NYU

LiDAR & Flooding

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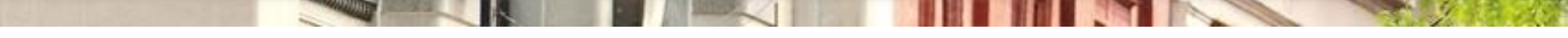
Dept. of Civil & Urban Eng. & Center for Urban Science + Progress



Overview

1. Extreme pluviation
2. Storm surge
3. Illegal basement apts.
4. Low-lying infrastructure
5. Unfeasible evacuation

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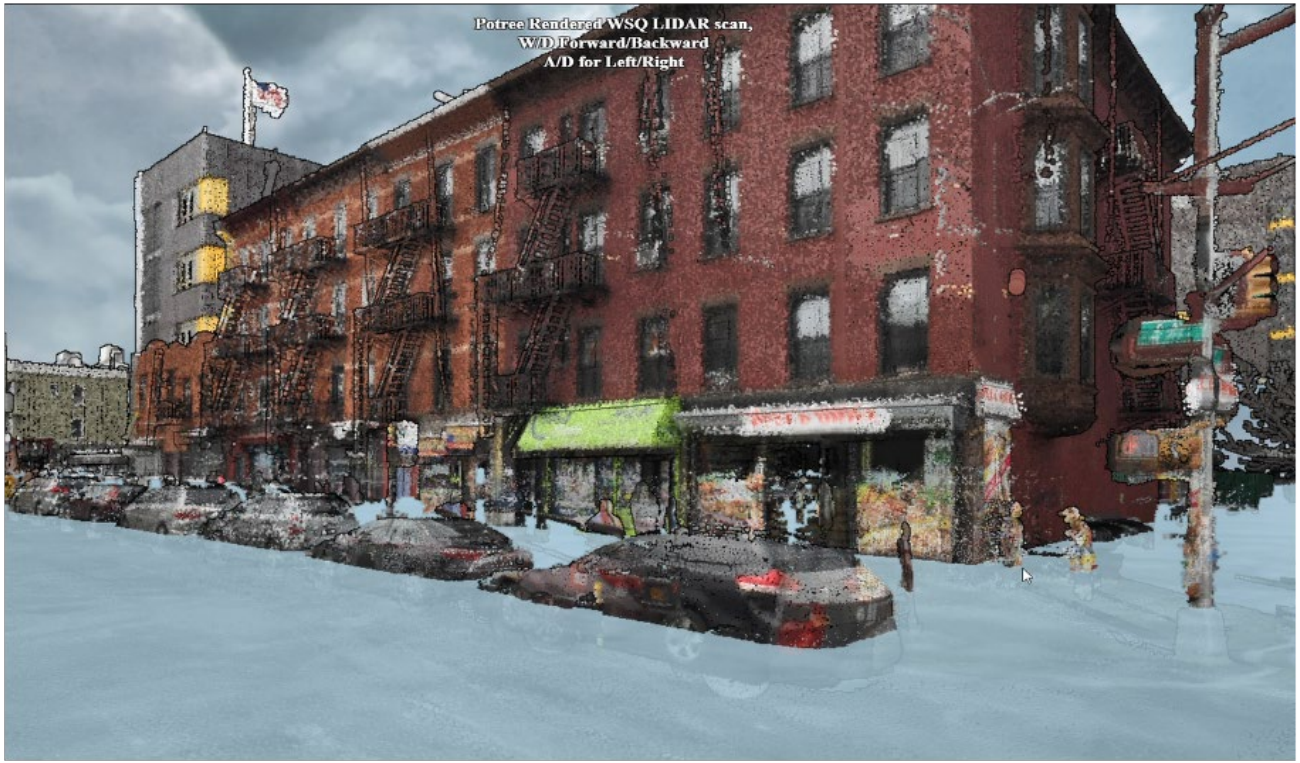
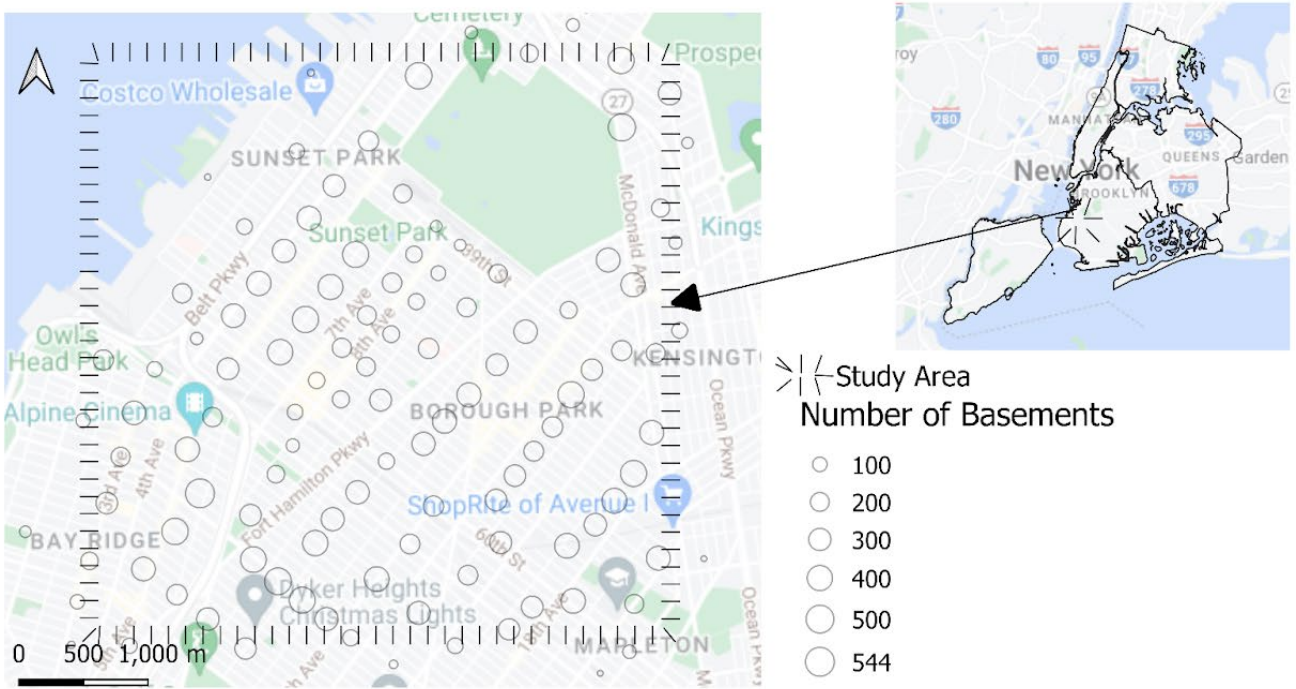
Visualization with basements as sinks

