



Regional Impacts of Climate Change and Issues for Stormwater Management

Water Quality Considerations in a Changing Regional Climate

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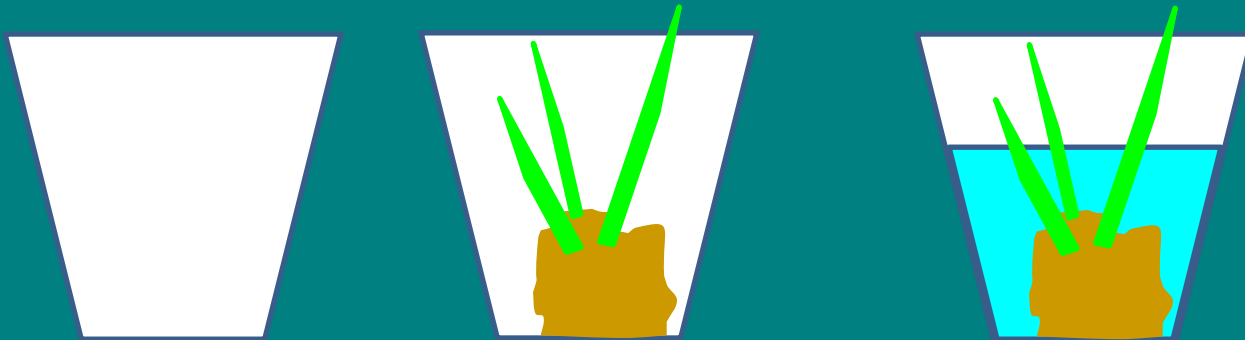
QUESTION...?


What would be the impacts of sea level rise on the water quality of Biscayne Bay and our coasts

Workshop Objectives:

- 2 Develop awareness of, and the guidance for policies, strategies and standards *to improve resilience to coastal and inland flooding, saltwater intrusion, and other related impacts of climate change and sea level rise in Stormwater Master Plans*

