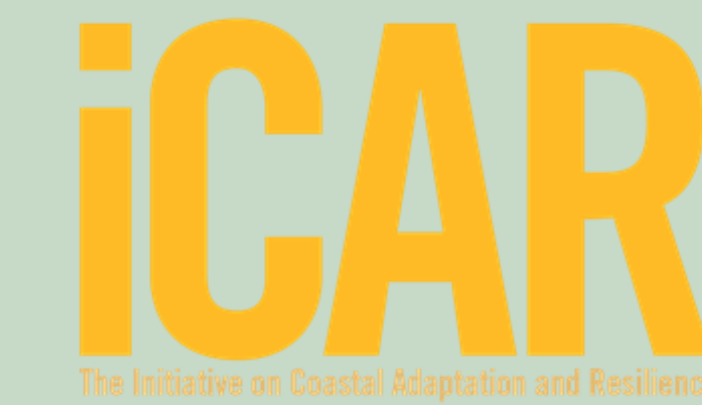




# Crowdsourced Flood Mapping: Mapping Flood Vulnerabilities and Solutions

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## Project Scope

This proposed project will engage in informal education of middle and high school students from marginalized communities about the processes involved in flooding (infiltration/runoff relationship and the role of impervious surfaces in increased runoff) and their relationship to climate change and sea level rise (SLR). This project utilized appropriate earth science education to the community, particularly in reference to the difference between inland and coastal flooding, the likelihood of flooding increase, potential hazards of flooding and possible risk mitigation strategies. Students learned about causes of coastal flooding and did field work to visit areas known to have storm drain problems, recorded GPS locations, and collected field notes for the sites in and around midtown child's park neighborhoods where previous projects identified areas that have recurring problems with storm drainage. Students also used high resolution aerial imageries to digitize impervious surfaces around these sites. These filed data were overlaid with City's GIS data layers (including storm-water systems) to assess infrastructure needs and make recommendations (e.g. either to increase pervious surfaces or increase the diameter of the drainage pipes at problem locations). Further, students mapped environmental assets that help promote infiltration around the sites using aerial photographs. All crowdsourced data gathered by this project were then compiled in a map along with other relevant GIS data layers. We created two groups Green (morning) and Maroon (afternoon) with 5 teams each, with a total of 19 students. While all students collected data at all sites, a team of 2 students (one from green and one from maroon) were assigned to each site as being the leader to collect and digitize data in duplicates. Students created and presented poster for the sites they were leaders. Students were also asked to upload pictures of street flooding in their neighborhood for a crowd-sourced photo contest



Photos: Chloe Fortucci (left) & Justin Shane (right)