Visualization



Basement Risk



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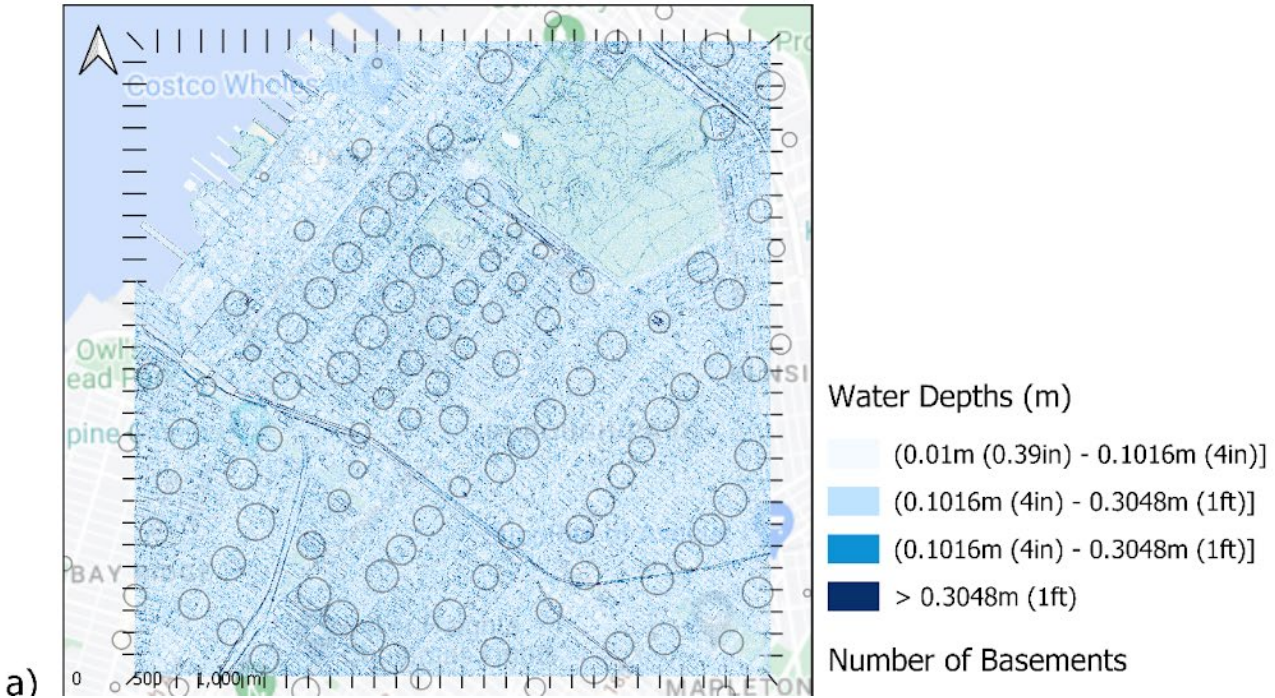
Nuisance Flooding



a)

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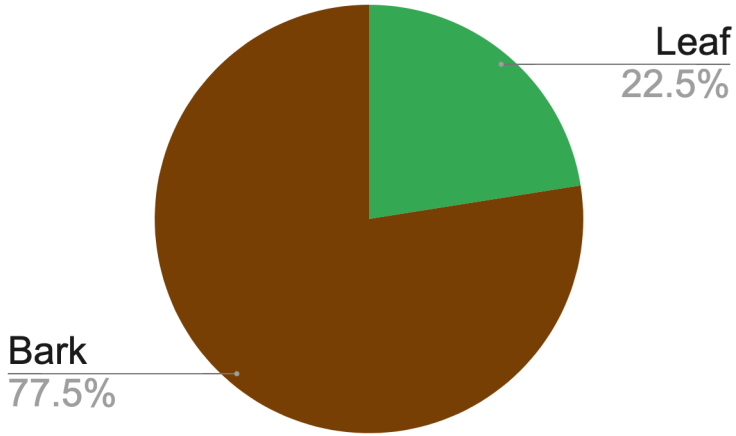
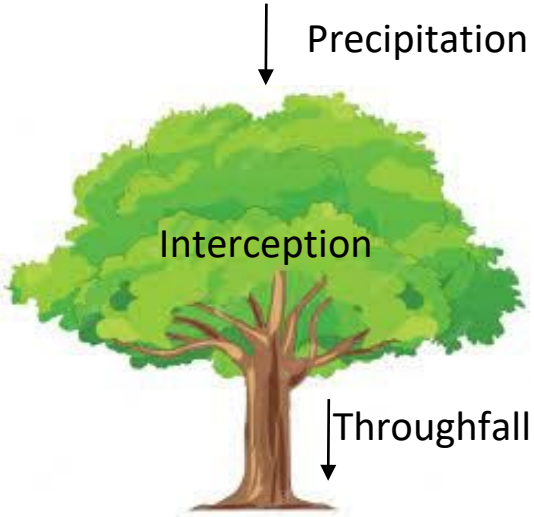
Interception

