



maxwell/flickr, Creative Commons License

# ITKAN – CNT Presentation

March 14, 2019





An aerial photograph of a dense urban street, likely in New York City. The street is filled with tall, multi-story buildings. A road with multiple lanes runs through the center, with several yellow taxis and other vehicles visible. The buildings have various architectural styles, including some with green roofs and others with red roofs. The overall scene is a vibrant, busy city environment.

At CNT, we think cities are the answer to big problems like climate change and poverty.

For decades, we've been reimagining how cities use resources like land and water.



We believe that what's good  
for the economy can also be  
good for the environment.



Some big challenges lie ahead,  
but we're working on creative,  
data-driven solutions that are  
good for everyone.

Together, we can build a world  
where all people can thrive.



# URBAN FLOODING







# Urban Flooding Defined

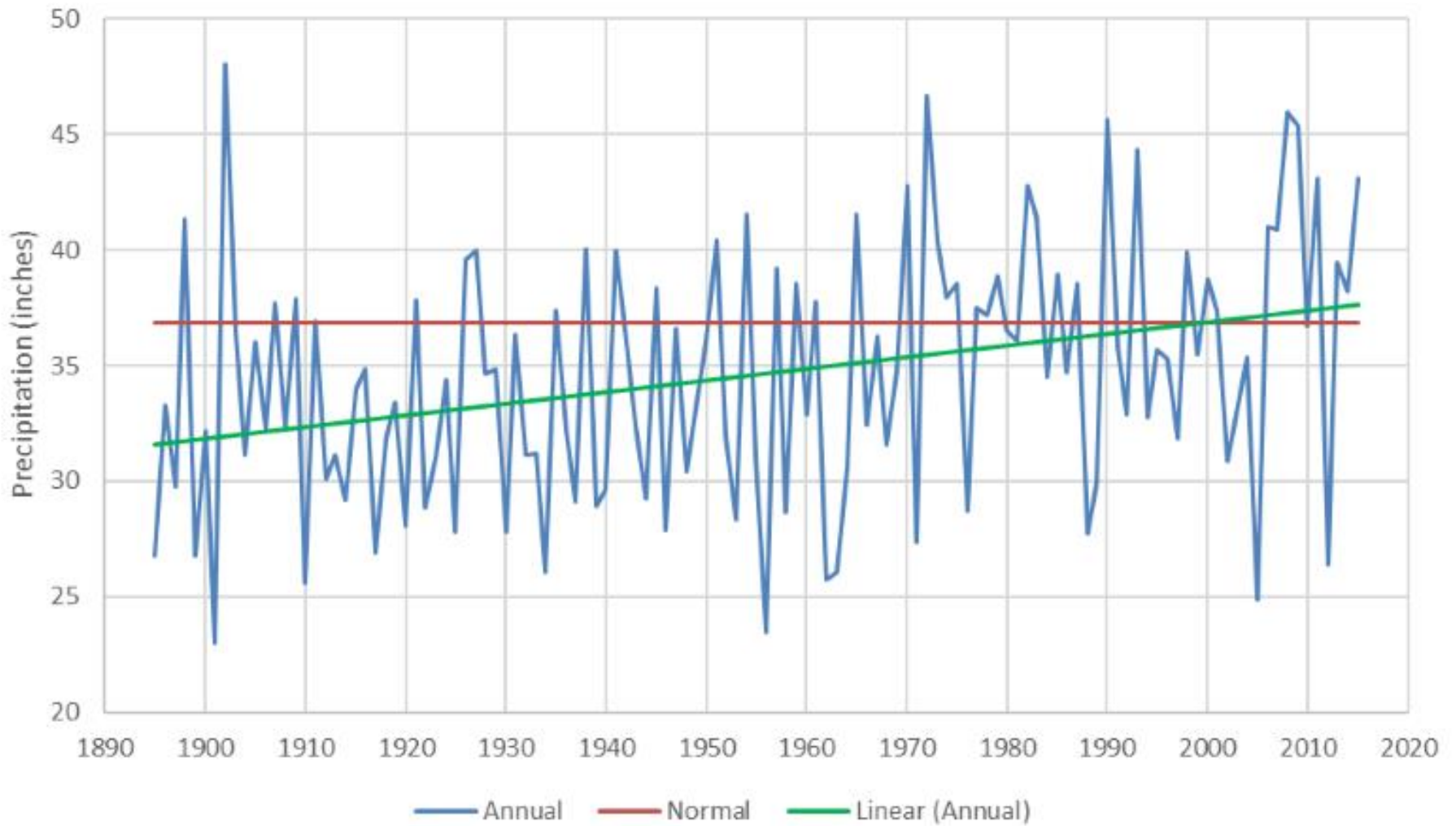
The inundation of property in a built environment, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers



