

Can the 100-year event produce the 100-year flood?

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**National Center for
Integrated Coastal Research**

UNIVERSITY OF CENTRAL FLORIDA



MACH
Megalopolitan Coastal
Transformation Hub



COPE
COASTLINES AND PEOPLE

Award ICER-2103754

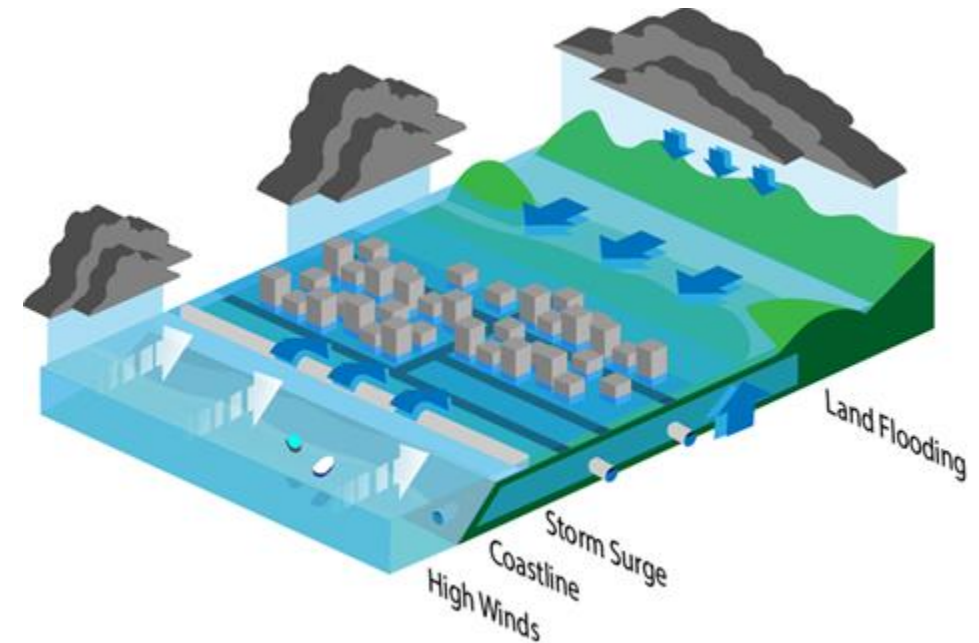
Compound Flood Hazard

Flood Hazard information required for a variety of purposes (City zoning and planning, building codes, emergency response, Municipal finances...)

NO Compound Flood Hazard information available (or outdated)
for many coastal communities

Little Capacity - Small Municipalities NJ

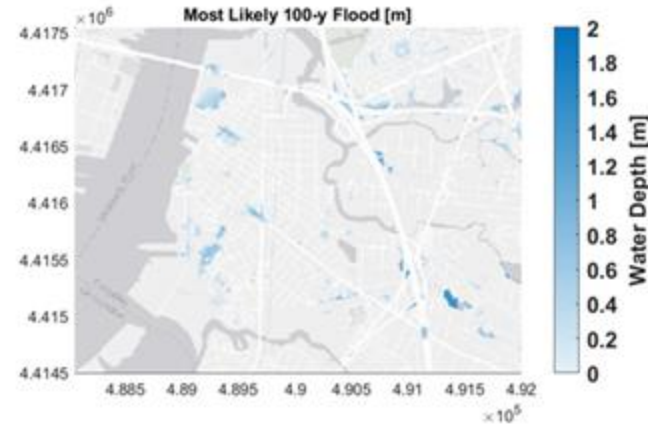
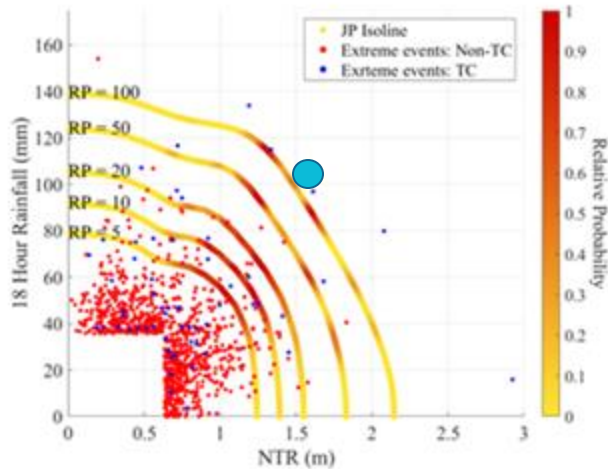
No standard approach to estimate
Compound Flood Hazards - Limitations