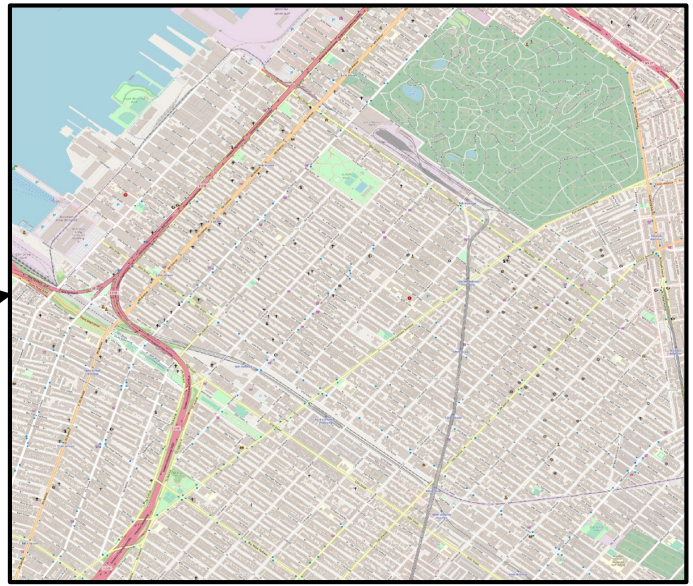
- Tree interception prevents precipitation from reaching the ground
- Storage ratio: 22.5% leaf, 77.5% bark

