

URBAN FLOODING AWARENESS ACT

Brad Winters, P.E., CFM

IDNR – Office of Water Resources

Report Overview

Report sections:

1. Past, Current, and Future flooding
2. Effectiveness of Projects, Programs and Policies
3. Strategies for Reducing Urban Flood Damages



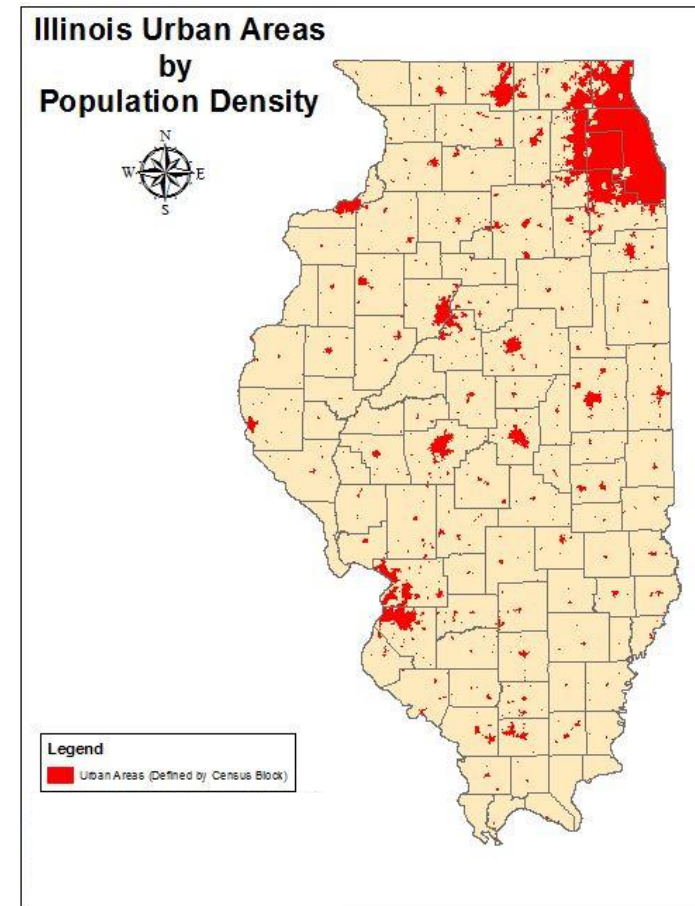
Definition: Urban Flooding

- Working Definition:
 - In a Built up area, not undeveloped or Ag land
 - Repetitive, costly, and systematic
 - Not tied to formal floodplains
 - Root Causes:
 - Wet soil
 - Inadequate Infrastructure
 - Overbank flooding
 - Impervious surfaces
 - Inadequate site drainage
 - Climate uncertainty



Definition: Urban

- US Census Bureau
 - >2,500 people with Density Requirement
 - Illinois = 7.1% Urban Area
 - 12% of municipalities included
- Working Definition
 - Density requirement only
 - Illinois = 7.8% Urban Area
 - 91% of municipalities included



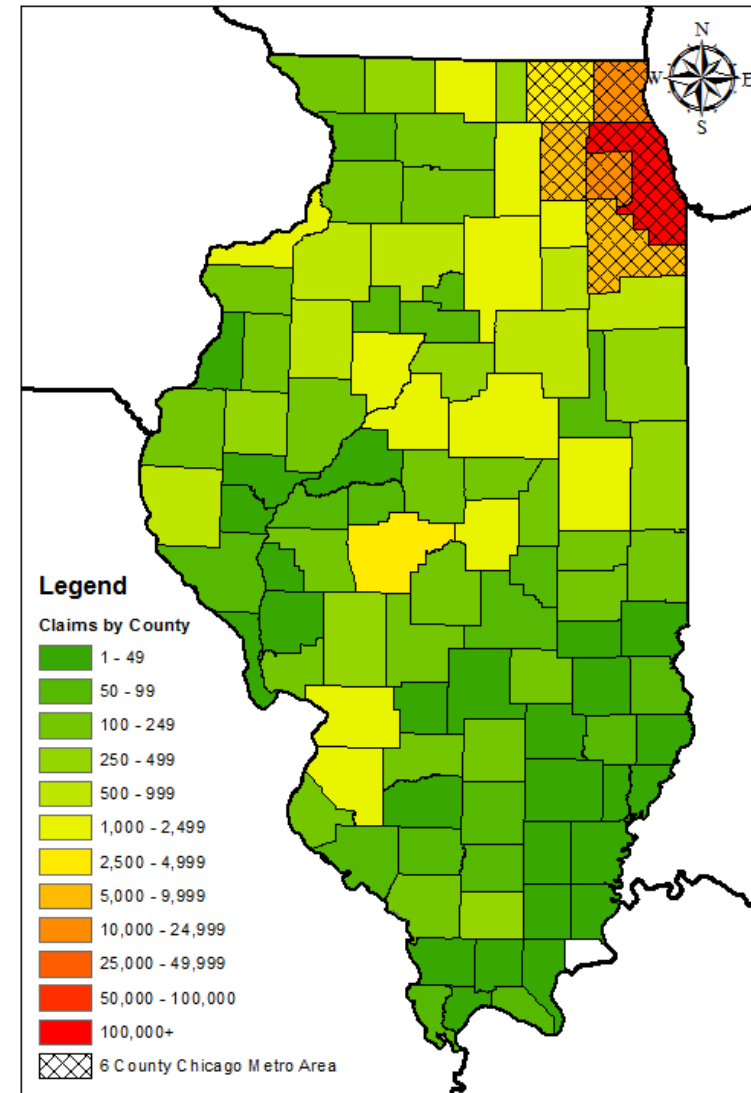
Data Collection

- Illinois Department of Insurance
 - Sewer backup claims
- Federal Emergency Management Agency
 - Disaster Assistance
 - National Flood Insurance claims
- Urban Flooding Survey
 - 120 municipalities responded
- Urban Flooding Symposium
 - Professional judgement
- Other data collection
 - Stakeholder information