Event vs Response Approaches

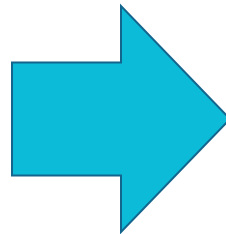
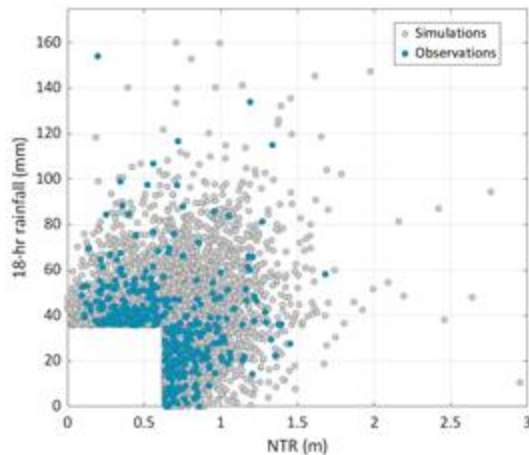
Event

Probability

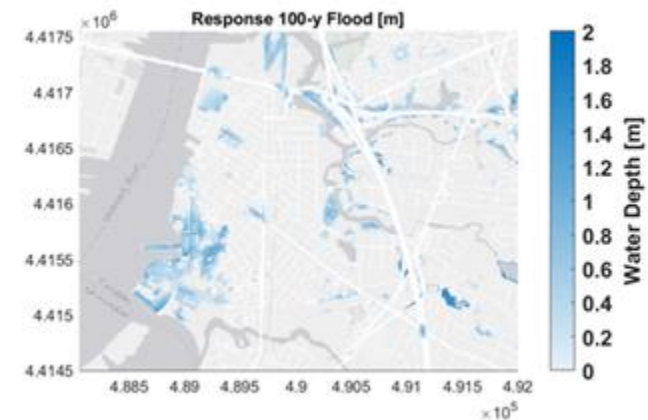


Probability of
Event ==
Probability of
Flooding

