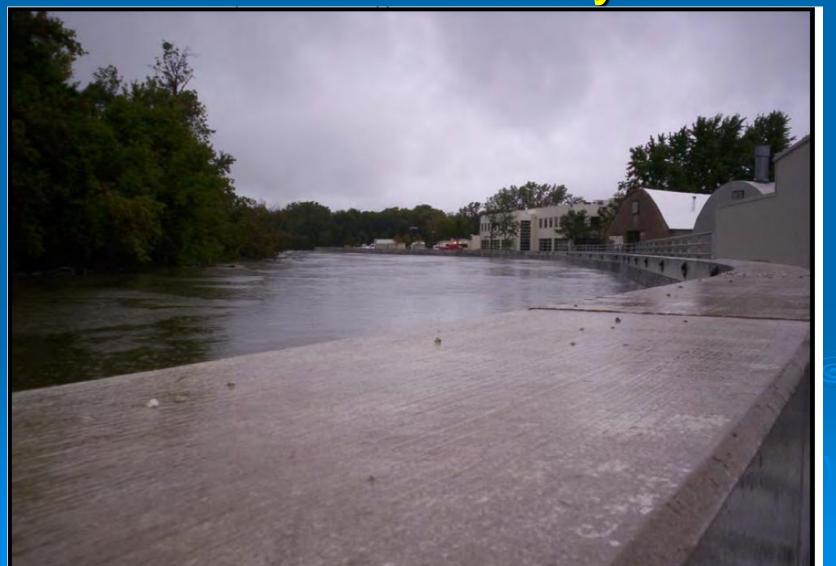
Building Better Resiliency in Illinois







No disruption of life this day! That's Resiliency



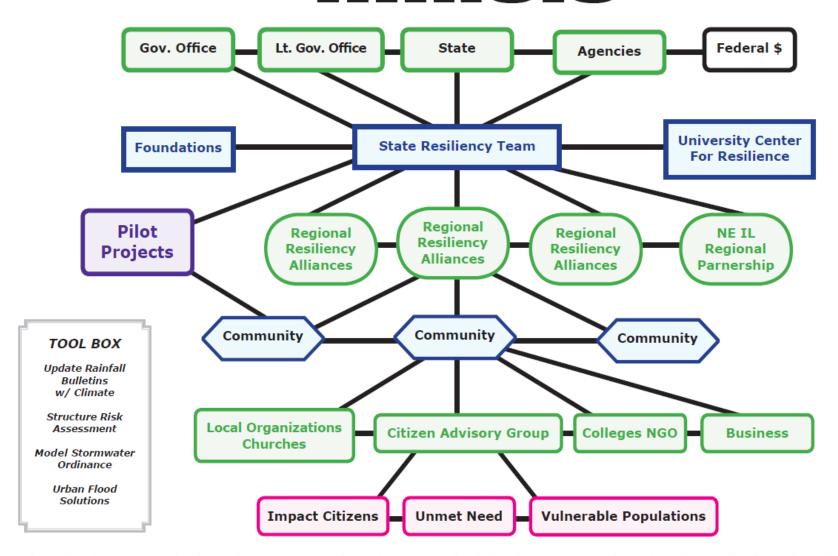
Welcome Community Leaders from the 38th District

Regional Resiliency Alliances





First Organizational Meeting—February 12, 2014



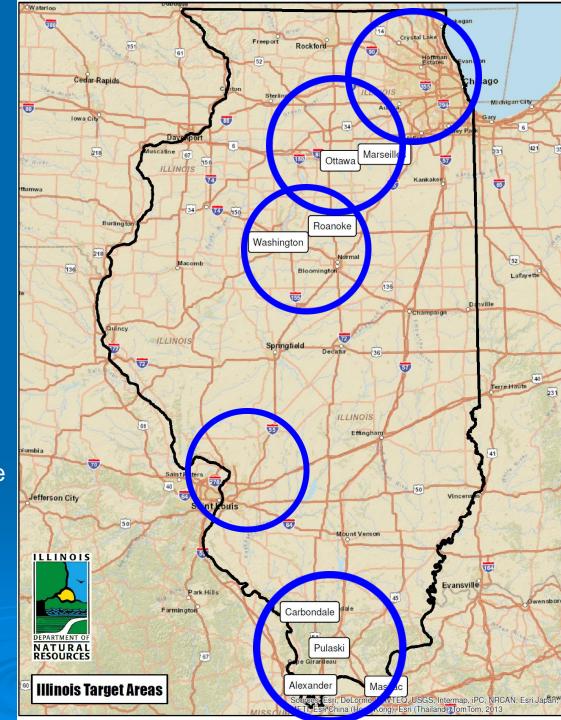
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Illinois Resiliency Plan

