



# URBAN FLOODING AND SOCIAL EQUITY

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A photograph of a flooded urban street. The water is dark and reflects the surrounding trees and sky. A dark semi-transparent overlay covers the middle portion of the image, containing the title and bullet points. The top and bottom portions of the image show the original scene without the overlay.

## “Urban Flooding” Defined

- The inundation of property due to stormwater overwhelming local drainage systems (e.g. sewers)
- Not related to coastal or riverine flooding

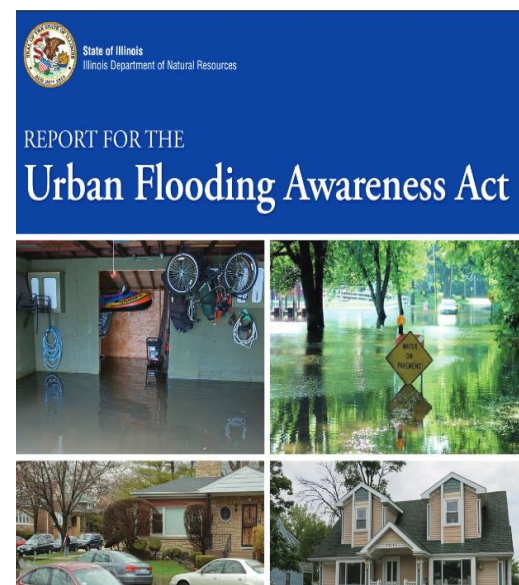
# Identifying Urban Flooding Risk Areas + Impact

- Established approach: Flood risk is modeled based only on the presence of rivers and coasts (FEMA FIRMs).
- Urban flooding approach: Identify actual flooding areas through: Insurance claim data, 311 data, Structured interviews, Community forums
- IDNR Illinois study (IDNR, 2015)
  - Insurance data from 2007 - 2014
  - Total amount of flood damages paid: \$2.319 Billion
  - Percent of Counties Impacted: 99%
- CNT Cook County study (2014)
  - Insurance data, Interviews, Focus groups
  - Significant health and job impacts

**Percent of IL Claims Outside FEMA Floodplain: 92.3%**



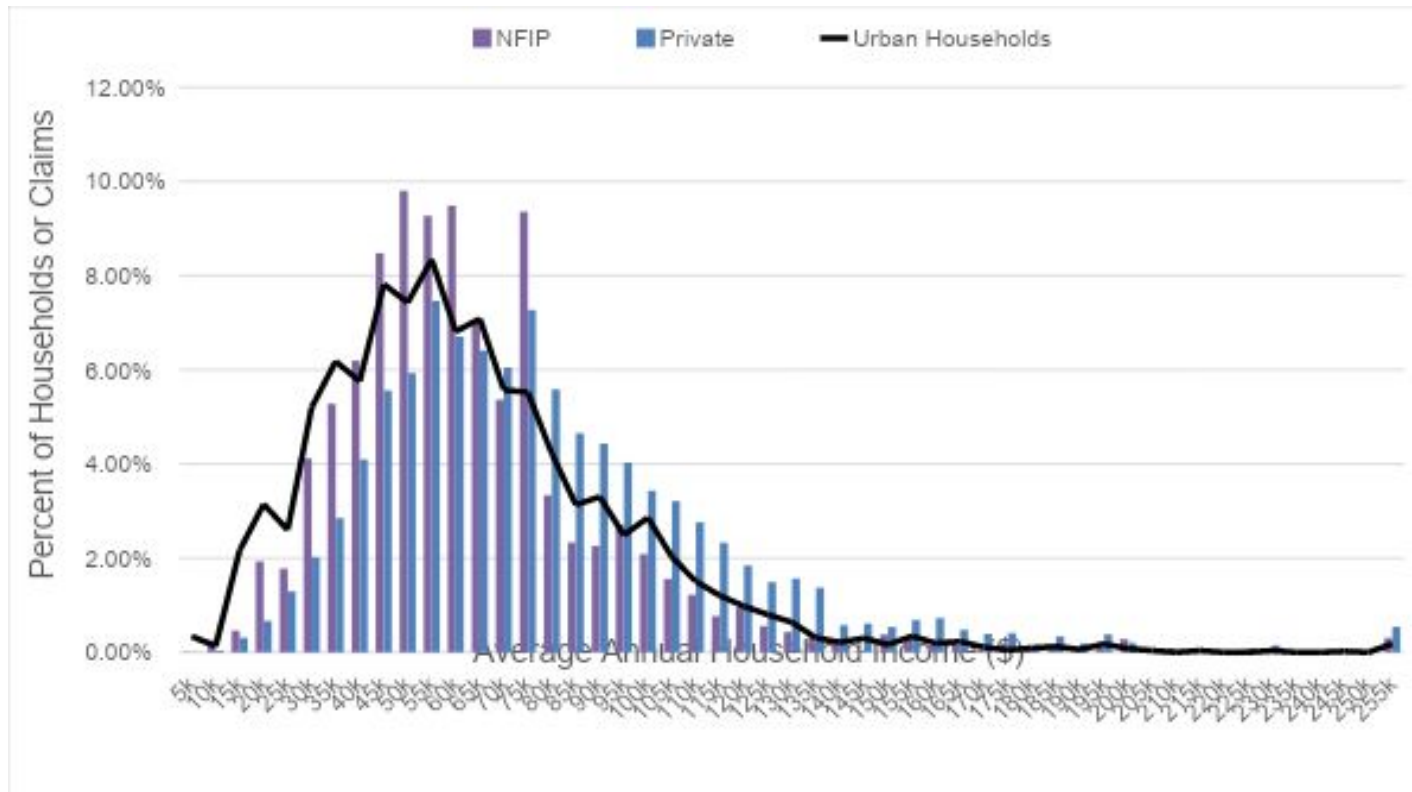
CNT (2014), *The Prevalence and Cost of Urban Flooding: A Case Study of Cook County, IL*