Response



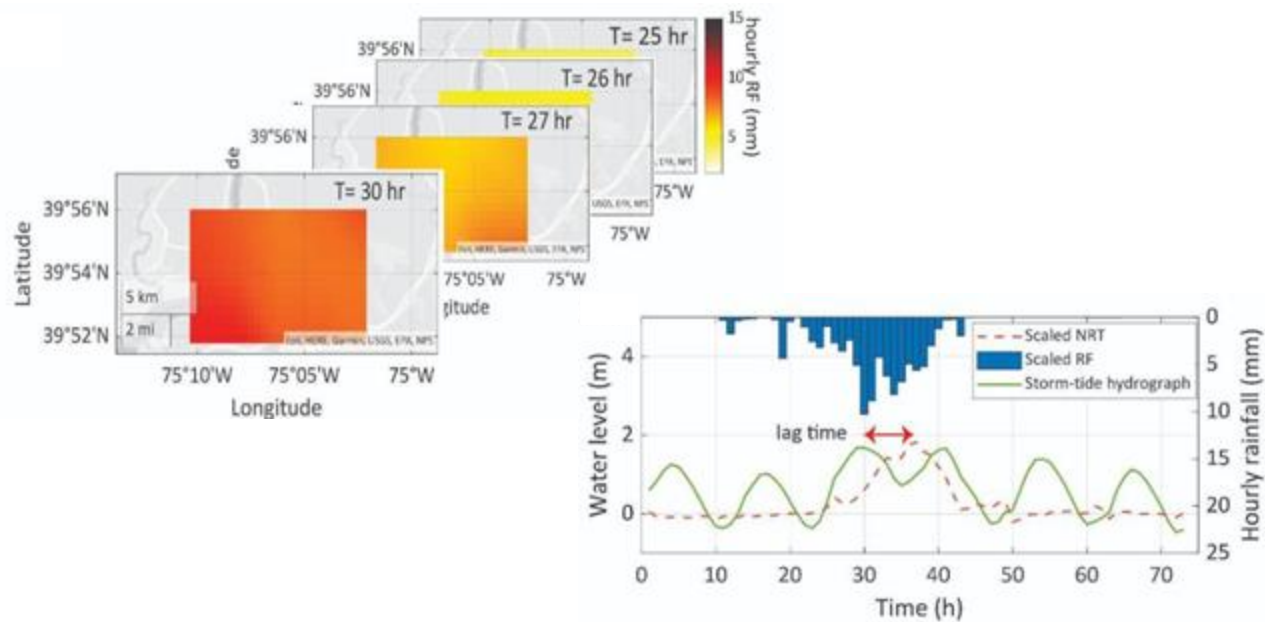
Probability



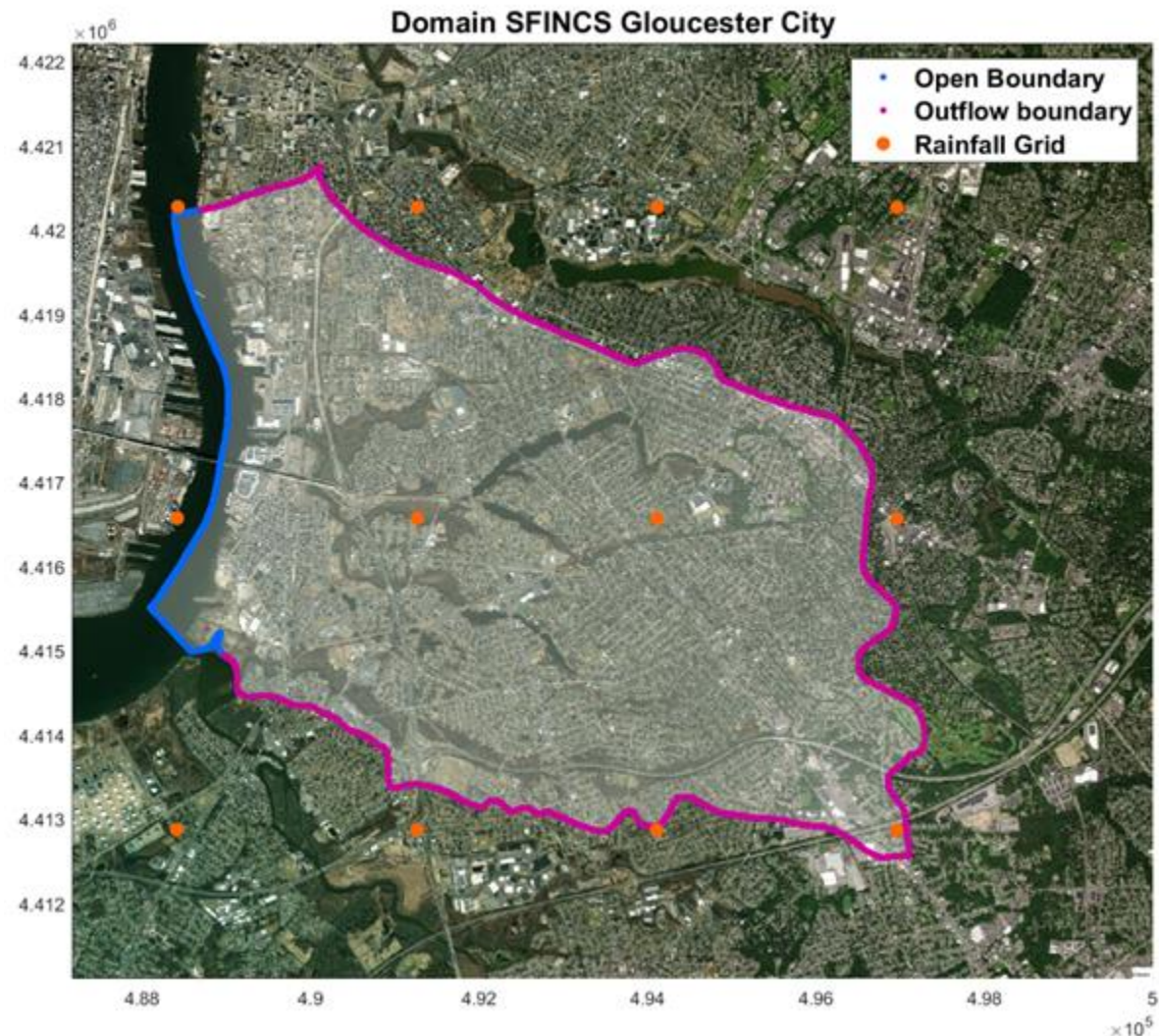
1000s Events
=> Empirical
Probability of
Flooding

Compound Flood Hazard Modeling

Synthetic Compound Events (1,000y)