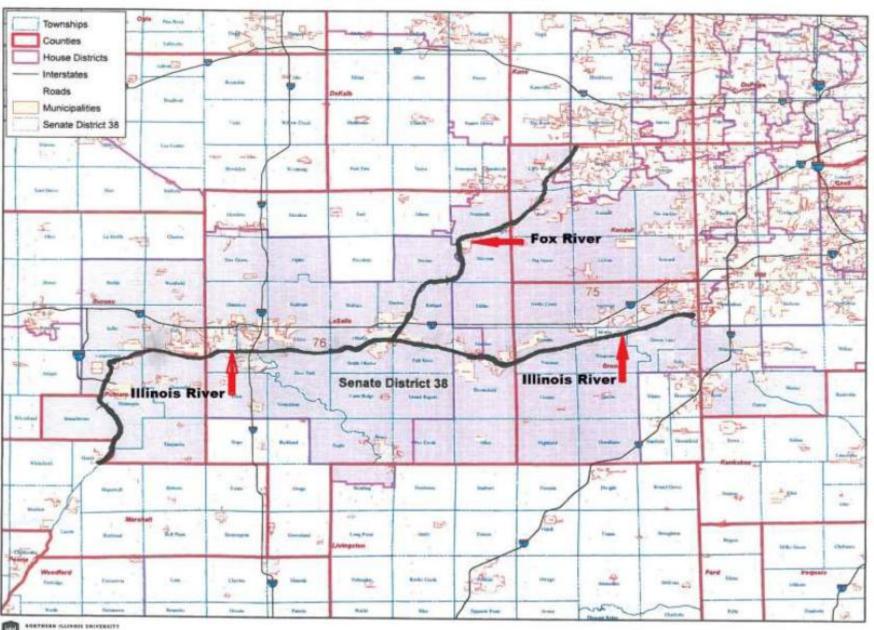
Opportunity to implement resilient pilot projects across the state

Opportunity to influence the way we think about incorporating additional co-benefits into the projects we build together

National recognition of NE Illinois Partnership by the Rockefeller Foundation



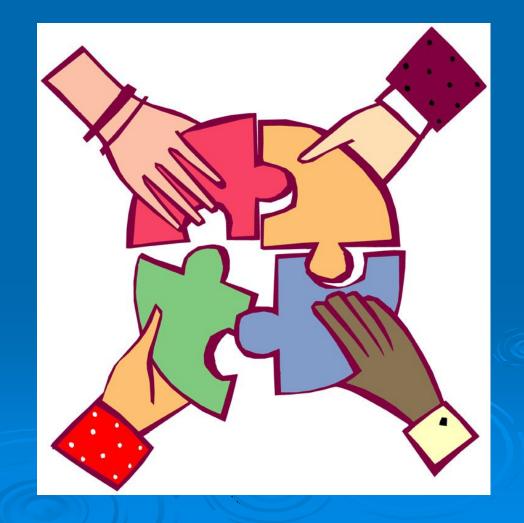
Senate District 38



Aligned for Common Goals and Objectives

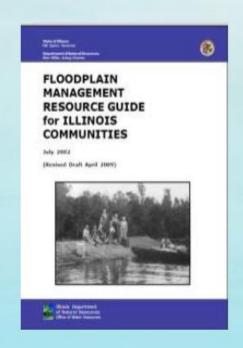






2. Education and Outreach

- Seek state programs & staff
- Solicit private sector investment
- Find not-for-profits
- Package programs leverage power!
- Encourage local ownership
- New technologies
- Think outside the box







Better Floodsafe than Sorry



- Restrictive floodway.
- Appropriate uses only. No buildings!
- Stormwater regulations (detention/retention).
- Compensatory storage required (1:1.5)
- Freeboard
- Cumulative sub dam
- · Restrictive zoning.
- Countywide ordinances.