Lab experiment





**King Tide day
.... an island-size
experiment....**

Data SIO, NOAA, U.S. Navy, NGA, GEBCO



EW1W

EW1E

EW2W

EW2E

EW3W

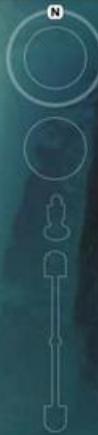
EW3E

EW4W

EW4E

EW5W

EW5E



Google earth

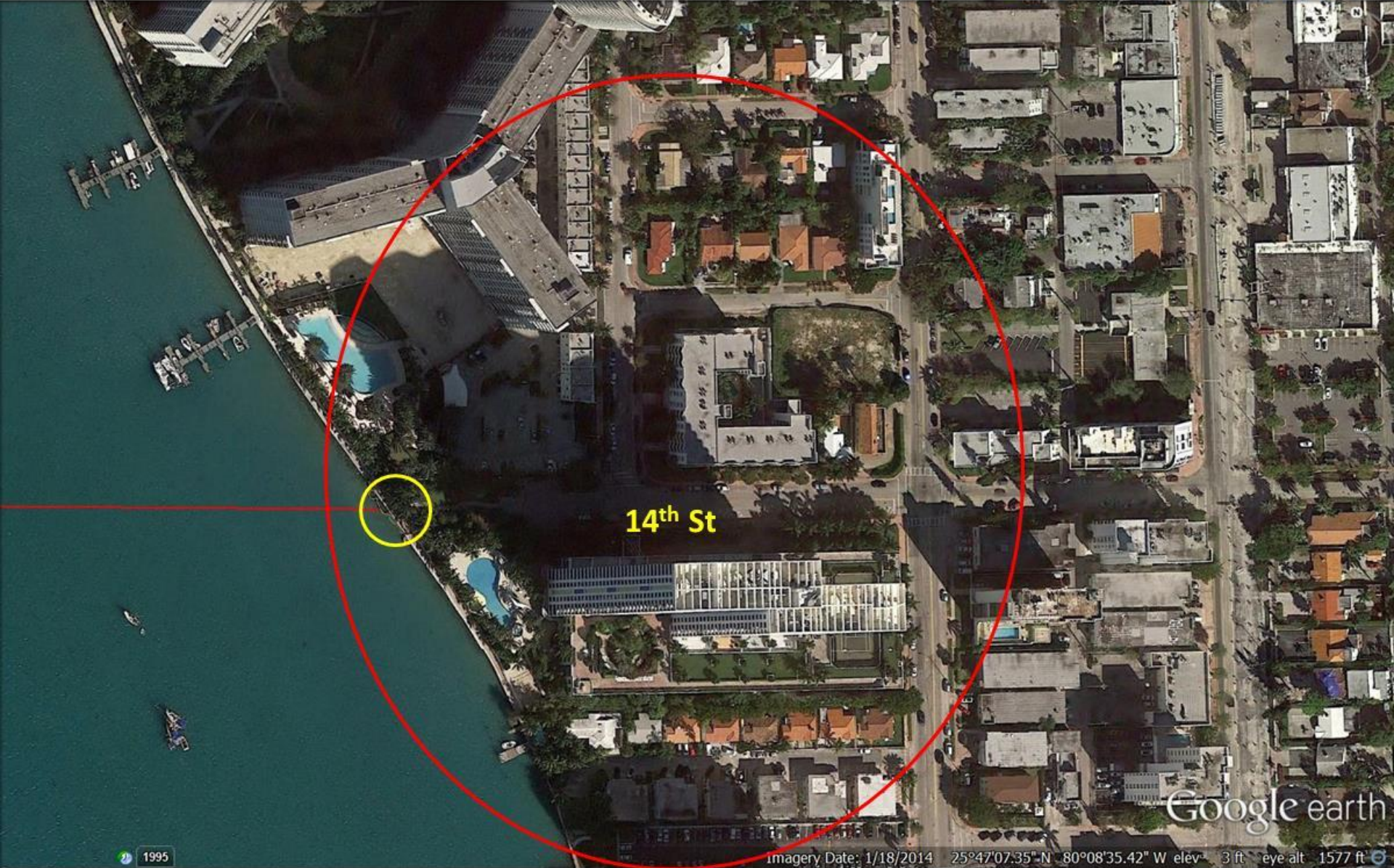
1995

Imagery Date: 1/18/2014 25°46'59.80" N 80°08'40.31" W elev 1 ft eye alt 12221 ft

Gibbs Park

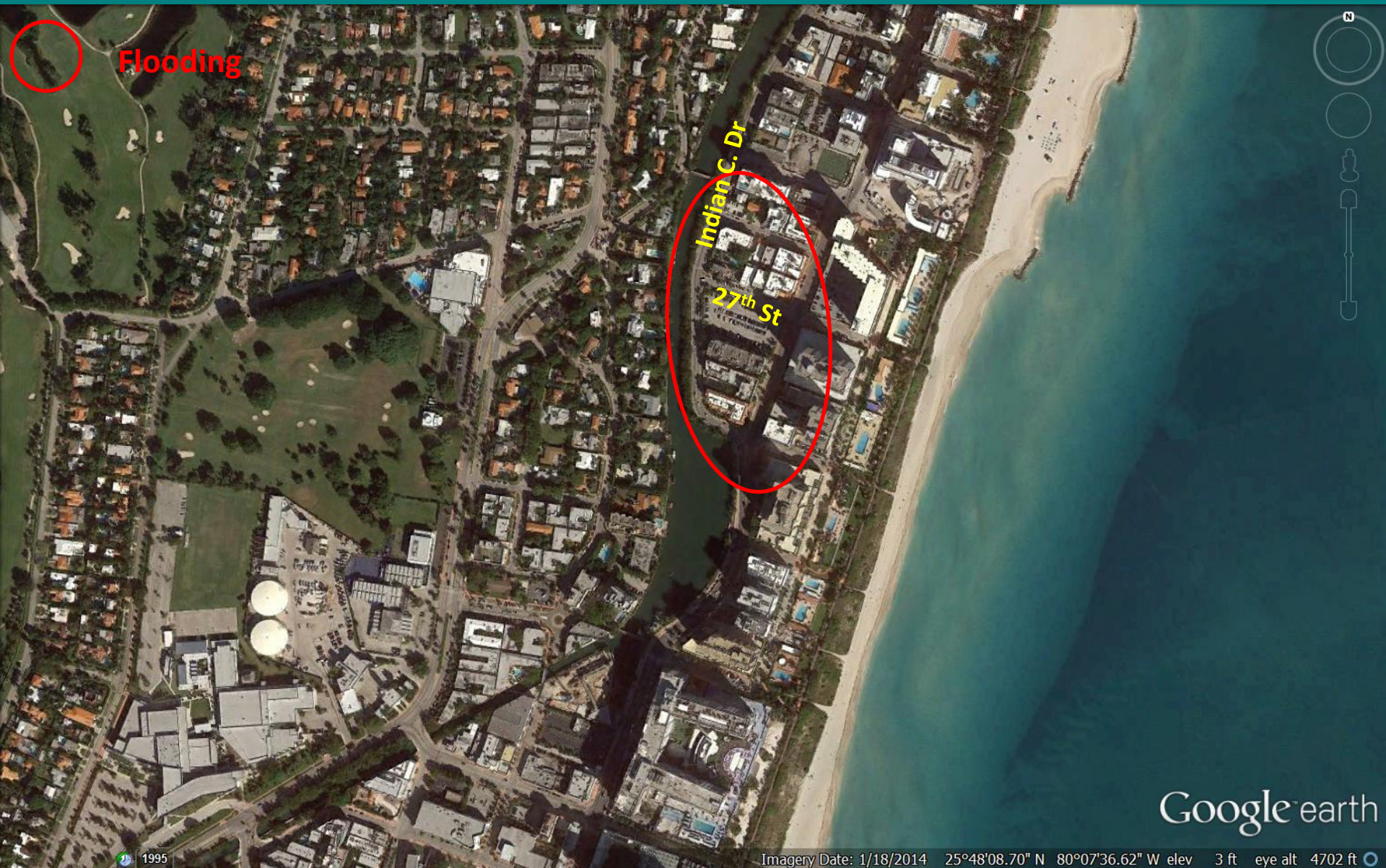


14th Street



Outfall at 14th St





Flooding

Indian C. Dr

27th St

Google earth