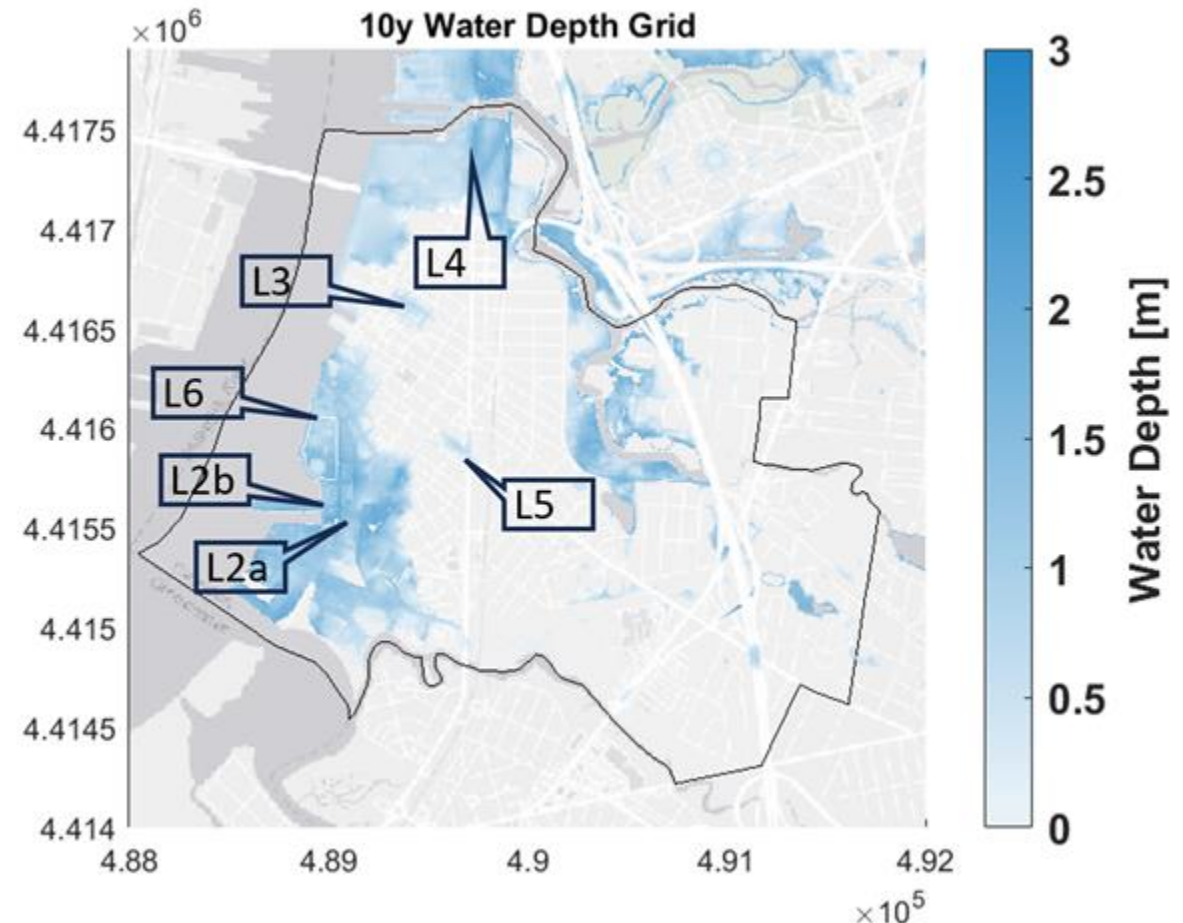


Publications statistical
frameworks



Compound Flood Hazard - Co-production