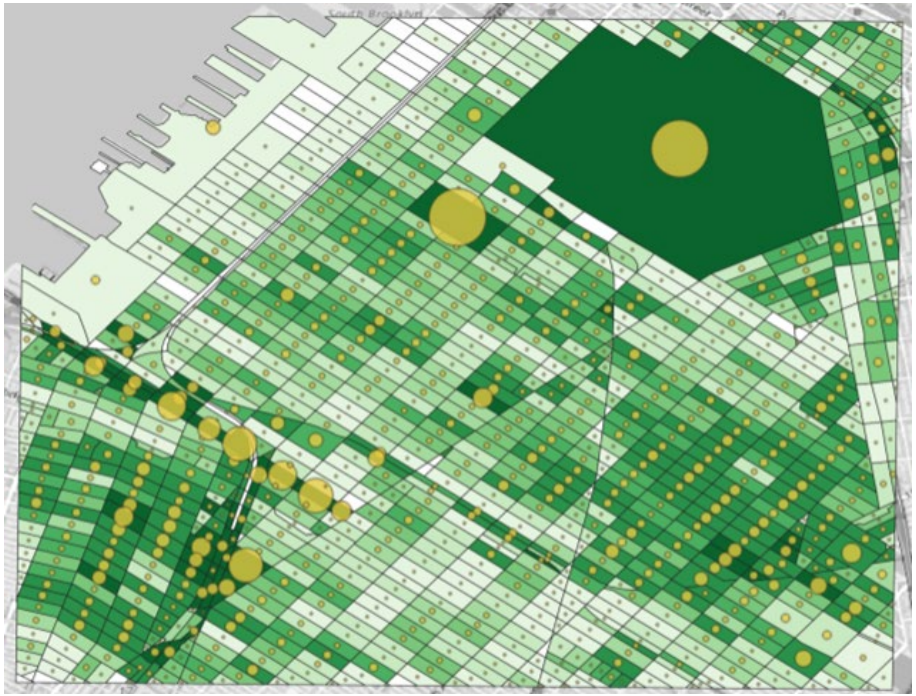




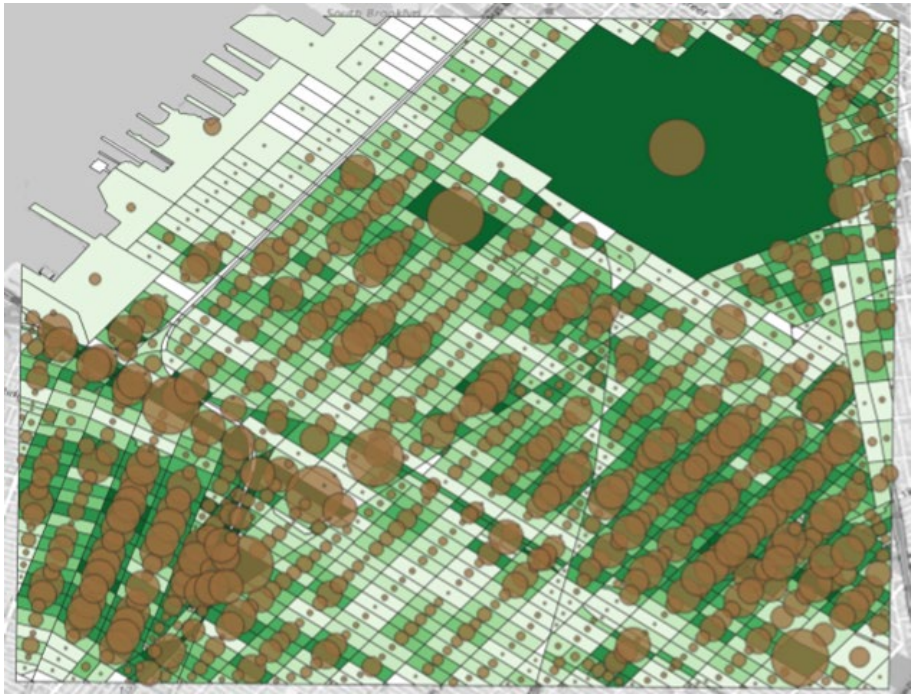
Objectives

1. Quantify tree surface water storage capacity for 20.25 km^2 of NYC
2. Visualize storage by block
3. Model 1 m^2 resolution