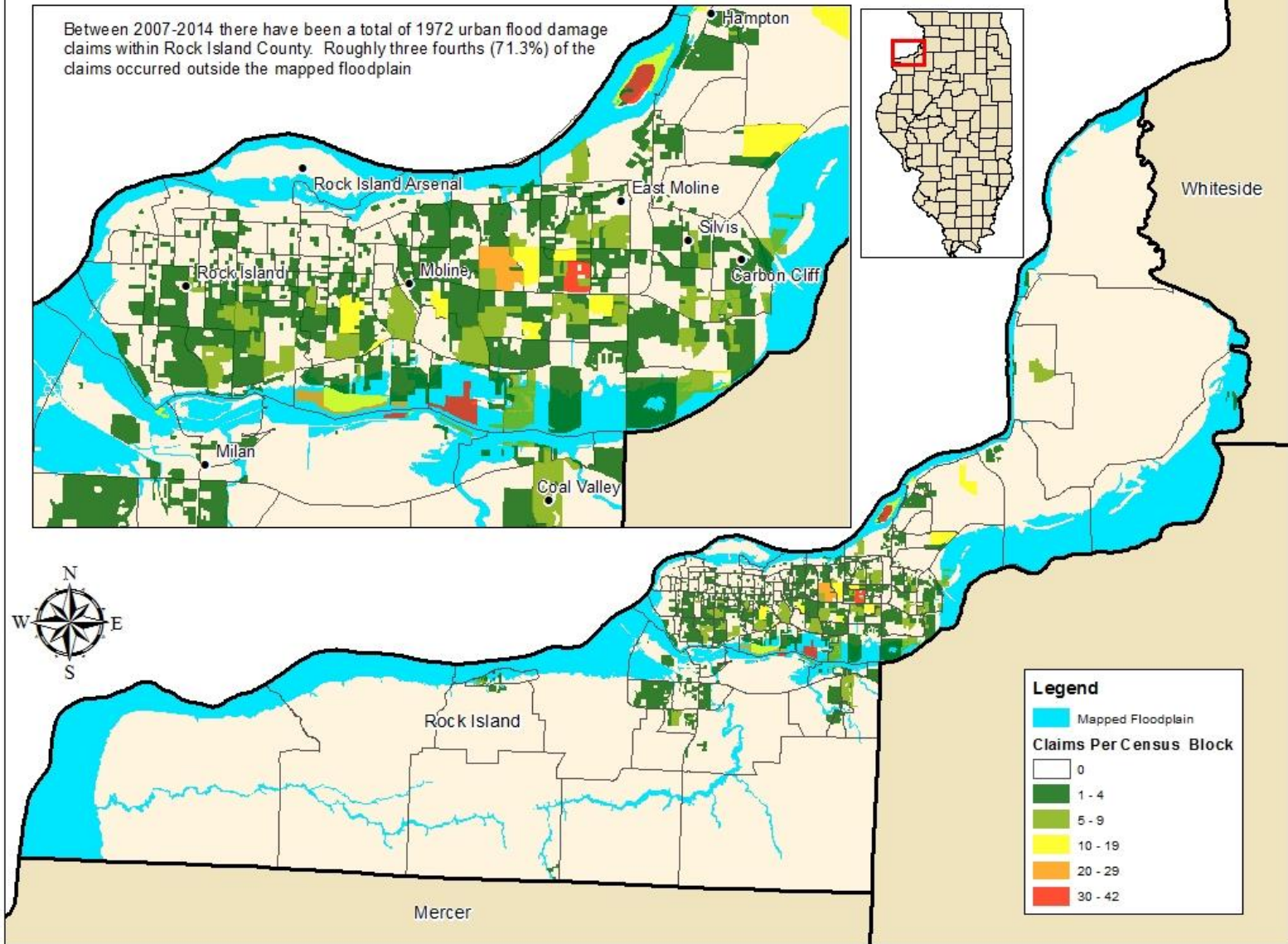
Sections of the Report

- Past, Current, and Future
 - Prevalence, cost, and trends
 - Impacts of climate change
 - Review technology to evaluate risk
- Effectiveness of Projects, Programs and Policies
- Strategies for Reducing Urban Flood Damages



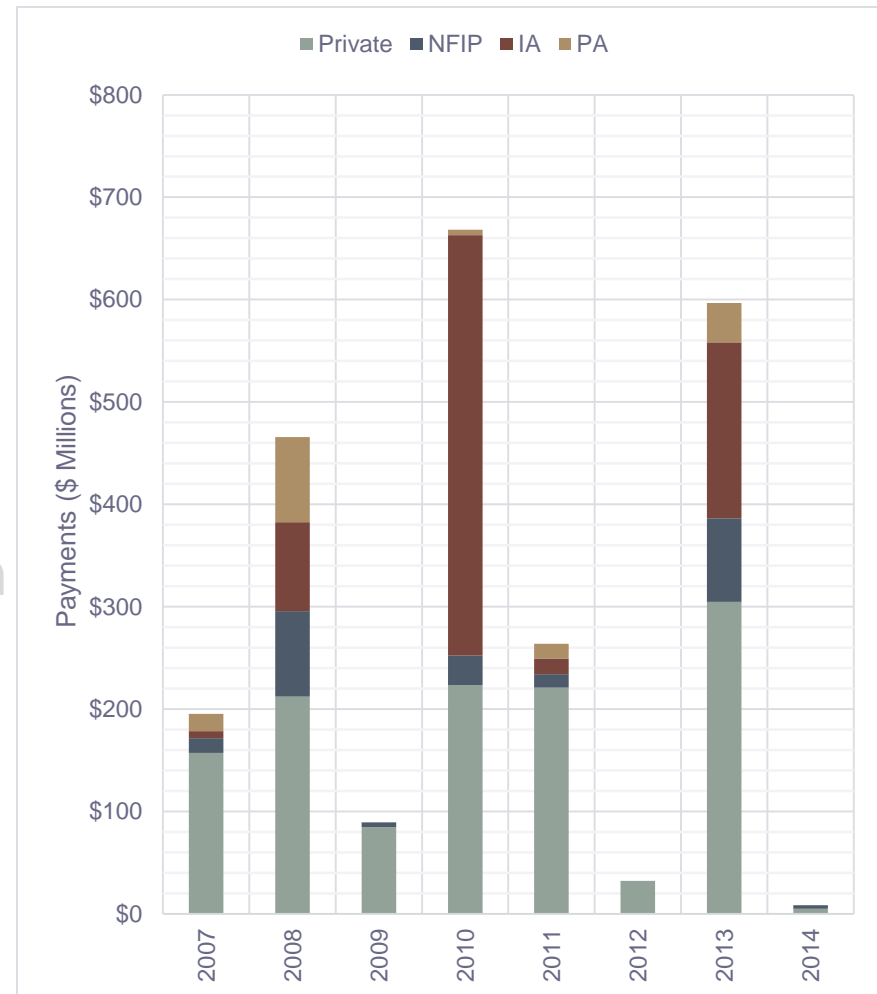
Rock Island County NFIP & Private Flooding Insurance Claims by Census Block 2007-2014

