

Resilient Chicago & A Flood Vulnerability Assessment for Critical Facilities

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Program Goals

Midwestern Regional Climate Center

- Provide climate data to Midwest stakeholders
- Assess regional climate & impacts
- Conduct applied climate research

Illinois-Indiana Sea Grant

- Outreach on important Great Lakes issues (e.g., climate change, pollution prevention)
- Educate using the latest scientific research







Resilient Chicago Initiative

- Helps decision makers in the greater Chicago region incorporate climate adaptation into local planning efforts.
 - RESILIENT CHICAGO Climate Planning for the Future

- Connecting:
 - www.resilientchicago.org
 - Listserv for announcements & resource sharing
 - #ResilientChicago 🄰

Resilient Chicago Website

- Contains...
 - Event info
 - Project info
 - Resources
 - Partners



Resilient Chicago Workshops

- September 2014 at the Chicago Metropolitan Agency for Planning
 - First event for Resilient Chicago
 - Workshop gave overview of temperature, extreme precip, and ecosystem changes in region
 - Highlighted local organizations efforts to adapt to these changes
 - 60 attendees



Resilient Chicago Workshops

- July 2015 Urban Flood Management through No Adverse Impact and Green Infrastructure
 - Local governments learned how to better prepare for flooding by:
 - No Adverse Impact approach for floodplain management (ASFPM)
 - Integrating green infrastructure (GI) into planning efforts
 - Mapping exercise; GI tour
 - 80 attendees
 - At Loyola Univ.





Workshop Partners & Feedback



Chicago Metropolitan Agency for Planning















Metropolitan Planning Council



"Typically climate clinics I've been to focus on just the climate data – this was very well



rounded and helped with the broader perspective."

Resilient Chicago Projects

- Coastal Hazard and Resilience Planning
 - Working with Blue Island, IL
 - Identify hazard planning needs
 - Connect with existing

planning resources







Reducing the Flooding Vulnerability of Critical Facilities

• Motivation: Hurricane Sandy's impacts on critical facilities in 2012

• Partners:

- Cook County DHSEM
- Coordinated Hazards Assessment and Mapping Program
- Midwestern Regional Climate Center

Objectives:

- Develop a Flood Vulnerability Assessment for Critical Facilities
- Make recommendations to facilities on how to reduce risk
- Historical rainfall analysis

Summer 2014-Summer 2015: **Developed the assessment** with CHAMP and DHSEM

October 2015: **Piloted the assessment** at 3 Cook County critical facilities

November 2015: Finalized assessment; sent to 30 more Cook County facilities

Winter-Spring 2016: Developing Facility Risk Summary and Recommendations Reports

Winter-Spring 2016: Converting into an **online tool**

- What are the goals of this assessment?
 - Identify specific vulnerabilities in a facility by looking at factors such as proximity to floodplain, past flood issues, and location of critical systems.
 - Provide resources and recommendations to reduce a facility's risk to flooding.
- Who should take this assessment?

- A critical facility (e.g., hospital, fire station, etc.)

 Meant to assess one critical building or site of buildings that function as one critical facility (e.g., medical campus)



Facility Siting Conditions



Communication and Emergency Operations Planning



Past Flooding Issues and Mitigation Efforts



Importance & Location of Critical Systems

- Facility Siting Conditions
 - In a floodplain? If not, how close?
 - Distance to nearest body of water
- Communication and Emergency Planning
 - How do they receive weather info?
 - Redundancy in communication system?
 - Formalized emergency plan for flooding?

- Past Flooding Issues & Mitigation Efforts
 - Frequency of flooding issues
 - Structure damaged? Facility function impaired?
 - Mitigation steps taken or planned?
- Importance & Location of Critical Systems
 - Does the building have a sump pump?
 - Is there an EOC in this building?
 - Location of emergency power, servers/routers, etc.

• Online assessment

Question	Answer	Recommendation	Resource
Do staircases	Yes	None	None
to the basement have flood protection doors?	No	It is recommended that you consider installing a flood protection door to your basement. Flood protection doors perform like a normal pedestrian door. However, they are reinforced internally and have a mechanical sealing mechanism housed within the frame that provides a watertight seal when closed. Flood doors are an active flood barrier at all times, 24 hours a day. This is ideal for flash flood and critical infrastructure locations, and especially, for customers who are looking for "no worry" flood protection. A flood barrier is also an option (also known as flood panels or shields).	Website: http://americanflooddo or.com/flood-doors/

Future of Resilient Chicago

- Collaboration?
 - Workshop ideas?
 - Webinar series?
 - Climate information that's needed?

RESILIENT CHICAGO Climate Planning for the Future

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