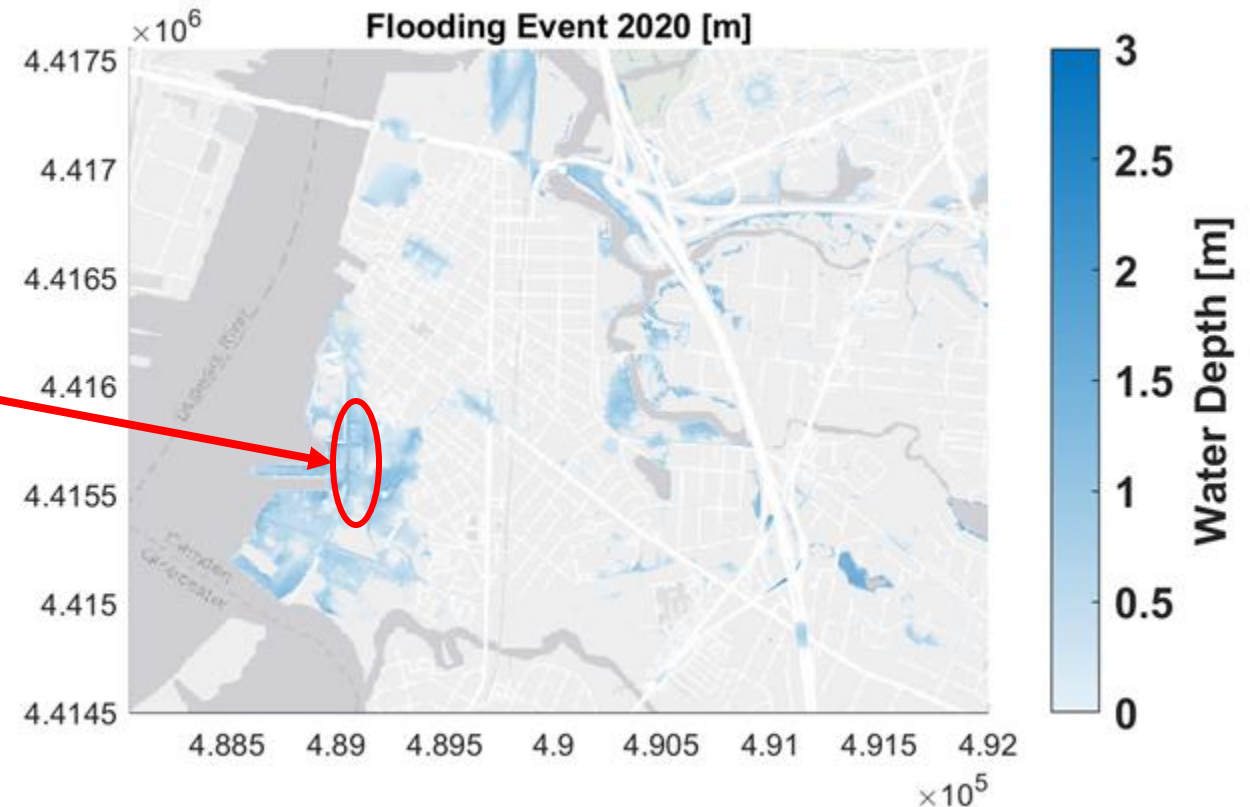
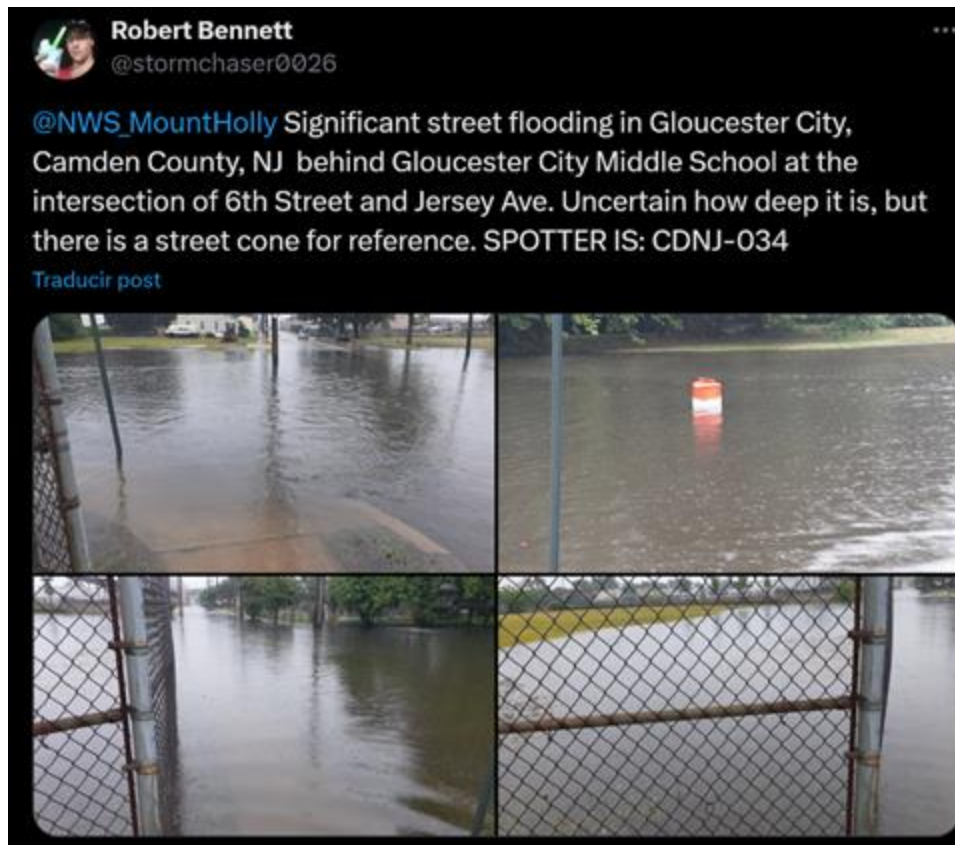
Local Authorities: Camden County Municipal Utilities Authority