Between 2007-2014 there have been a total of 1972 urban flood damage claims within Rock Island County. Roughly three fourths (71.3%) of the claims occurred outside the mapped floodplain



Sections of the Report

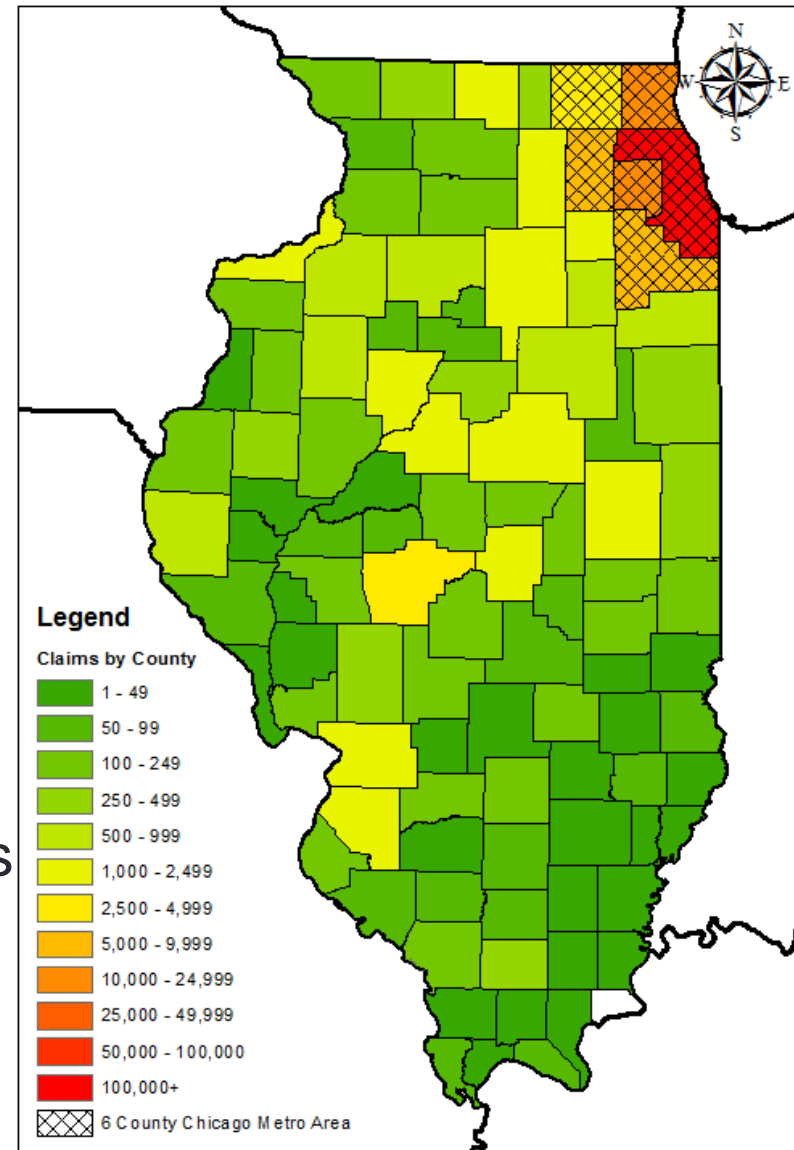
- Past, Current, and Future
 - Prevalence, cost, and trends
 - Impacts of climate change
 - Review technology to evaluate risk
- Effectiveness of Projects, Programs and Policies
- Strategies for Reducing Urban Flood Damages