Going Above and Beyond



Meanwhile... Back at The Race

Activities of the National Disaster Resiliency

Competition



Stakeholder Consultation

Outreach & Engagement

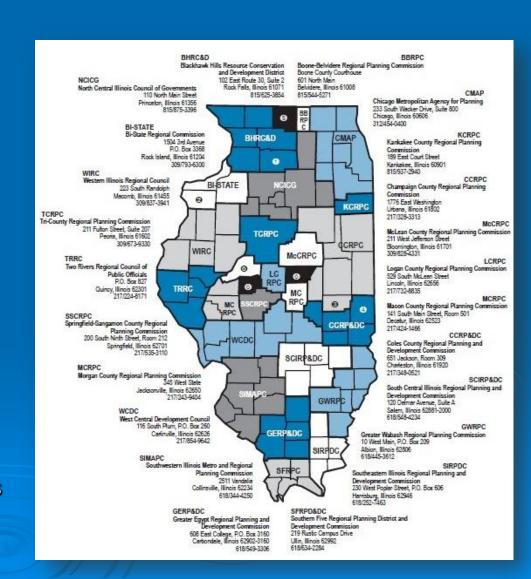
- Government
- Vulnerable Citizens
- Non-Profit
- Research Institutes
- Businesses

Expert Consultation

- Design & Engineering
- Technology & Behavior
- Economic Opportunities
- Multiplying Benefits

Resilience Roundtables

- Rebuild by Design summaries
- Social Resilience

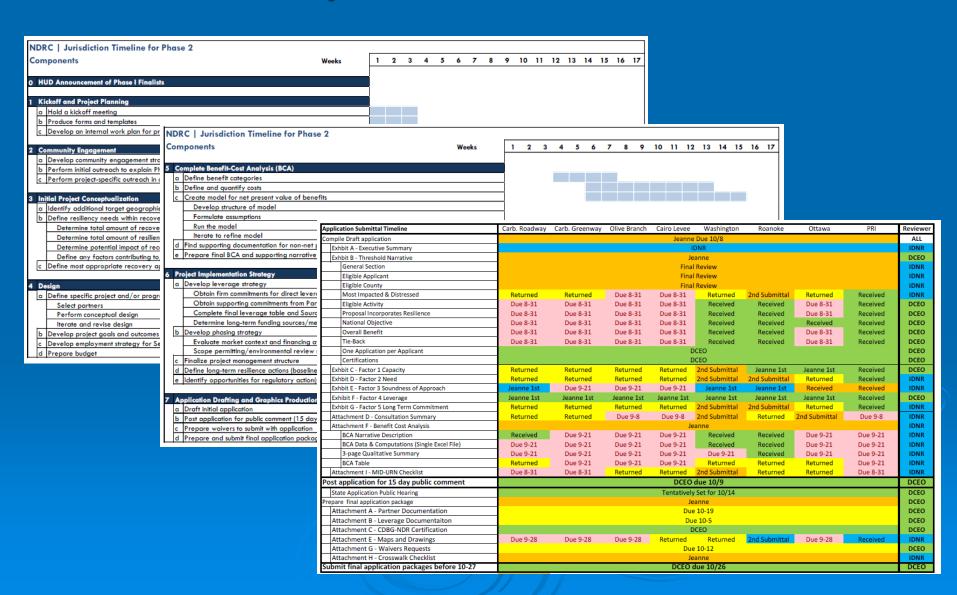


Partnerships!