1995

Imagery Date: 1/18/2014 25°48'08.70" N 80°07'36.62" W elev 3 ft eye alt 4702 ft

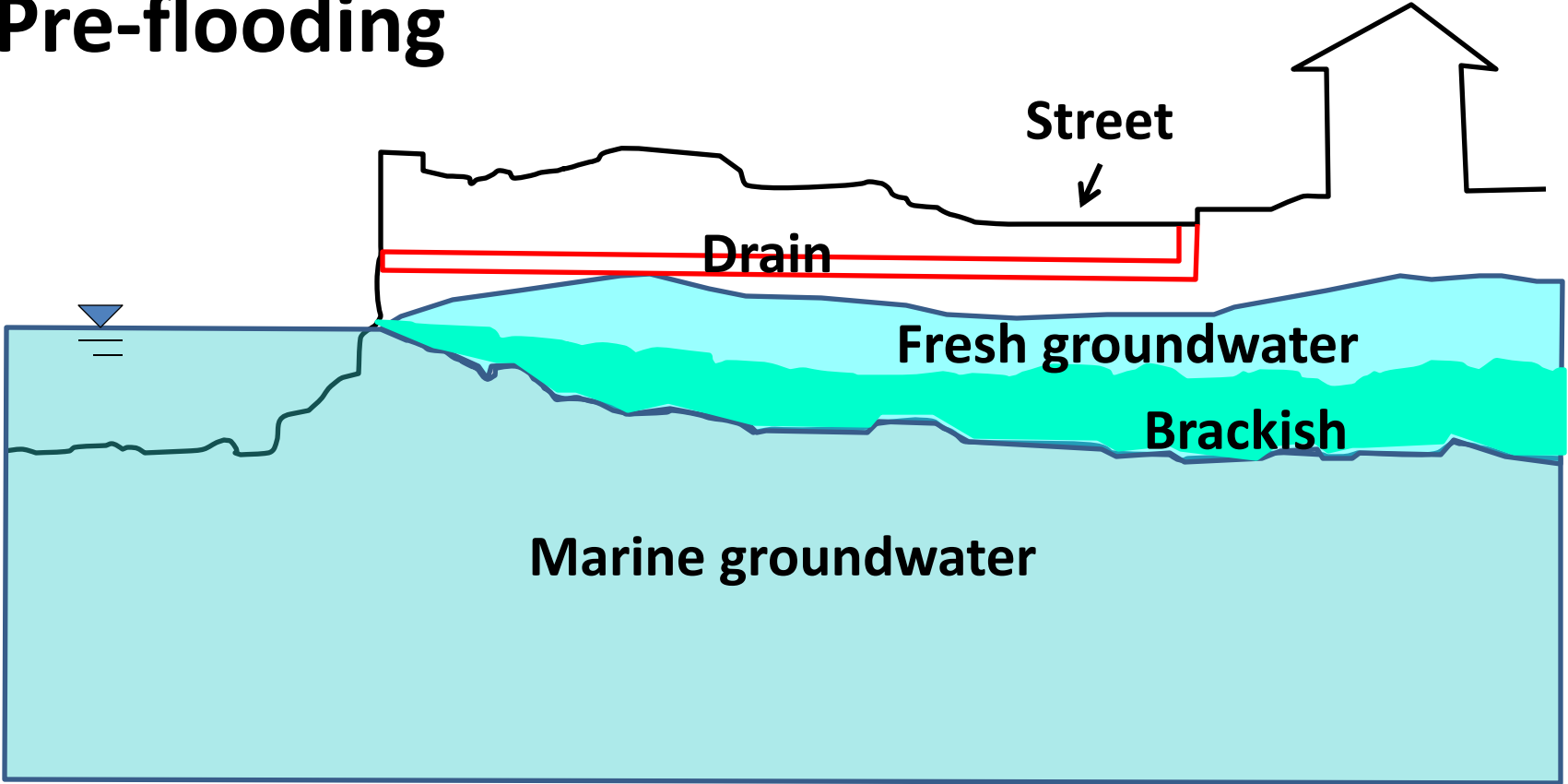
Indian Creek



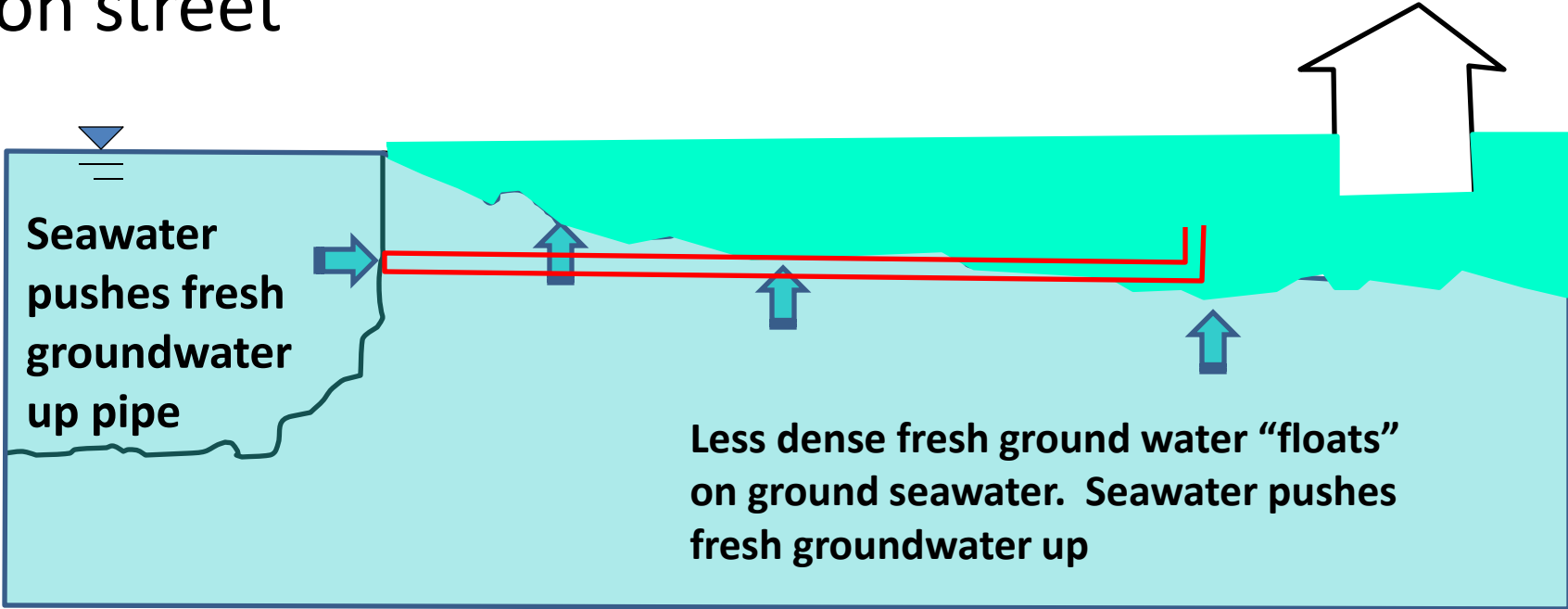
Drains at intersection of Indian Creek Dr and 27th St