IDNR Urban Flooding Awareness Study (2015)

# LOW + MODERATE INCOME FAMILIES MORE IMPACTED BY FLOODING

IDNR (2015) study demonstrate that lower-income families are disproportionately impacted by flooding



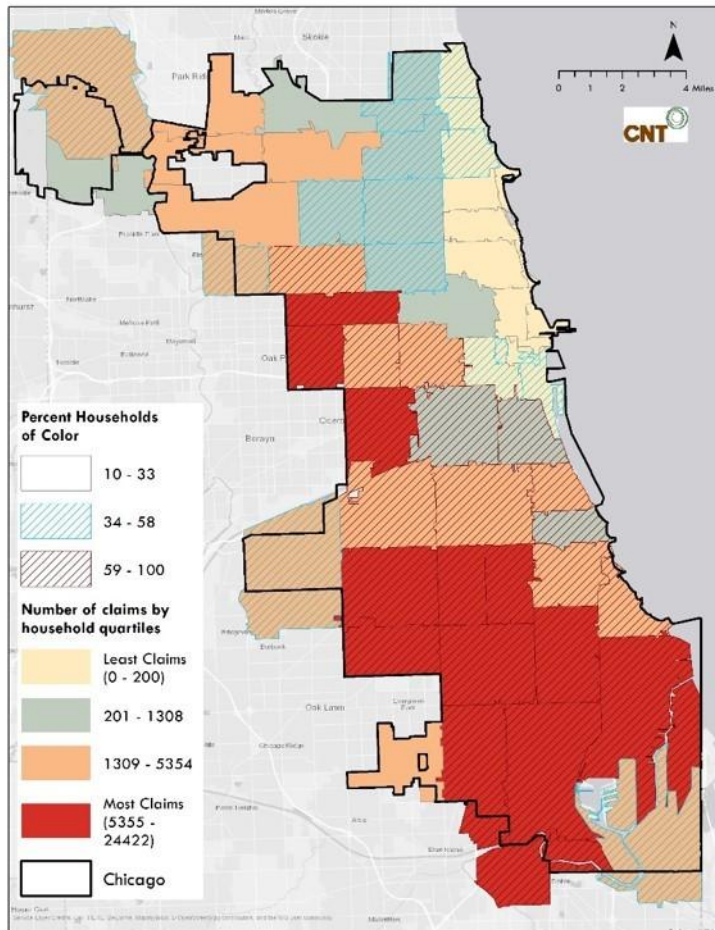
# CNT Flooding + Race Study: City of Chicago (2018)

- Insurance claim data, 2007 to 2016
- Flood damage insurance payouts were made in **95% of Chicago's zip codes**
- Total number of insurance claims: **229,743**
- Total amount of flood damages paid: **\$433 Million**
- **87% of claims were paid in communities of color**