1.	Illinois Department of Transportation	40.	Illinois-Indiana Sea Grant	77.	Forest Preserve District of Cook County	/ 117.	Perry County Commission	159.	Jefferson County Board
2.	Illinois Emergency Management	41.	IDNR-CERP Program	78.	Geosyntec Consultants	118.	Perry County Board	160.	Mt. Vernon City Manager
	Agency	42.	North Central Illinois Council of	79.	Metropolitan Mayors Caucus	119.	Williamson County Board	161.	Perry County Board
3.	Illinois Environmental Protection		Governments	80.	Metropolitan Planning Council	120.	Williamson County Assessor	162.	Perry County Highway Department
	Agency	43.	Tri-County Regional Planning	81.	Metropolitan Water Reclamation Distric	t121.	City of Carbondale - City Manager	163.	City of Marion- Mayor
	Illinois Sate Water Survey		Commission		of Greater Cook County	122.	Jefferson County Board	164.	Herrin City Council
5.	Illinois Department of Natural resource	S 44.	Village of Roanoke	82.	Natural Resource Defense Council	123.	Mt. Vernon City Manager	165.	Weed Man of Southern Illinois
6.	Illinois Department of Commerce and	45.	Greater Egypt Regional Planning	83.	OAI, Inc.	124.	Perry County Board	166.	Barnett and Levine, LLP
	Economic Opportunity		Council	84.	Openlands	125.	Perry County Highway Department	167.	De Nals Hair Salon
7.	Illinois Department of Agriculture	46.	Community of Olive Branch	85.	Pepper Construction Company	126.	City of Marion- Mayor	168.	Wright Properties
8.	Illinois Capital Development Board	47.	Southern Five Regional Planning	86.	Terry Guen Design Associates	127.	Herrin City Council	169.	New Beginningz Realty
9.	Illinois Commerce Commission		Council	87.	Skidmore, Owings & Merrill	128.	City of Carbondale- Planning	170.	City of Ottawa Planning Department
	Illinois Governor's Office -	48.	Southern Illinois University - Carbondal	e 88.	South Suburban Mayors and Managers		Department	171.	City of Ottawa Planning Department
	Intergovernmental Affairs	49.	Village of Utica	33.	Association	129.	City of Carterville	171.	City of Ottawa Pialiting Department
11.	Illinois Governor's Office - Policy	50.	Grundy County Emergency	89.	Stanhope Consulting	130.	City of Herrin- Public Works	173.	City of Ottawa Engineering Department
	Advisors on Environmental Energy		Management	90.	UI Labs	131.	City of Marion- Public Works		City of Ottawa Planning Department
12.	Illinois Governor's Office - Policy	51.	City of Washington	91.	Building Resilience Against Climate		Jackson County Highway dept	174.	City of Ottawa Building Department
	Advisors on Transportation	52.	Tetra Tech		Effects, University of Illinois at Chicago	132.	Williamson County Highway	175.	
13.	Illinois Lt. Governor's Office - Reverse Coordinating Council		City of Wilmington	92.	US Army Corps of Engineers	100.	Department	176.	City of Ottawa - Office of the Mayor
14.	Illinois Historic Preservation Agency	54.	Illinois-Indiana Sea Grant	93.	US Environmental Protection Agency –	134	RIDES Mass Transit District	177.	North Central Illinois Council of Governments
15.	Illinois Housing Development Authority	55.	University of Illinois Champaign Urbana	a	Region 5	135.	Federal Highway Administration	178.	City of Ottawa Planning Department
	Illinois Department of Insurance		180 Architects	94.	US Green Buildings Council – Illinois	136.	Jackson County Board		City of Ottawa Engineering Department
		57.	AECOM		Chapter	137.	Jackson County Mass Transit	179.	
17.	Illinois Department of Public Health	58.	Allstate Insurance	95.	Village of Homewood	138.	Southern Illinois Metropolitan Planning	180.	Hitchcock Design Group