Recommendations

Chapter 1: Prevalence and Cost

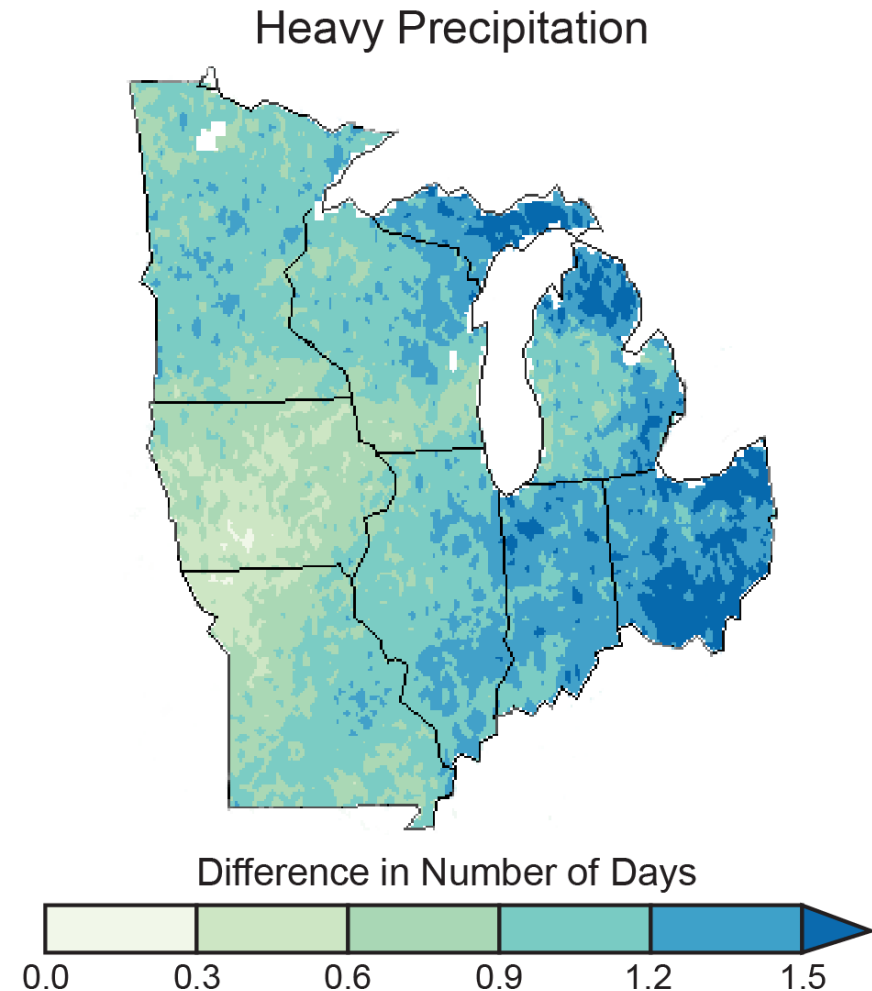
1. Mandate flood insurance continuing education training for insurance agents.
2. Develop a long term insurance database.
3. Research lower income household flood insurance coverage and flood insurance pools.
4. Research flood mitigation pools to fund work on urban flood areas
5. Encourage outreach and education to explain difference between flood insurance and basement backup insurance.



Urban Flooding Private and NFIP Claims by County

Sections of the Report

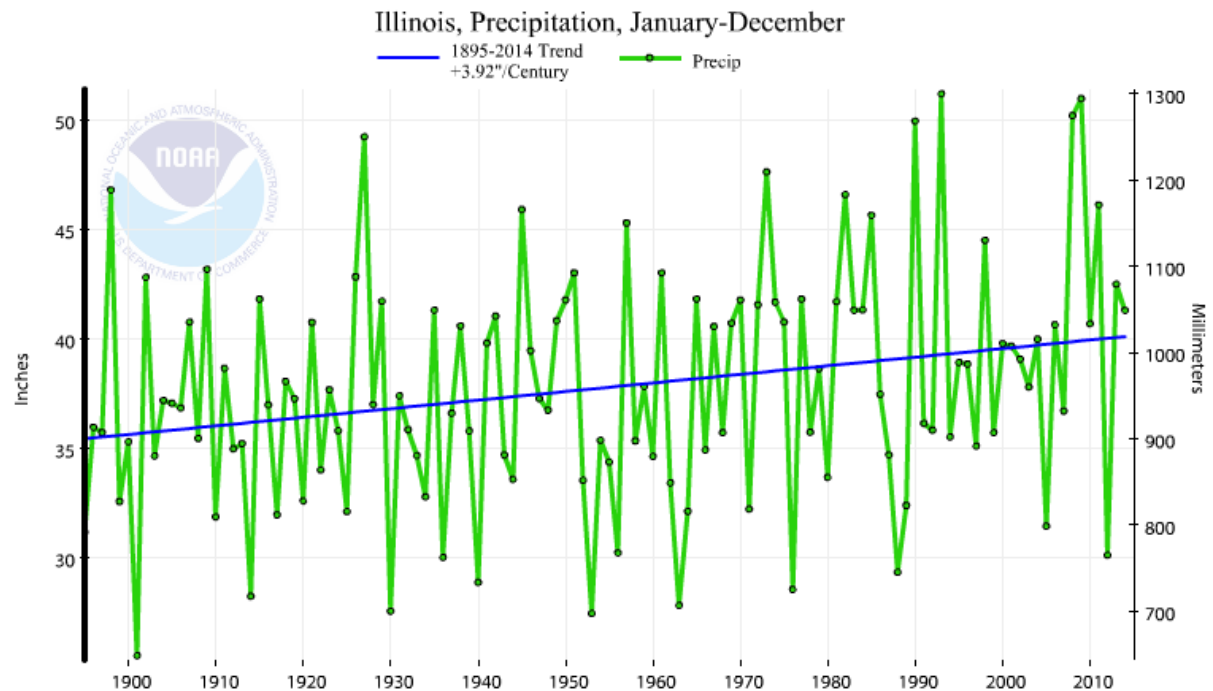
- Past, Current, and Future
 - Prevalence, cost, and trends
 - Impacts of climate change
 - Review technology to evaluate risk
- Effectiveness of Projects, Programs and Policies
- Strategies for Reducing Urban Flood Damages



Recommendations

Chapter 2: Climate Trends and Climate Change

1. Update precipitation frequency data with additional years of rainfall data and future rainfall trend data.
2. Continue funding data collection for monitoring climate and flood data.