Initial conditions. Pre-flooding



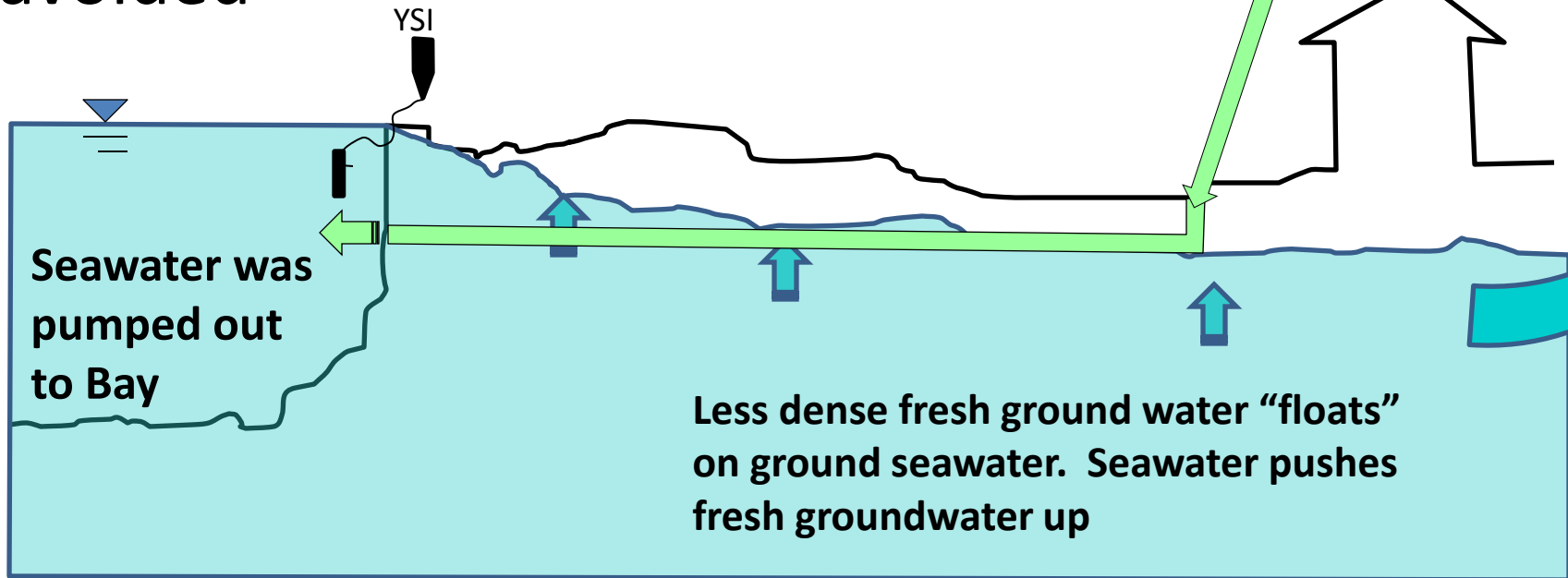
If flooding occurred on street

