WATER BUDGETS OF COASTAL RAIN GARDENS

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Coastal Urban Context
Study Area
Research Goals

• (How) does GSI work in a coastal context?
  – Physically: water budget
  – Socially: additional benefits (see my report!)
Methods

• Treatments
• Soil and plant

• Water budget:

\[ \text{INFLOW} + \text{PRECIPITATION} - \text{EVAPOTRANSPIRATION} \pm \text{GROUNDWATER} = \text{CHANGE IN STORAGE} \]
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Results

- Pipe inlets
- Rain gauge
- Solar & climate
- Water level
- Control for elevation
- Tidal cycle
- Treatment effect

- July 2014
- Data collection completed June 2015
Discussion

• Relative rain garden water levels appear consistent across rain events
• Control for elevation an important next step
  – Water budget
  – Infiltration rate
  – Statistical analysis
• Implications for coastal GSI design and resilience of coastal cities + communities
Thank you!

- Hixon Center for Urban Ecology
- Gabe Benoit
- Alex Felson + UEDLAB
- Seaside Village and City of Bridgeport