Sections of the Report

- Past, Current, and Future
 - Prevalence, cost, and trends
 - Impacts of climate change
 - Review technology to evaluate risk
- Effectiveness of Projects, Programs and Policies
- Strategies for Reducing Urban Flood Damages



Recommendations

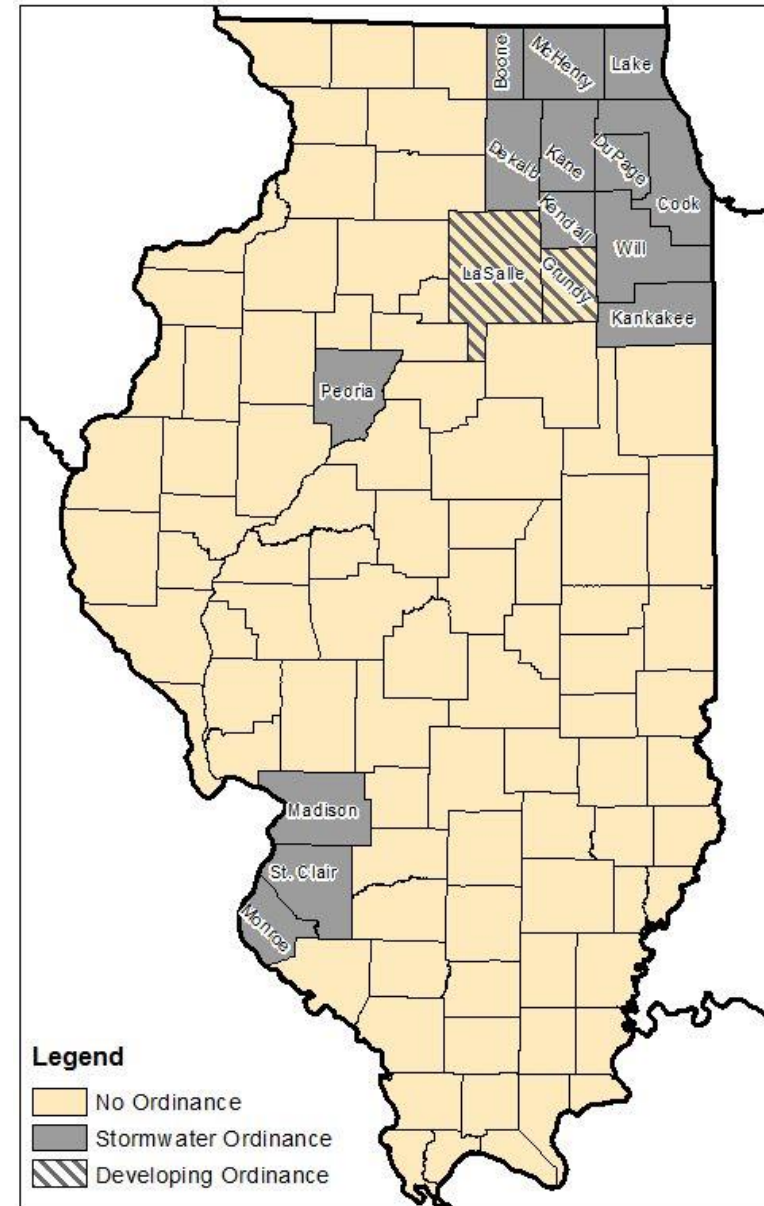
Chapter 3: Technology and Data for Identification of Urban Flooding Potential

1. Topographic wetness indices should be studied further.
2. Communities should consider real time stormwater monitoring.
3. Locally track storm sewer size and design data to determine changes in system capacity with climate change.
4. Communities should consider basement construction ordinances to reduce flooding.



Sections of the Report

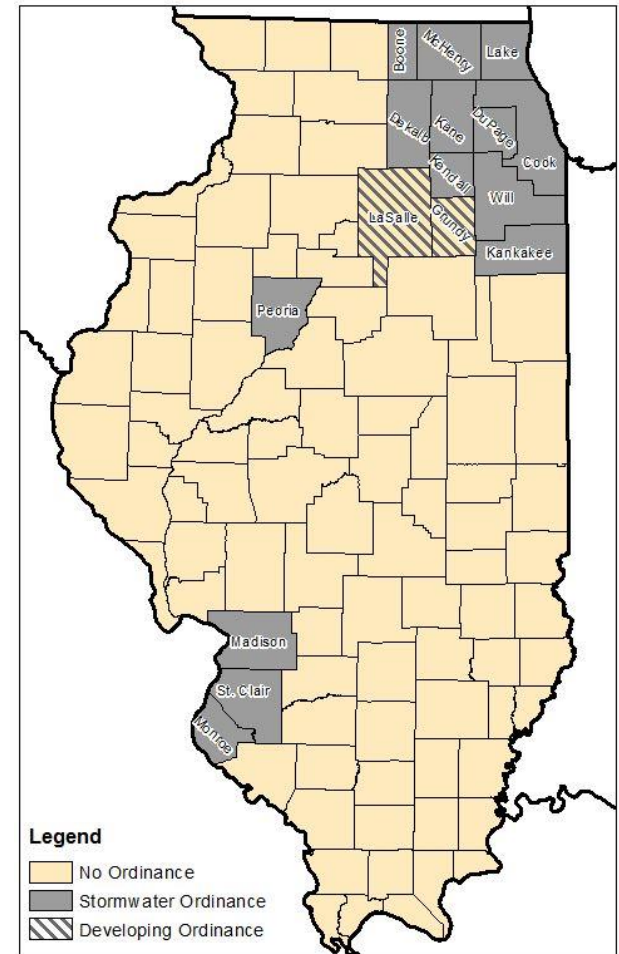
- Past, Current, and Future
- Effectiveness of Projects, Programs and Policies
 - Impact of county stormwater programs
 - Evaluation of stormwater policies
 - Consistency of criteria for state funding
- Strategies for Reducing Urban Flood Damages