	Illinois Department of Aging	59.	American Red Cross	96.	Village of Midlothian	156.	Organization	181.	Ottawa Flood Commission
	American Red Cross	60.	Center for Neighborhood Technology	97.	Village of Park Forest	139.	City of Carbondale Planning	182.	City of Ottawa - City Council
	Illinois Tollway & Highway Authority	61.	City of Chicago Mayors Office	98.	Office of Foundation Relations	155.	Department		City of Ottawa Engineering Department
21.	Illinois Department of Natural	62.	Chicago Department of Planning &	99.	Office of Corporate Relations	140.	Jackson County Health Department	184.	City of Ottawa Planning Department
	Resources		Development	100.	Critical Infrastructure Resilience Center	141.	City of Carbondale- City Manager	185.	City of Ottawa Building Department
22.	State Senator	63.	Chicago Department of Water		of Excellence (CIRCoE)	142.	John H. Crawford & Associates	186.	City of Ottawa - Office of the Mayor
23.	Greater Egypt Regional Planning Council		Management	101.	Caterpillar	143.	Williamson County Highway	187.	Etscheid Duttlinger & Associates
	Southern Illinois Metropolitan Planning	64.	Chicago Metropolitan Agency for		City of Carbondale Planning		Department	188.	Renwich & Associates
24.	Organization		Planning		Department	144.	Walker's Bluff	189.	Vegrzyn, Sarver and Assoc., Inc.
	Jackson County	65.	Chicago Park District		Jackson County Health Department	145.	Southern Illinois Metropolitan Planning		McCLure Engineering Associates, Inc.
26.	City of Ottawa	66.	Chicago Wilderness		City of Carbondale- City Manager		Organization	191.	Crawford Murphy & Tilly Inc.
27.	City of Marseilles	67.	City of Blue Island	105.	John H. Crawford & Associates	146.	City of Sesser- Mayor	192.	Hitchcock Design Group
	Village of Roanoke	68.	Cook County Bureau of Community	106.	Williamson County Highway	147.	Franklin County Assessor	193.	Woodford County Road & Bridge
28.			Development		Department	148.	Franklin County Board		Committee
	City of Washington	69.	Cook County Department of	107.	Walker's Bluff	149.	City of Benton- Mayor	194.	Woodford County Highway
30.	Alexander County Highway Departmen		Environmental Control	108.	Southern Illinois Metropolitan Planning	150.	West Frankfort Small Business		Superintendent
31.	Southern Five Regional Planning Council	70.	Cook County Department of Planning and Development		Organization		Incubator		Classic Autobody
32.	HR&A Adviors	71.	Cook County Office of Homeland		City of Sesser-Mayor	151.	John A. Logan College Board		Lifts of Illinois
	The Rockefeller Foundation	71.	Security & Emergency	110.	Franklin County Assessor	152.	Jackson County Board	197.	Geiser Ford
		72.	Conservation Design Forum	111.	Franklin County Board		Jefferson County Commission	198.	Sauder Furniture
34.	Foresight Design	73.	Delta Institute	112.	City of Benton-Mayor	154.	Perry County Commission	199.	B.J. Fehr's Welding
35.	Metropolitan Planning Council	73. 74.	DuPage County Department of	113.	West Frankfort Small Business	155.	Perry County Board		Residents of Roanoke
36.	National Resource Defense Council		Stormwater Management		Incubator	156.	Williamson County Board	201.	Washington Courier
37.	Center for Neighborhood Technologies	75.	Farr Associates	114.	John A. Logan College Board	157.	Williamson County Assessor	202.	Peoria Journal Star
	Illinois State Geologic Survey	76.	FEMA – Region 5	115.	Jackson County Board	158.	City of Carbondale - City Manager	203.	Trees Forever
39.	Prairie Research Institute	10.	- Inter-Inagionia	116	Jefferson County Commission		ony or oursondaro only mariagor		