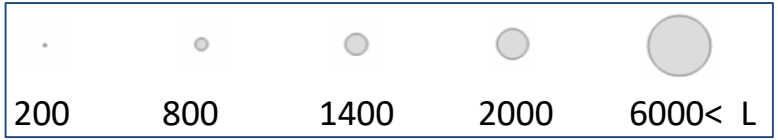


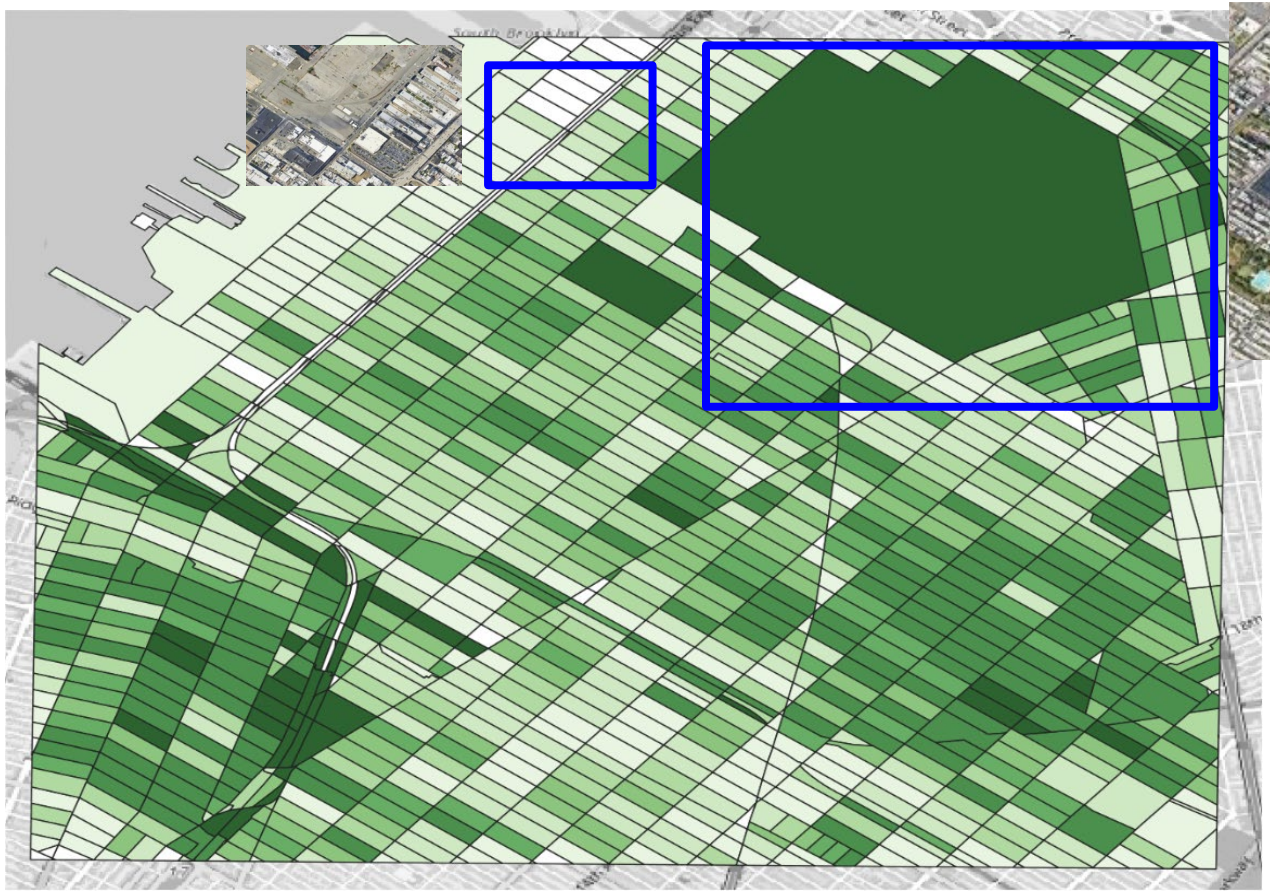


Foliar Storage

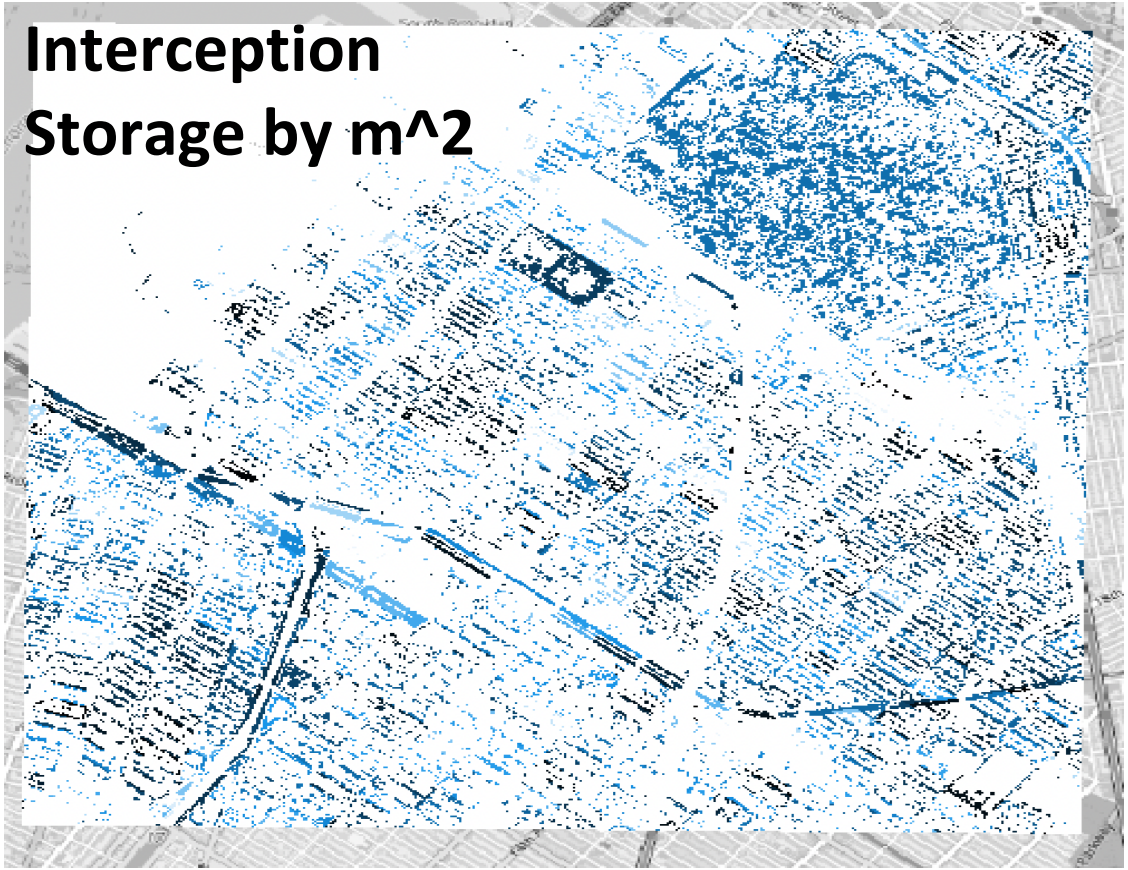


Bark Storage