Recommendations

Chapter 4: The Impact of County Stormwater Programs on Urban Flooding

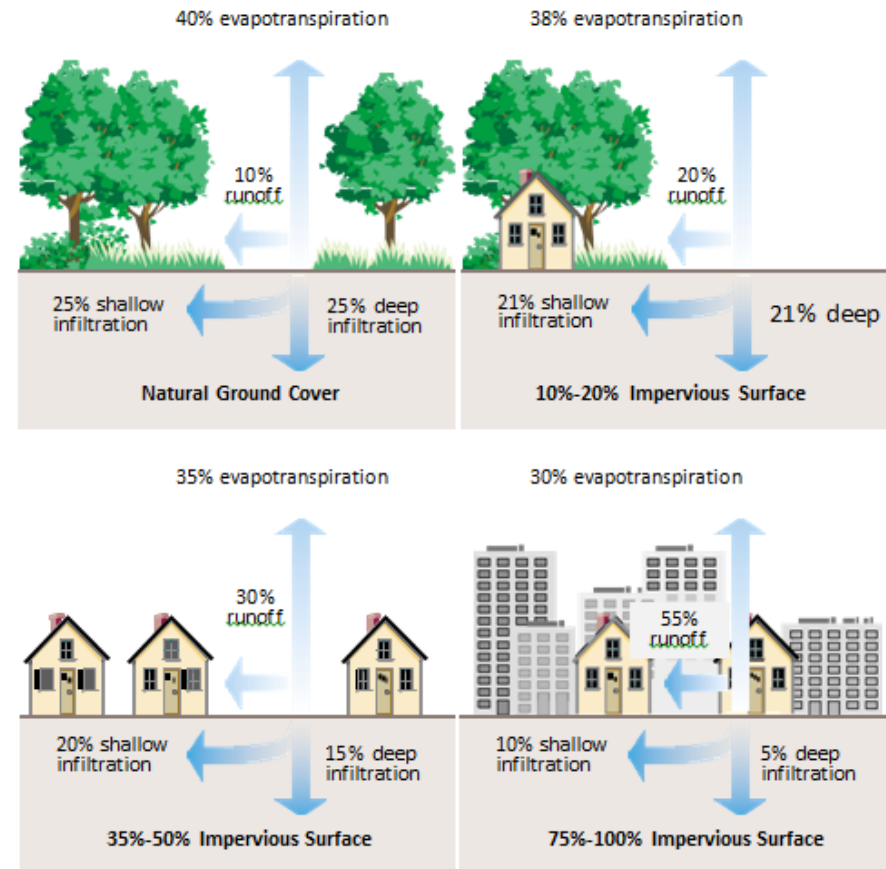
1. Counties and municipalities should have the authority to generate stormwater fees.
2. Stormwater Management Authority should be granted to all counties.
3. Develop a state model stormwater ordinance.



Counties with stormwater ordinances

Sections of the Report

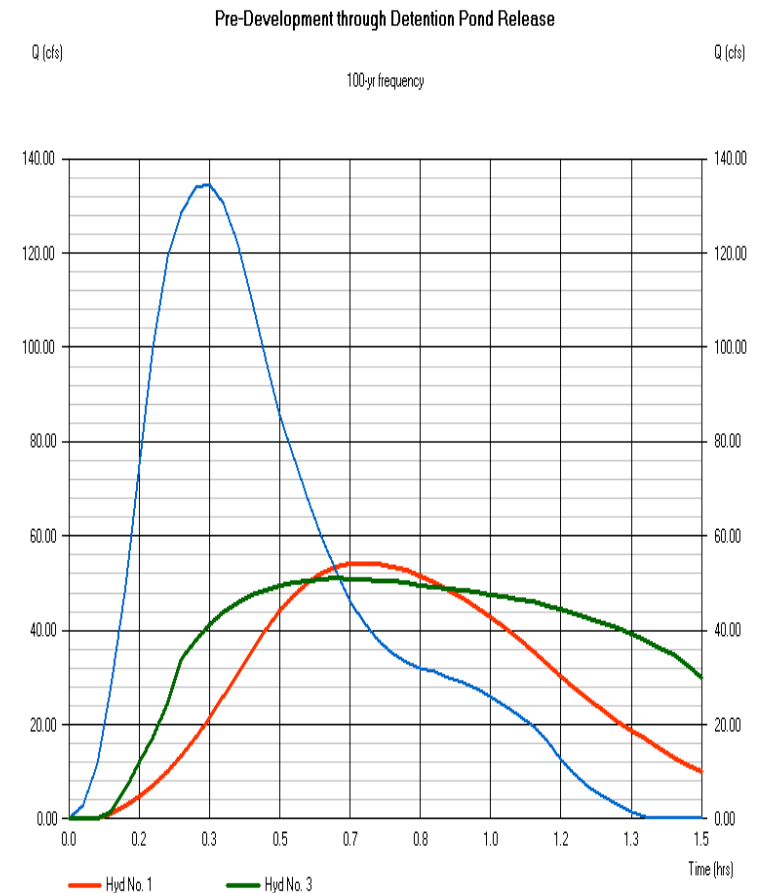
- Past, Current, and Future
- Effectiveness of Projects, Programs and Policies
 - Impact of county stormwater programs
 - Evaluation of stormwater policies
 - Consistency of criteria for state funding
- Strategies for Reducing Urban Flood Damages



Recommendations

Chapter 5: Evaluation of Design Standards for Stormwater Infrastructure.

1. Update precipitation frequency data with additional years of rainfall data and future rainfall trend data.
2. Continue funding data collection for monitoring climate and flood data.
3. Communities should establish and maintain stormwater conveyance areas in new development.
4. Communities should incentivize stormwater management practices in redevelopment.
5. Communities should consider basement construction ordinances to reduce flooding.