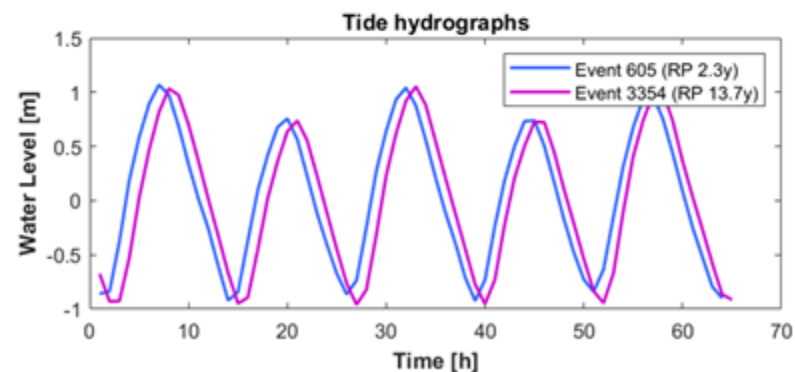
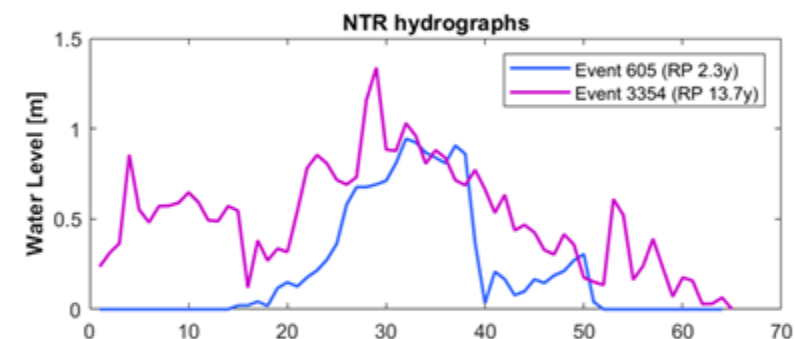
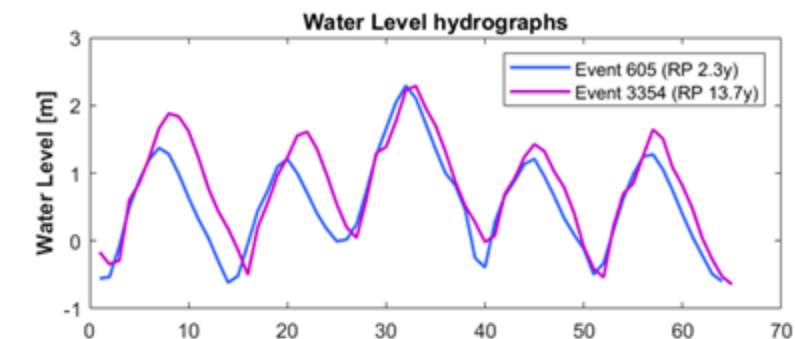
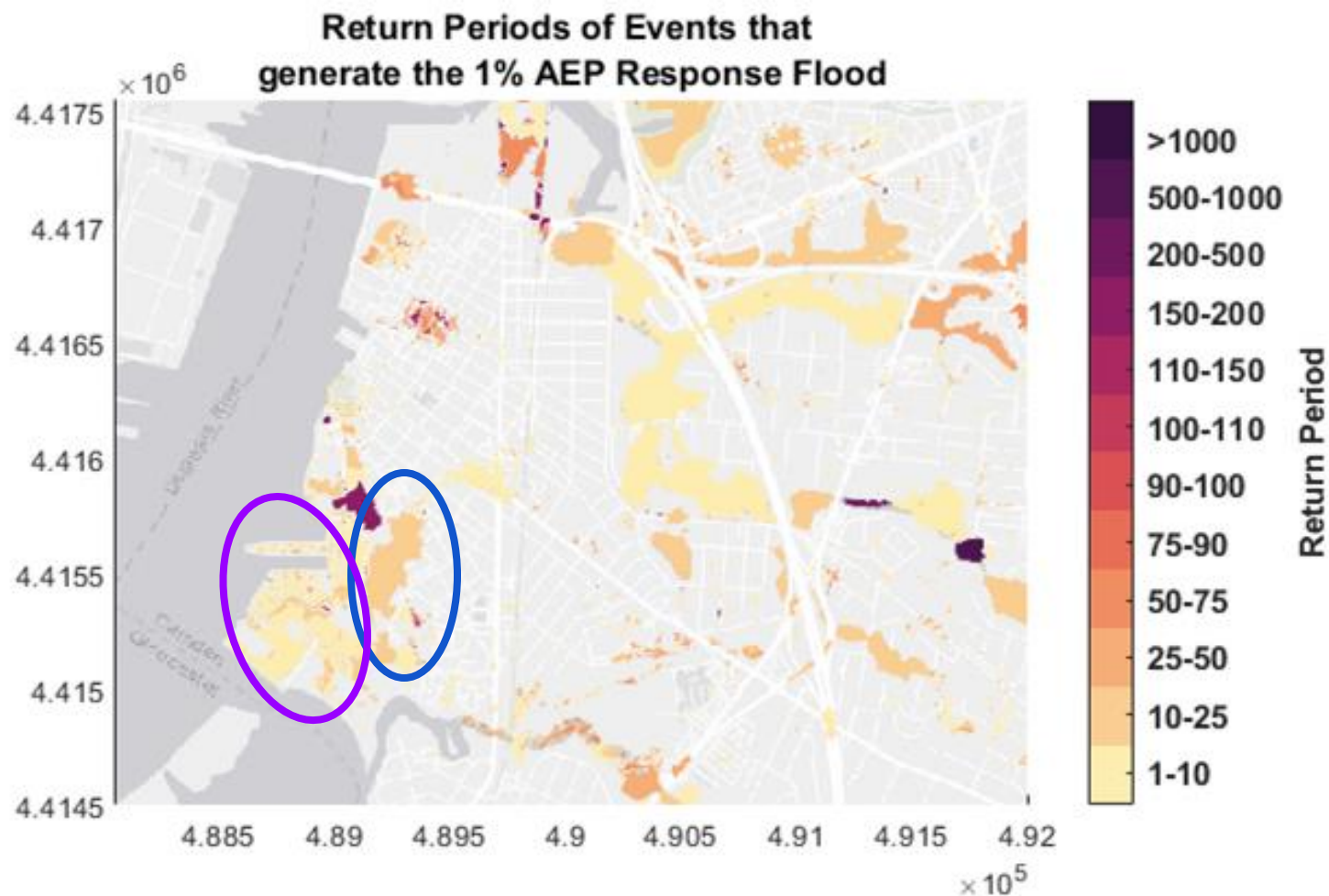
Source:
Regional
Flooding
Study. Phase
1 Final Report.
CDM Smith,
2023