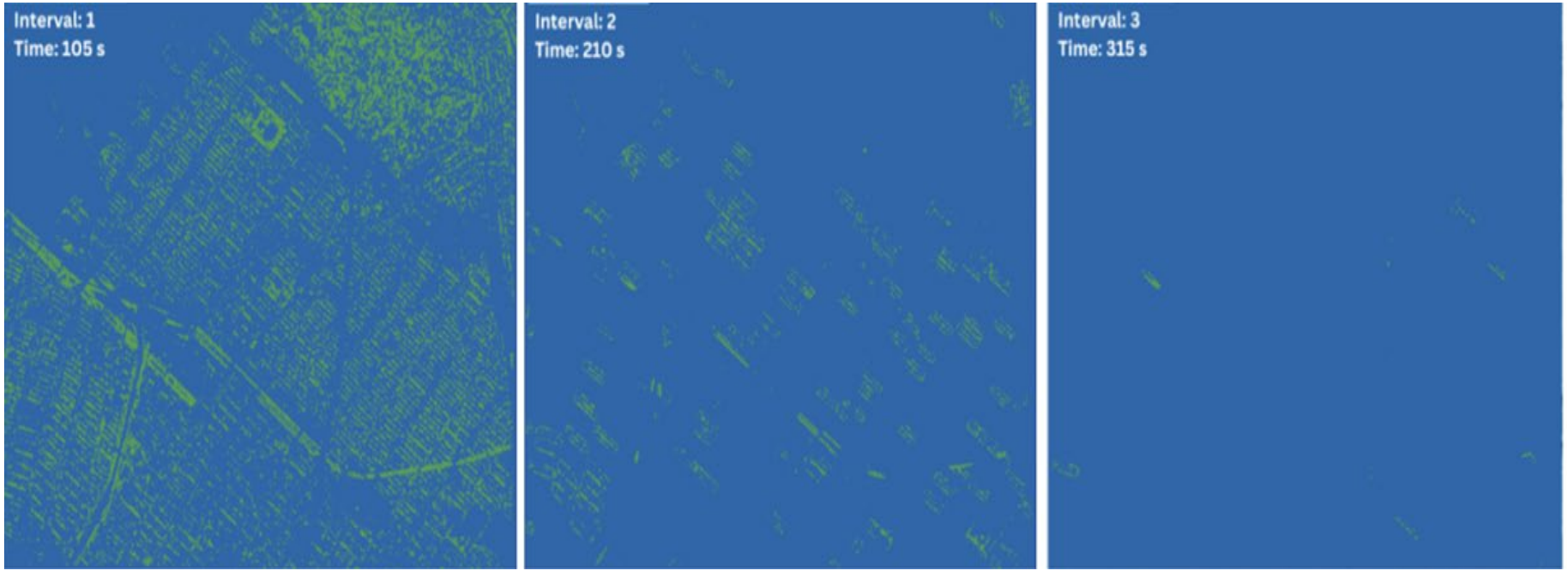


Interception Storage by m^2



1.74 mil L total storage

0.34% of 2.54 cm (1-inch) rainfall event intercepted

Canopy Storage (m)

Interception Storage Change