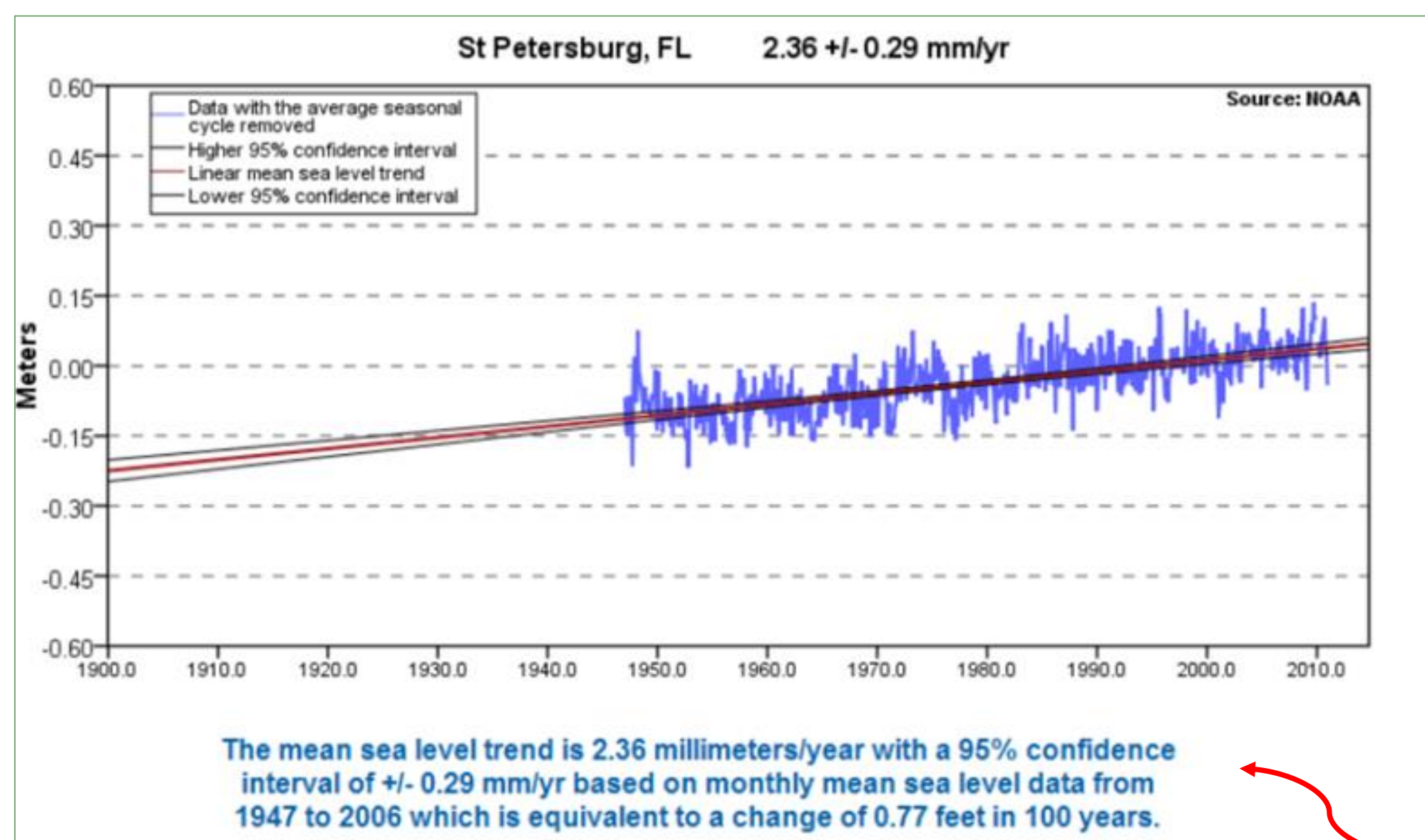
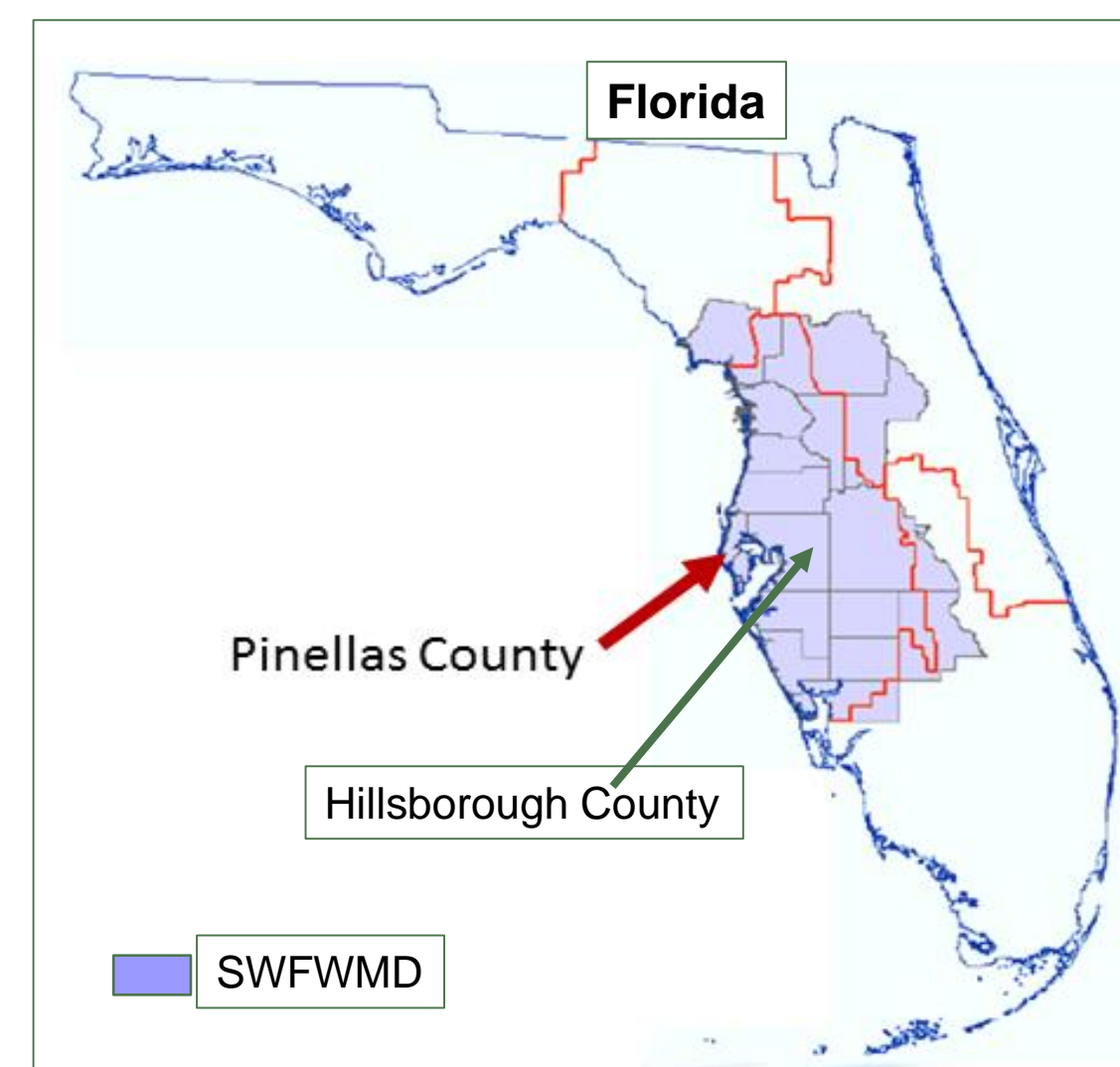