Compound Flood Hazard - Co-production

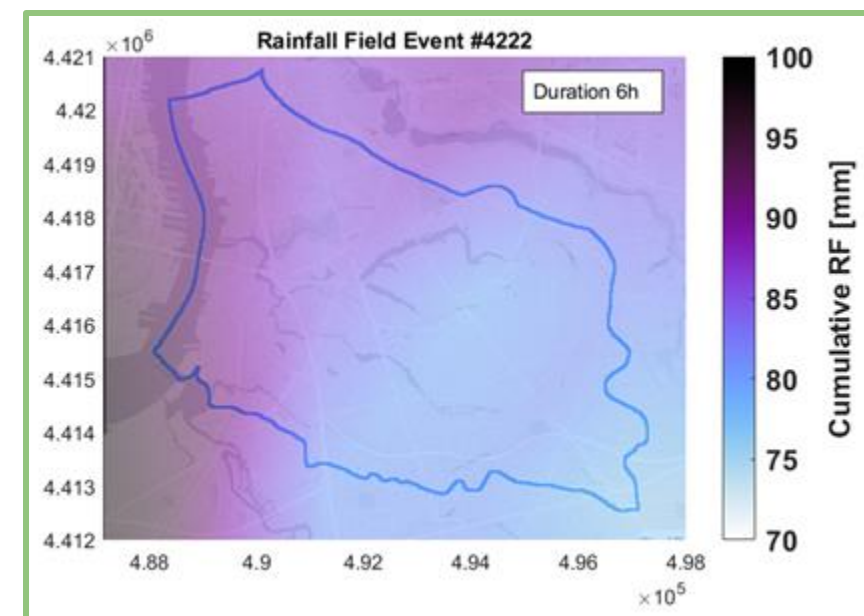
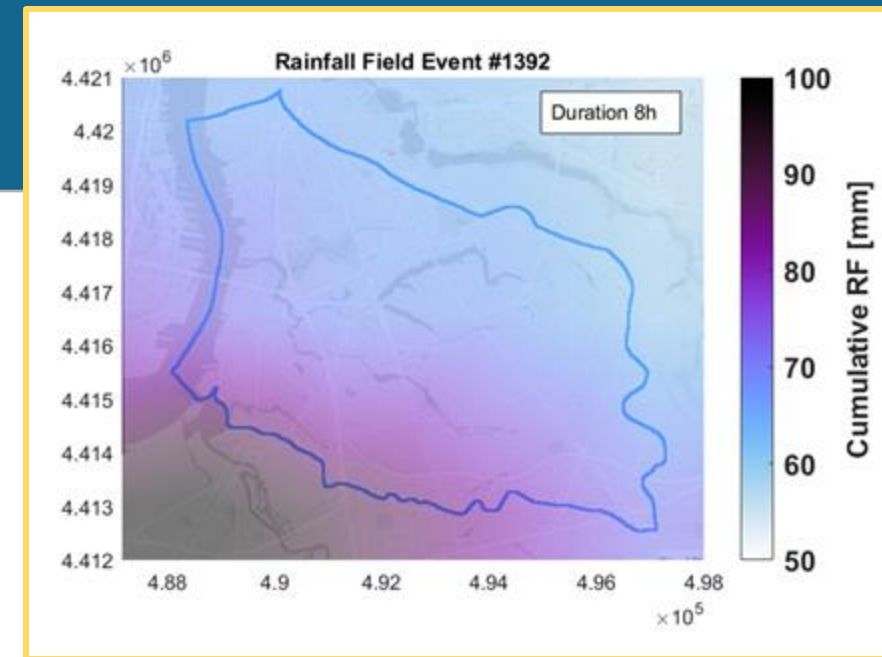
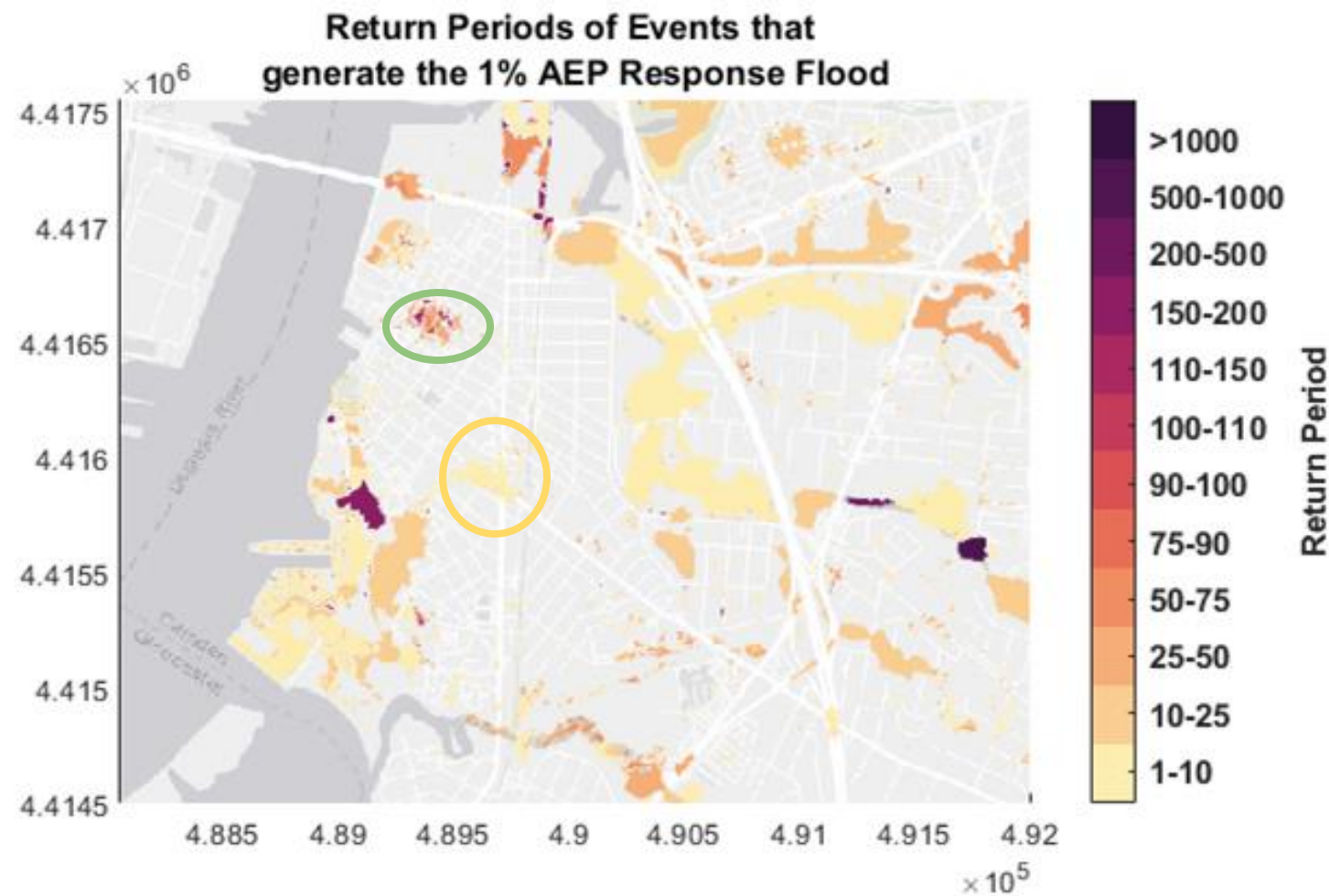
Citizen Science: Tweets reporting flooding with photos



Response 100-year Flood Hazard



Response 100-year Flood Hazard



Thank you

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