# Characterized by

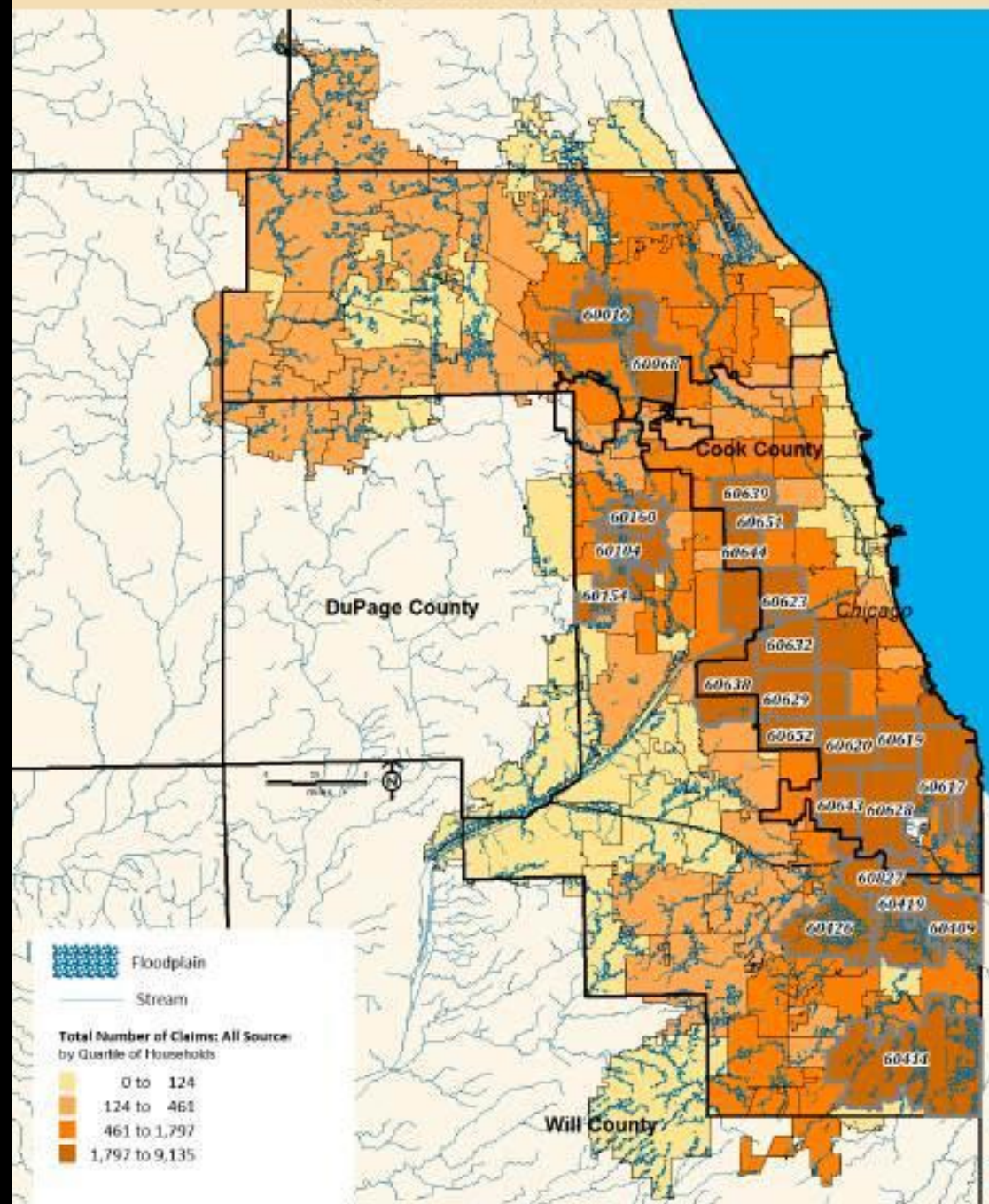
Repetitive and chronic impacts on communities, regardless of their location within or outside of formally designated floodplains