Figure 1. Data from Saint Petersburg Gauge (#8726520): threat from SLR, flooding.

GPS/Computer	Group Green/morning	Group Maroon/afternoon
GIS01	Team 4	Team 5
GIS02	Team 2	Team 2
GIS03	Team 3	Team 3
GIS04	Team 1	Team 1
GIS05	Team 5	Team 4
GIS07	Team 4	Team 4

## Problem Sites



## Field and Lab Work



Orientation



Introductory lectures



Field work demo: Learning to use GPS

## Field Work

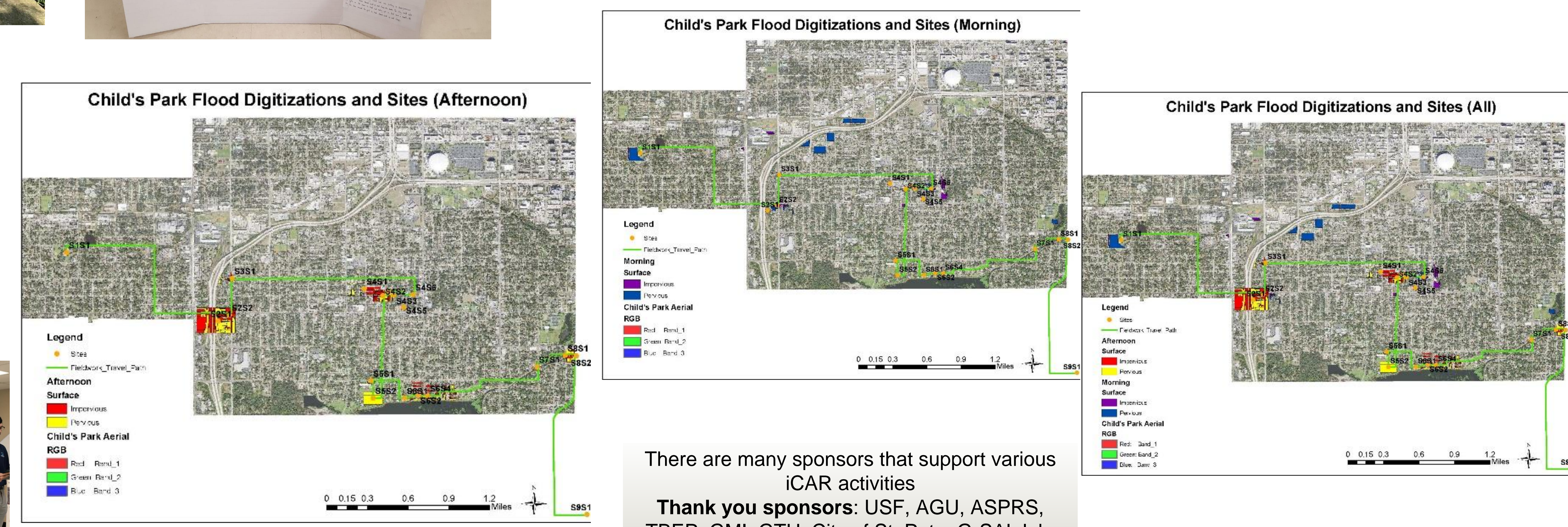


## Project Outcome

### Posters



## Maps



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