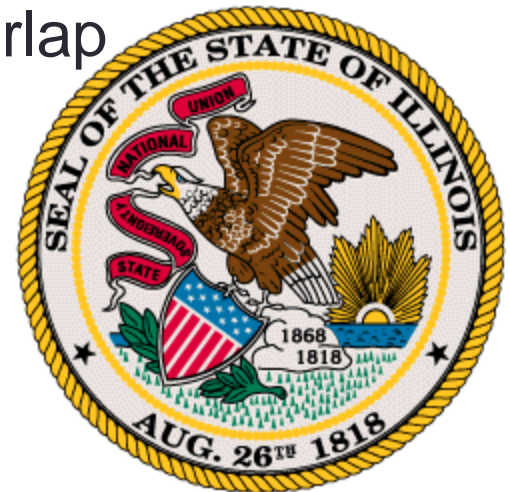


Pre- and Post- development detention pond release

Recommendations

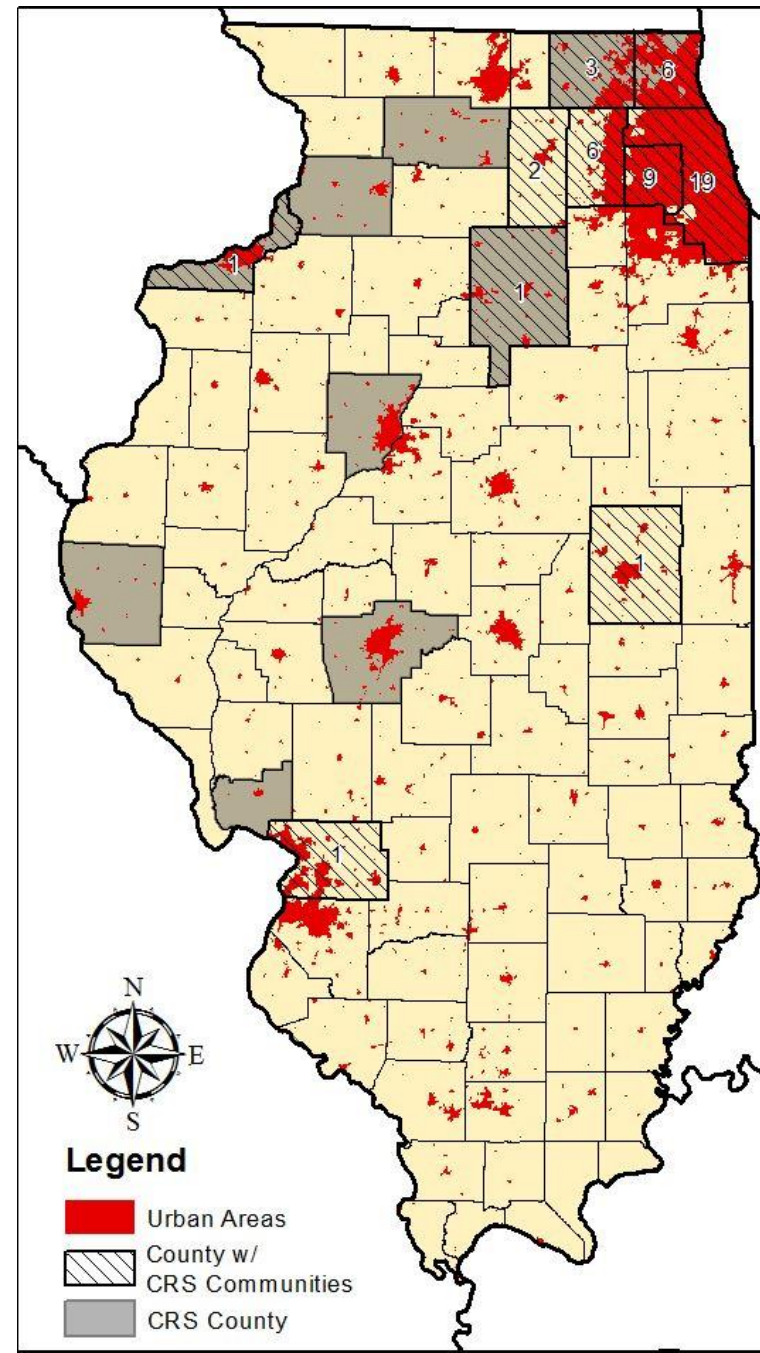
Chapter 6: Consistency of Criteria for State Funding of Flood Control Projects

1. Fund State-funded mitigation
2. Fund communities for cost sharing mitigation programs
3. Require NFIP participation to receive state flood funds
4. Require consistent State funding criteria for prioritizing
5. Increase pre-disaster planning
6. Expand State group for avoid project overlap



Sections of the Report

- Past, Current, and Future
- Effectiveness of Projects, Programs and Policies
- Strategies for Reducing Urban Flood Damages
 - Strategies for flood insurance and basement backup insurance
 - Strategies for NFIP and CRS
 - Strategies to minimize damages



Recommendations

Chapter 7: Strategies and Practices to Increase the Availability, Affordability and Effectiveness of Flood Insurance and Basement Back-up Insurance

1. Mandate flood insurance continuing education training for insurance agents.
2. Develop an awareness campaign for homeowners and renters.
3. Research lower income household flood insurance coverage.
4. Establish flood insurance premiums based on the flood loss history in Illinois
5. Expand the state revolving fund for implementation of stormwater management issues.