# Northeast Illinois - Annual Precipitation

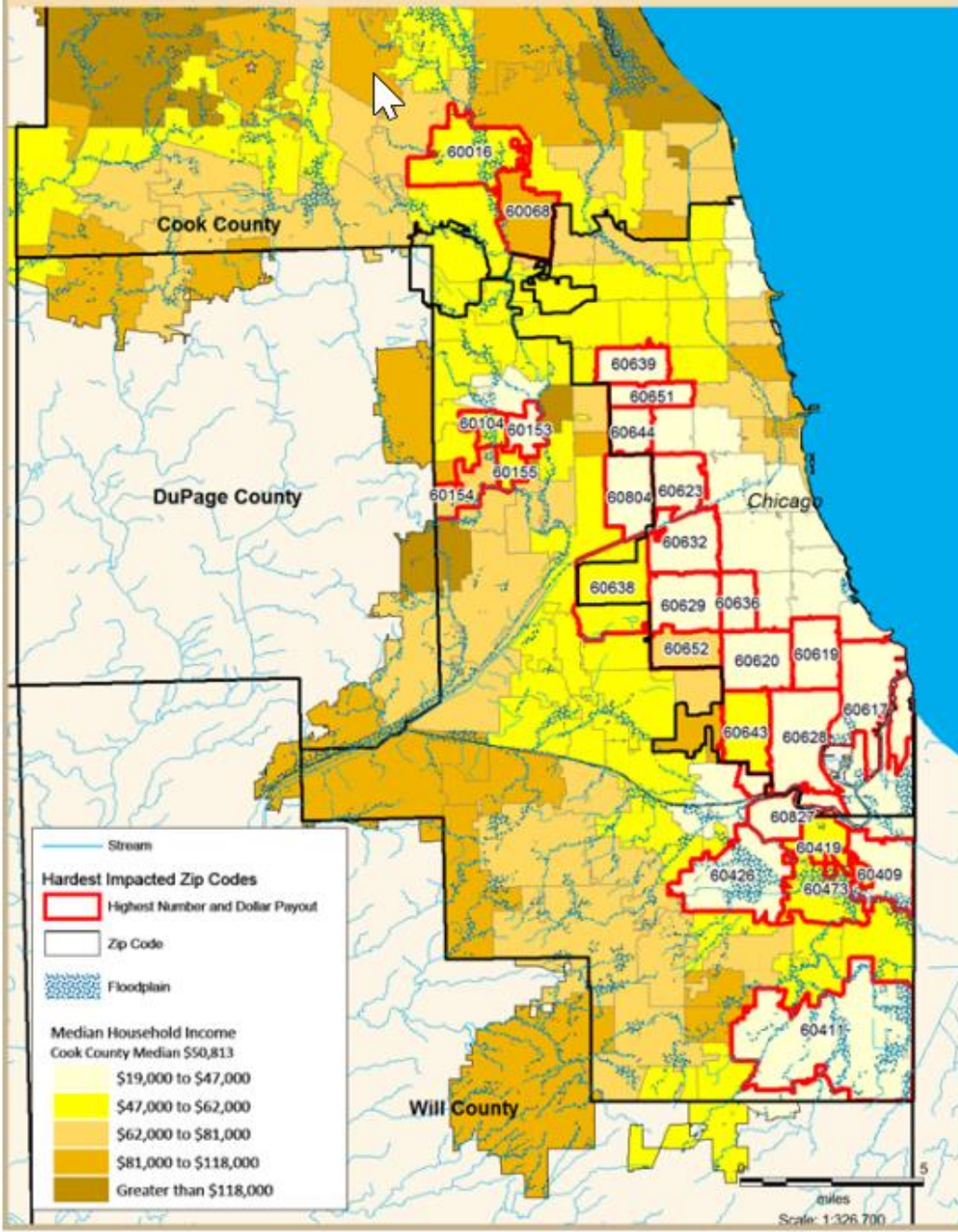


Source: Illinois State Water Survey

# Total Combined Payout: Private Insurance, National Flood Insurance Policy, Disaster Relief Assistance



# Median Income and Highest Concentrated Damage



METROPOLIS

# Tunnel Vision

Chicago tried to dig its way out of urban flooding decades before climate change made it a national crisis. Did the city, and its imitators, pick the wrong solution?