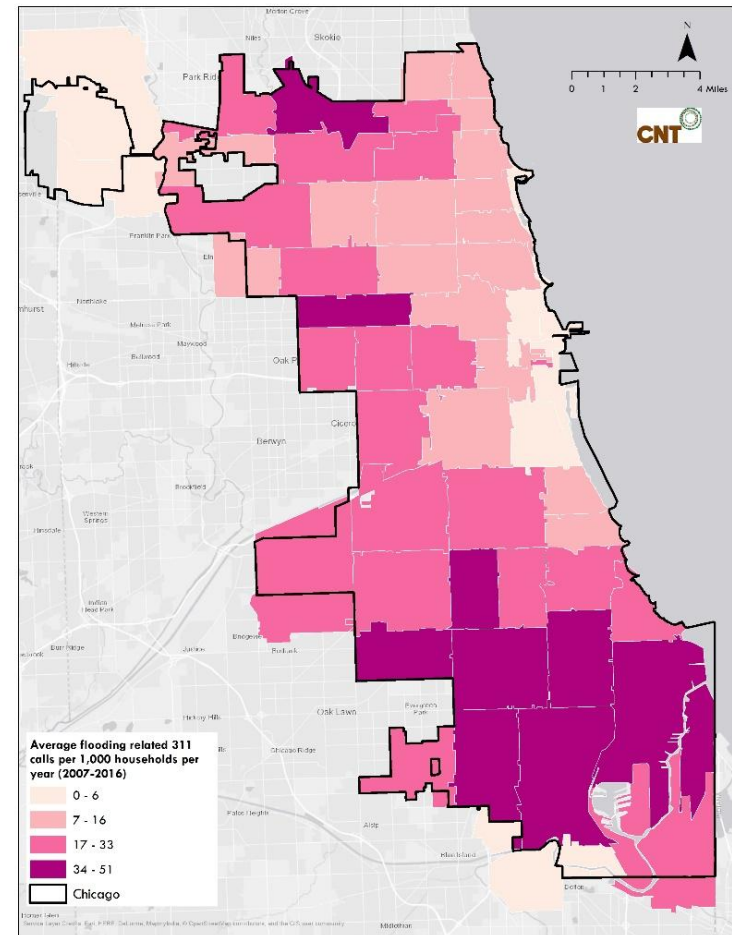


# COMMUNITIES OF COLOR MORE IMPACTED BY FLOODING

Flood Insurance Claims (CNT, 2018)