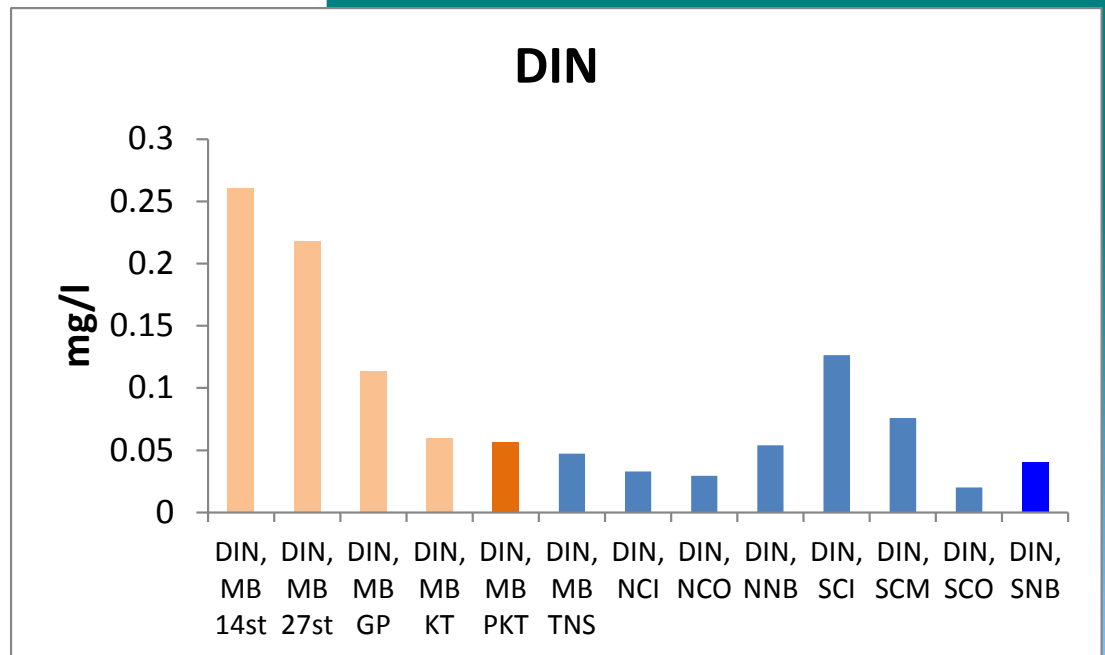
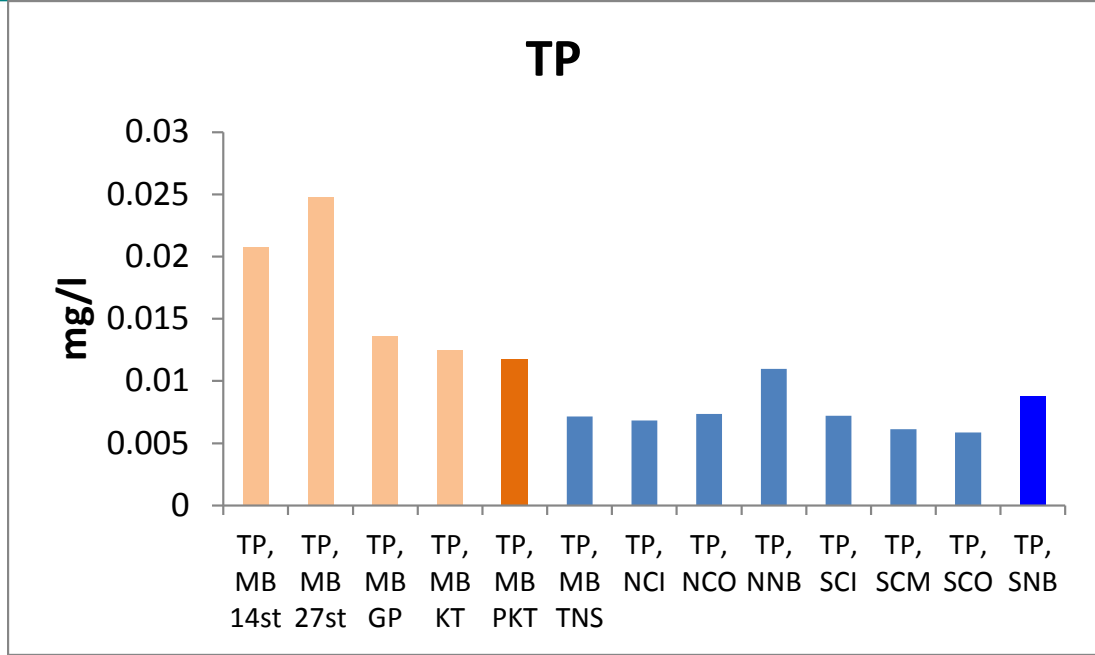
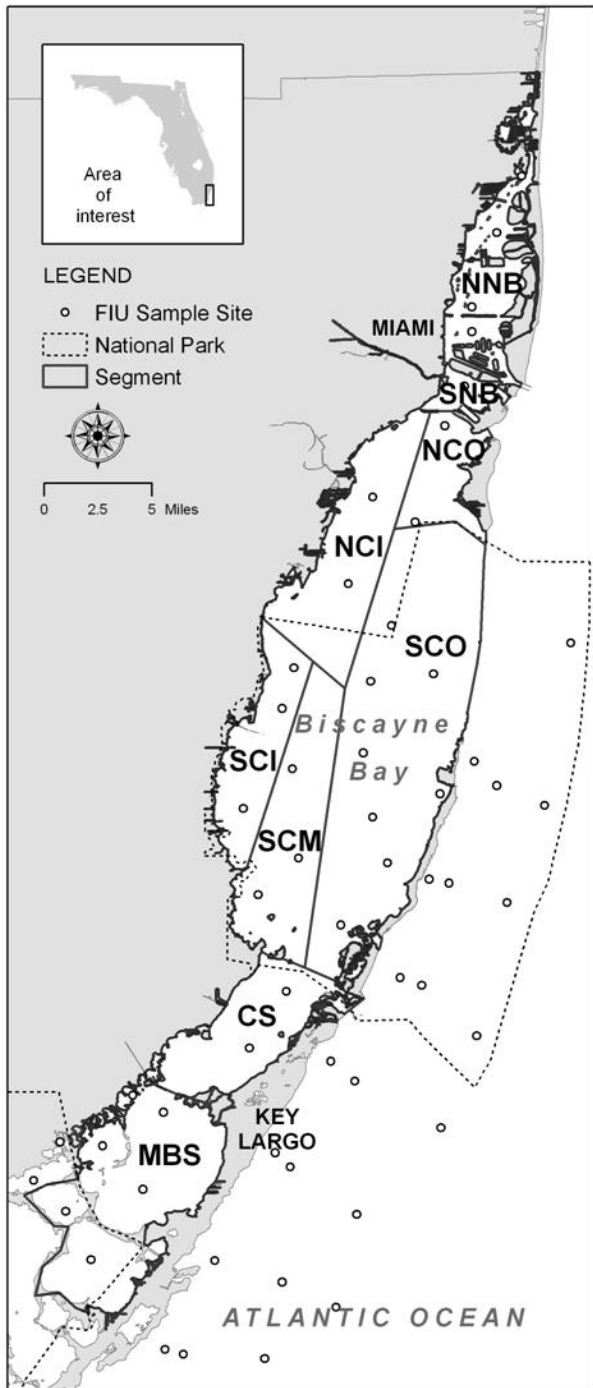