By HENRY GRABAR

JAN 02, 2019 • 5:50 AM



Construction workers lean in to discuss the project over the noises echoing throughout the Deep Tunnel.

David Schalliol

# The Value of Green Infrastructure

A Guide to Recognizing Its Economic, Environmental and Social Benefits



© Center for Neighborhood Technology 2010



Thriving By Nature

- [What is Green Infrastructure?](#)
- [How Landscapes Work](#)
- [About This Site](#)
- [Resources](#)



## Welcome to the Green Values® Stormwater Toolbox

*Learn what green infrastructure is and does.*

*Learn how the use of green infrastructure saves money.*

*Understand the costs and benefits of using green infrastructure to mitigate the need for different types of built water infrastructure, such as sewers and detention basins.*

*Search our comprehensive bibliography for more information.*

The Green Values® Stormwater Toolbox was originally developed primarily for use by planners, engineers and other municipal staff. As a result, we've tried to err on the side of giving too much technical information. However, we recognize that individuals are also interested in the benefits of green infrastructure, both for individual sites and to influence public policy.

### Green Values Calculators

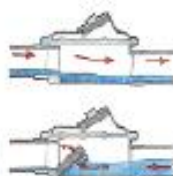


*This site is made possible by generous grants from The Joyce Foundation and from the Governor of Illinois and the Illinois Environmental Protection Agency through Section 319 of the Clean Water Act.*

## RainReady Home Recommended Improvements



### BACKWATER VALVE REDUCES BASEMENT BACKUP



**What it does:** Prevents sewage from backing up into your basement by installing a one-way flap in your private building sewer. Think of it as a one-way swinging door - water can flow out, but if your system backs up it cannot flow back in.

**Watch out:** During a major storm event that overwhelms the local sewer, your backwater valve will prevent your residential wastewater from leaving your building. Therefore, it is extremely important not to use your plumbing during a flooding event.

**What it costs:** \$3,500 - \$5,000

**Who to call:** A certified plumber



### DOWNSPOUT DISCONNECTION REDUCES BASEMENT BACKUP BY KEEPING WATER OUT OF THE SEWER

**What it does:** Reduces strain on the local sewer by directing roof runoff into a rain garden, dry well, or rain barrel in your yard.

**Watch out:** Make sure the water discharges at least 10 feet away from your foundation to prevent seepage and foundation rot.

**What it costs:** \$50 - \$400

**Who to call:** A handyman or skilled landscaper

### DRY WELLS REDUCE BASEMENT BACKUP BY KEEPING WATER OUT OF THE SEWER



**What they do:** Store water from a downspout, bioswale, or sump pump in an underground chamber of rocks and plants.

**Watch out:** Dry wells require some winter maintenance.

**What it costs:** \$1,800 - \$2,800

**Who to call:** A landscaper with expertise in dry well construction



### RAIN GARDENS REDUCE BASEMENT BACKUP BY KEEPING WATER OUT OF THE SEWER

**What they do:** Filter and store water from a downspout, bioswale, or sump pump using porous soil and native plants.

**Watch out:** Rain gardens require some maintenance, especially during the first months after planting.

**What it costs:** \$500 - \$5,000, depending on size and whether you want to DIY

**Who to call:** A qualified landscaper





# RainReady Home: \$4,850



“Without the service you don’t have any idea whether a contractor is telling you the truth.” –Lori Burns

Flood damage: \$17,000

Upgrades:

- Backwater valve
- Disconnected downspout
- Re-routed gutters
- Rain garden

# THANKS ITKAN!

Fullerton

Danger - Keep Off Tracks  
High Voltage