311 Flooding Calls (CNT, 2018)

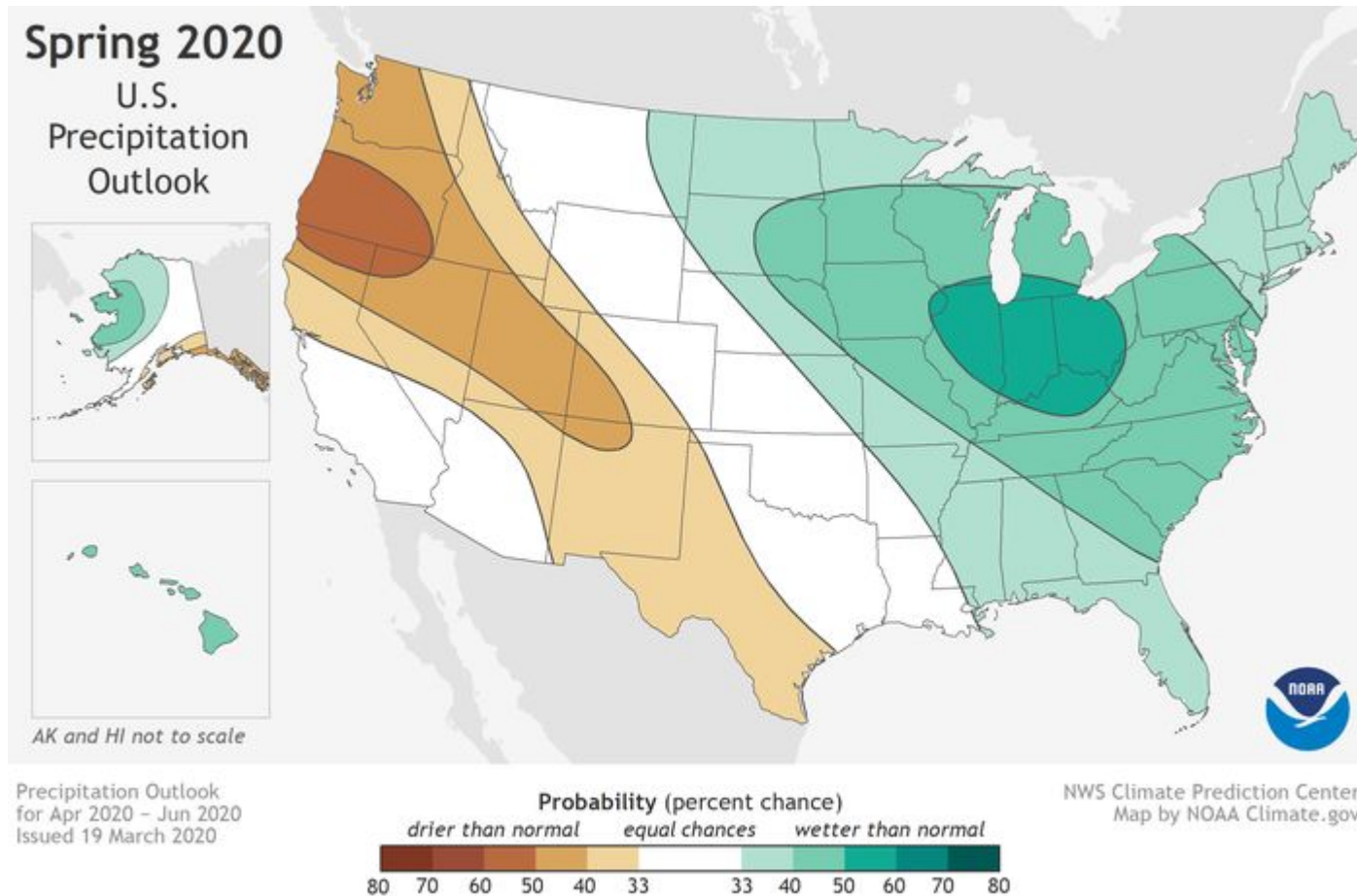






# Flooding + Pandemic

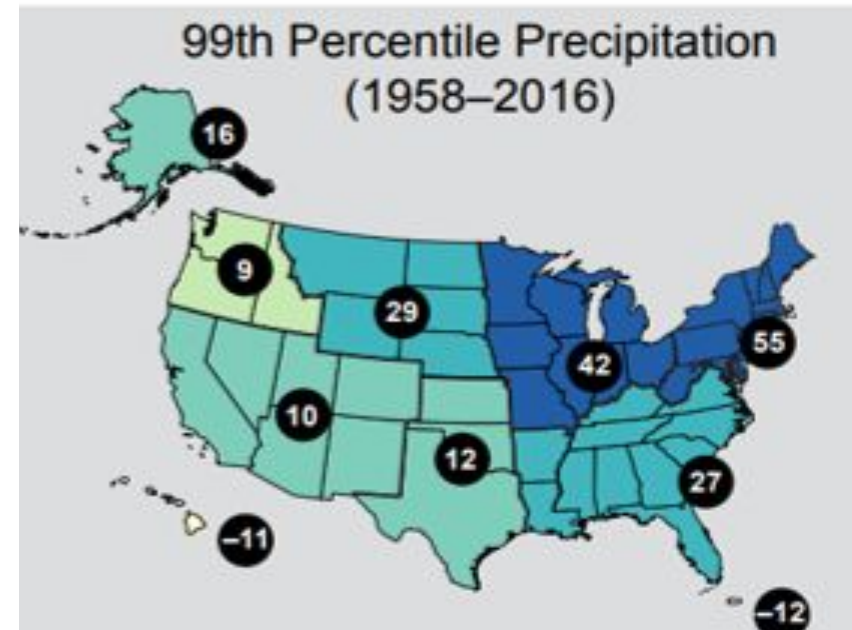
What does it mean to “shelter-in-place” when your home is flooded?





# Factors in Urban Flooding

- Increased number of severe storms (+42%)
- Aging sewer systems
- Impermeable land; Loss of trees + open space
- Historical federal policies creating ongoing disparities in communities (Redlining)



Climate Science Special Report, 2017







# Nature-Based Flooding Solutions

An engineered network of green infrastructure projects — across a neighborhood — can provide flexible, affordable **stormwater utility** services to supplement traditional sewer systems.



# LINKING GREEN INFRASTRUCTURE BENEFITS TO COMMUNITY PRIORITIES (CNT, 2020, GREEN VALUES STRATEGY GUIDE)

	Less Flooding	Cleaner Air	Less Heat Stress	More Beauty	Jobs Training	Space to Play + Gather	Quieter Streets	Safer Neighborhood	Climate Protection
<b>Strategy</b>									
Stormwater Park	●	●	●	●	●	●		●	●
Buffer Park	●	●	●	●	●	●	●	●	●
Parkway Bioswale	●	●	●	●	●			●	●
Home + Community Rain Garden	●	●	●	●				●	●
Street Zipper	●								

# RainReady Homes

Home  
Assessment

Report +  
Retrofit  
Design

Construction  
Support

Evaluation

- Chicago & South Suburbs (2014): Foundation-funded CNT pilot
- Chicago (2015-16): CDBG-DR full grants to LMI flood victims city-wide
- Cook County (2017-19): CDBG-DR full grants to LMI flood victims county-wide
- Oak Park (Ongoing): Municipally-funded cost share grants. 724,000 gallons of rain diverted to date.
- Evanston (Ongoing): Partially-funded grants for Affluent Neighborhoods Climate Resilient Home retrofits





# THANK YOU

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CNT (2018), *Assessing Disparities of Urban Flood Risk for Households of Color in Chicago*

**Full report:**

<https://www.cnt.org/publications>

**Flood Equity interactive map:**

<https://www.cnt.org/urban-flooding/flood-equity-map>

**Summary Article (8/23/19):**

<https://www.cnt.org/blog>