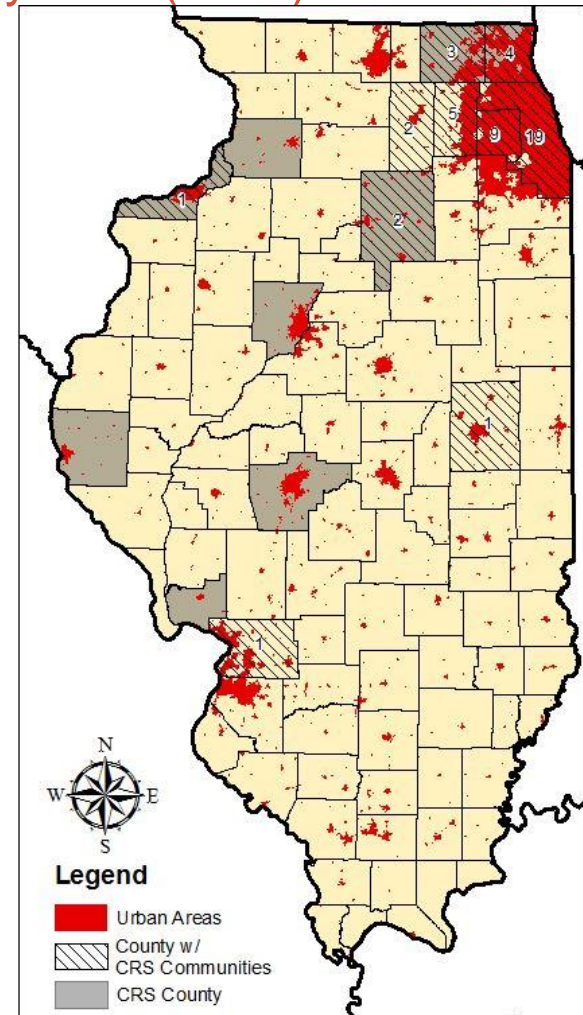


Tercha, M. (2008) Chicago Tribune

Recommendations

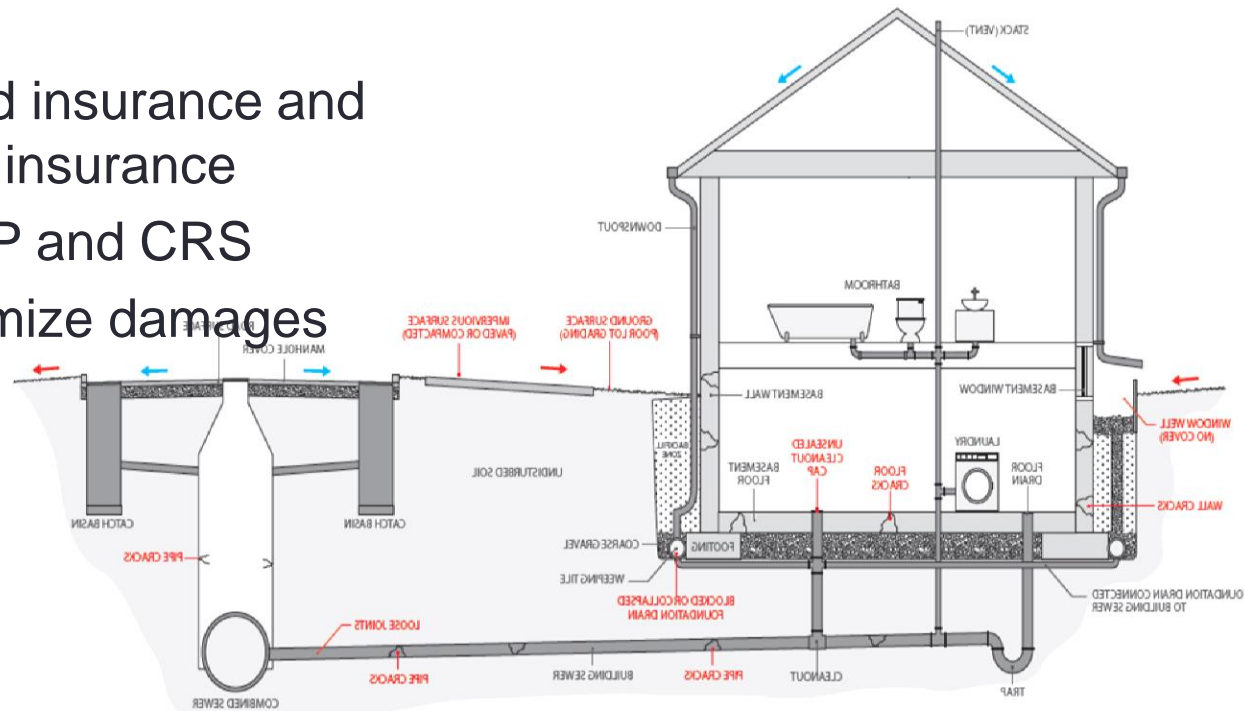
Chapter 8: Strategies for Increasing Participation in the National Flood Insurance Program (NFIP) and Community Rating System (CRS)

1. Allow CRS points for flood reduction programs at the state level.
2. Expand CRS training specifically to Illinois communities.
3. Communities and counties that participate in CRS should join the Illinois CRS users group.
4. Non-CRS communities should consider using CRS principles.
5. Expand CRS outreach to when funding is available



Sections of the Report

- Past, Current, and Future
- Effectiveness of Projects, Programs and Policies
- Strategies for Reducing Urban Flood Damages
 - Strategies for flood insurance and basement backup insurance
 - Strategies for NFIP and CRS
 - Strategies to minimize damages



Recommendations

Chapter 9: Strategies for Minimizing Damage to Property from Urban Flooding

1. Counties and municipalities should have the authority to generate stormwater fees.
2. Stormwater Management Authority should be granted to all counties.
3. Fund repetitive loss buyouts inside and outside the floodplain
4. Fund communities for cost sharing mitigation programs
5. Communities should help homeowners analyze their homes.
6. Communities should consider basement construction ordinances to reduce flooding.
7. Develop a state model stormwater ordinance.
8. Expand the state revolving fund for implementation of stormwater management issues.
9. The State should incorporate green infrastructure when practical



Kaleta, A. (2008) Pioneer Press

Report Findings

- Flooding in urban areas is a \$2.3 billion problem in Illinois
- Over 90% of urban flood claims are not in a floodplain
- Urban flooding is expected to increase
- Aging and undersized Storm sewers need to be updated
- CRS, flood insurance and private insurance can be implemented now by communities and homeowners
- The State can provide leadership and look at funding alignment
- The responsibility for urban flooding lies at all levels from State government to individual property owners.

Future Tasks

- State Model Ordinance
-out Oct. 2015

The report and appendices are available now on the DNR website (search for: Urban Flooding)

Special Thanks to:

- Illinois State Water Survey
- Molly O'Toole & Associates
- Bender Consulting Services
- A Big THANKS to everyone that contributed data!

Questions?