Jefferson County Commission

Competition Activities



Local Coordination & Outreach



Initial Outreach

- Provide Existing Information Only
 - Exhibits to supplement community discussion
- Ask Questions
 - Event Experiences
 - Problem Areas
 - Possible Solutions
 - Other Community Needs
- Listen to their Responses



State Resiliency Academy

Resilience Experts

- > NGO's
- State Agencies
- Elected Officials
- Universities
- > Philanthropic



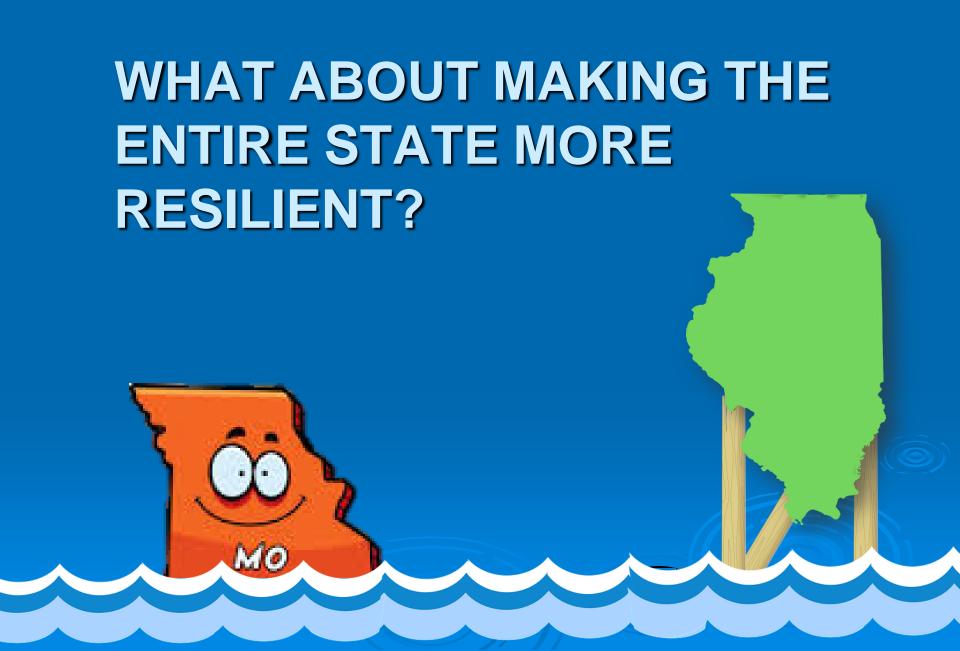
Follow-up Outreach

Outcomes of community proposed solution and other options

Provide recommended option highlight of cross discipline benefits

Get more feedback





TOOL BOX

Update Rainfall Bulletins w/ Climate

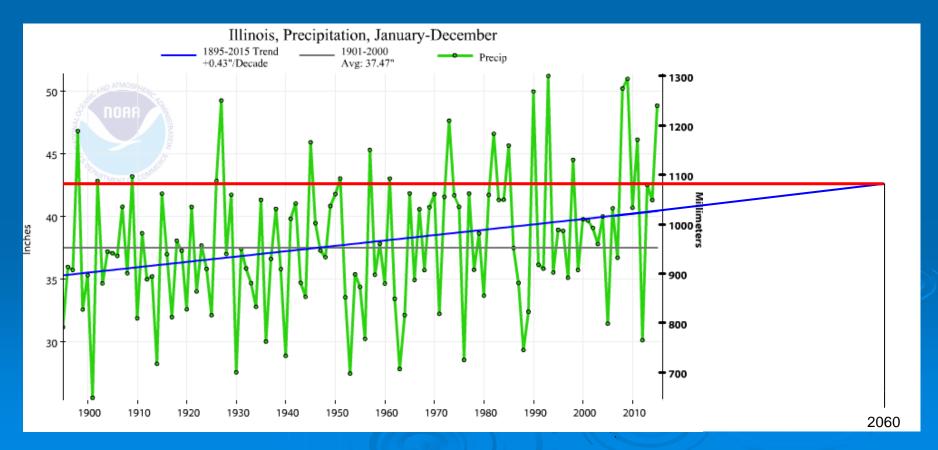
Structure Risk Assessment

Model Stormwater Ordinance

> Urban Flood Solutions

Dynamic Rainfall Design

Historic Average: 37.5" 2060 Forecasted Trend: ~42.5" (13% Increase)