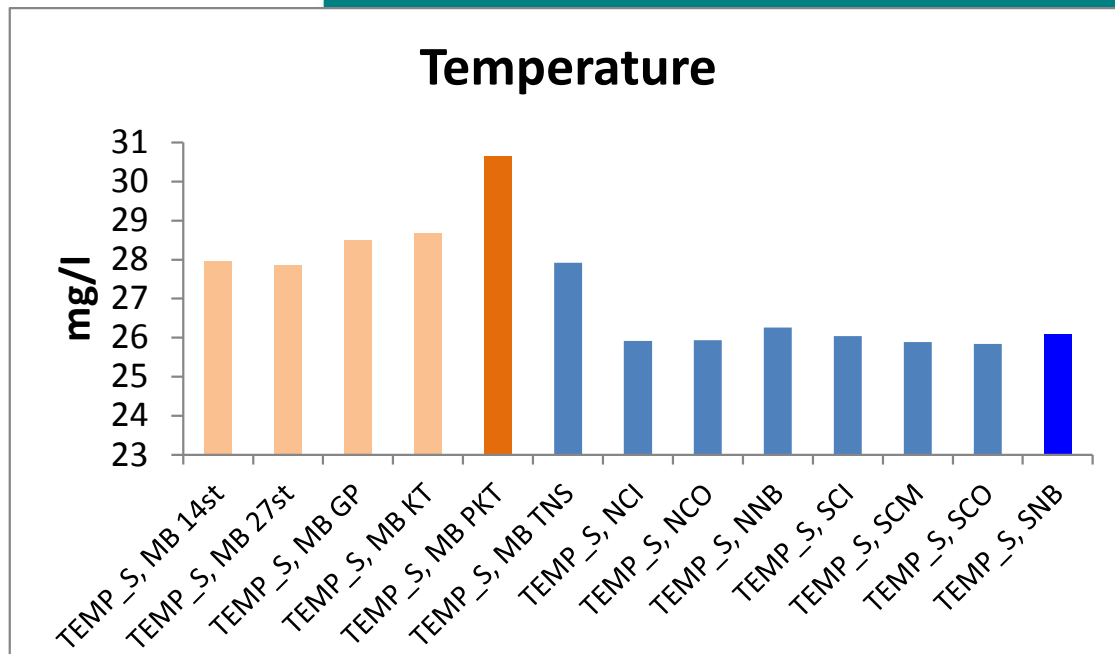
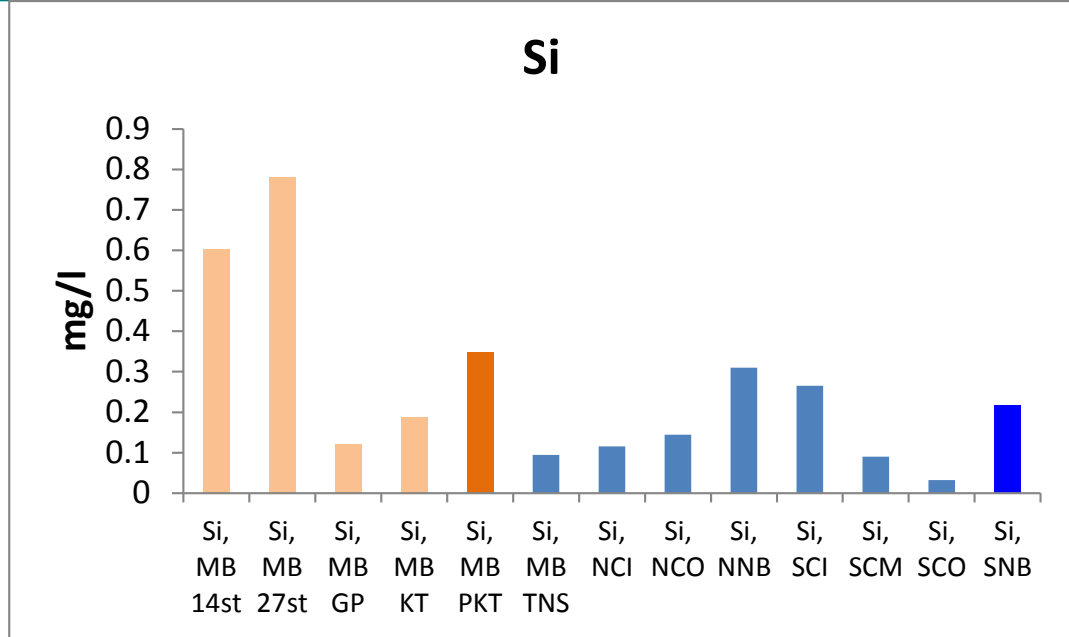
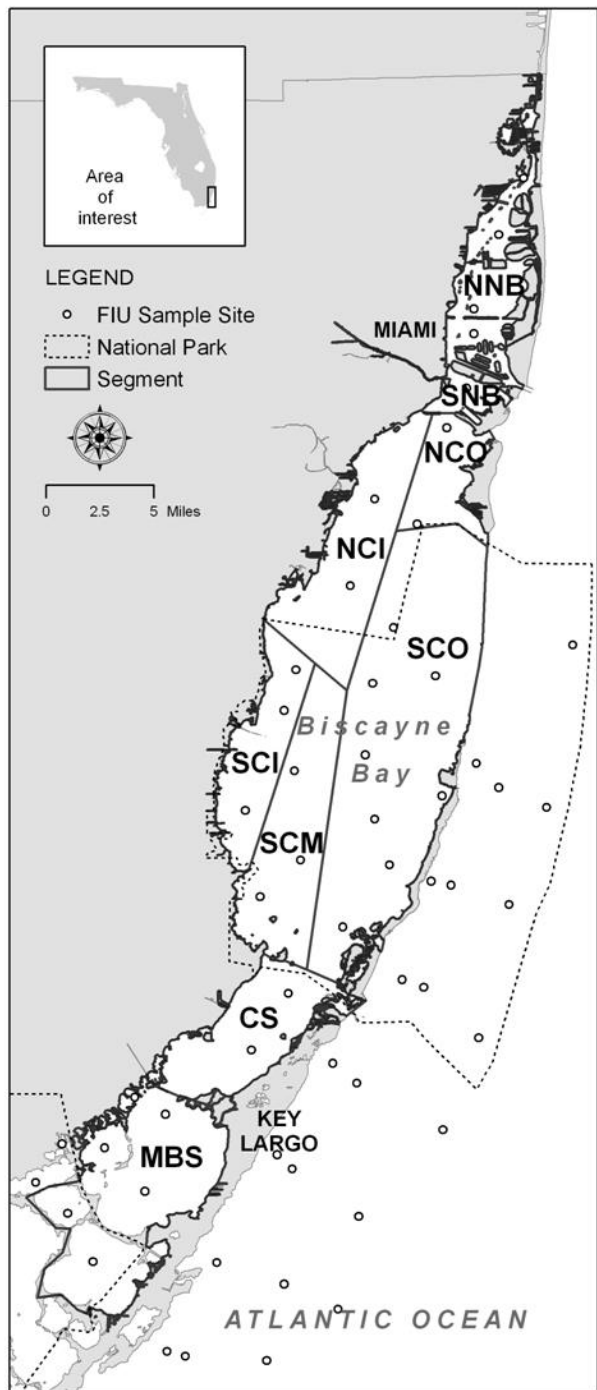
Bruce's pumps



Flooding was avoided







Conclusions:

- We should expect significant impacts of SLR on Biscayne Bay water quality caused by nutrient enrichment (eutrophication)
- Waters resulting from the mixing and flushing of stormwater and groundwater by infiltrating marine waters need to be treated before delivery back to the Bay



Thank you!!!

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