Statewide Structure Risk Assessments



FLOOD RISK REPORT

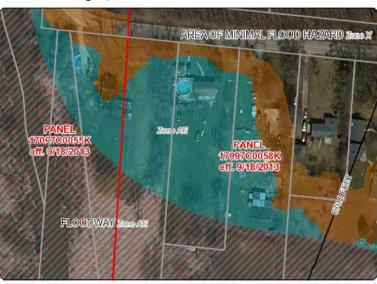




Location: 18 N. County Street Waukegan, IL 60085







(Community Name) is providing this flood risk report to display the flood risk near your property, and provide valuable information for protecting your family, home and possessions. Damage from flooding is often preventable if action is taken to reduce risk prior to a major rain storm. Even if you are not in a mapped floodplain, 25% of all flood damage occurs in low risk zones, or those mapped outside of the floodplain. Below you will find an aerial photo of your home within the mapped floodplain, developed by FEMA. You will also see a profile of what your home may look like if your area experiences a 1% flood, commonly referred to as the 100-year storm. At the bottom of the page you will find tips on what you can do to help prevent flood damage both in your neighborhood, and on your specific property. Working together, we can all help to create a safer community.

According to the latest FEMA Flood Maps, Your Property is Located in a:

- 1% Annual Chance Flood Hazard Area
- 0.2% Annual Chance Flood Hazard Area
- Regulatory Floodway



This Means That:

- You are required to purchase Flood Insurance
- You have building regulations in addition to standard regulations

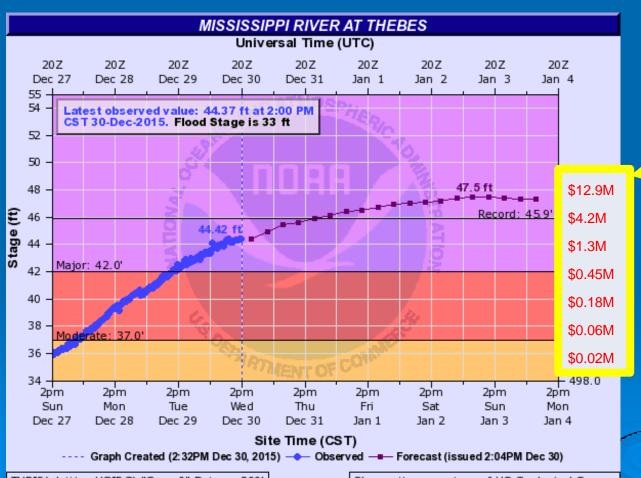


REDUCE RISK

- · Flood proof your basement, for more information visit: www.floodsmart.gov
- Buy contents insurance coverage, you likely already pay flood insurance if you have a federally backed mortgage. However, this may not fully protect all of your belongings. Contact your insurance agent or visit www.floodsmart.gov for more information
- · Keep areas in floodway free of debris, this will keep flood levels as low as possible

Decisioner: this data is not to be used to determine any base blood elevations or food one designations for WRF (Notional Flood Insurance Program) purposes. For NFF flood insurance and regulation purposes, please effect the publishes effective IRBM (Flood Rate Insurance Mary) for your case of consense. A Registered Land Surveyor should be consulted to determine the precise location of properly boundaries and ground elevations. With map does not constitute or equality relationship and plan to be large registering design. This map is kinded to be where and pottered in colots.

Forecasting Flood Damages



Stage (ft)	Damage (\$ Mil)
36	0.02
38	0.06
40	0.18
42	0.45
44	1.3
46	4.2
48	12.9

THBI2(plotting HGIRG) "Gage 0" Datum: 300'

Observations courtesy of US Geological Survey

Urban Flooding Solutions (see Breakout 3D)



Bellwood flooded basement July 2010 (Chuck Berman, Chicago Tribune)

- Stormwater Ordinance
- Raingardens
- Overhead sewer programs
- Overland flow paths
- Stormwater utilities



REPORT FOR THE

Urban Flooding Awareness Act











Prairie Research Institute's Role

- PRI can provide communities with social resiliency assessments composed of surveys, focus groups, and interviews to determine their capacity for "bouncing back" after a natural disaster and their current capacity to adapt to changing conditions.
- PRI has launched a Resilient Watershed Initiative to better connect researchers and communities and to put decision support tools into the hands of community leaders to help them build more resilient communities.
 - For more information contact Laura Kammin | Ikammin@illinois.edu | 217-333-1115



QUESTIONS?

