



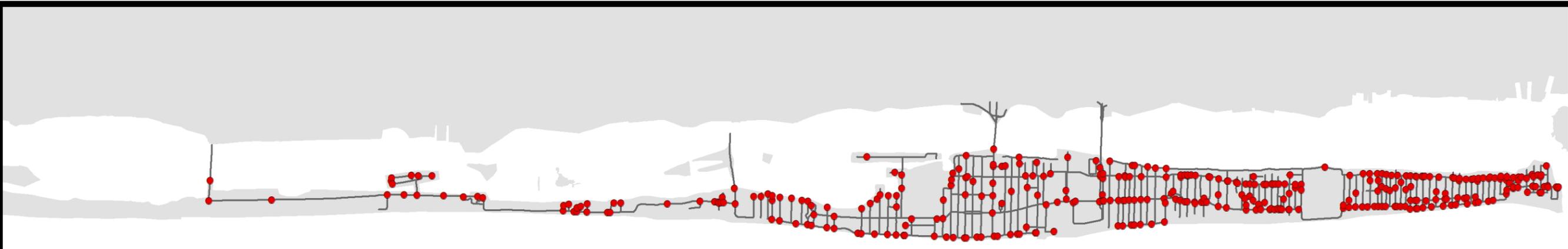
Figures

This attachment provides a primary deliverable from this vulnerability assessment - the model output. From all the storms simulated, maps of the Town were generated illustrating the probability of inundation. For purposes of this assessment, probability of inundation is defined as the percent probability that a specific location will be covered by at least 5 cm of water in a given year. These results are provided in hard copy in the attached set of figures, specifically Figures 4-1A through 4-7A (for Present Day) and Figures 4-1B through 4-7B (for the Future scenario). The top panel on each of these maps is the probability of inundation for the whole Town, along with a black box surrounding the zoom area shown in more detail on the remaining 4 panels across the bottom of each map. The left most vertical panel illustrates the inundation probability in more detail for the zoomed section. The probability of inundation map scale is shown by the color bar, which ranges from white (dry or 0% inundation probability) to black (100% inundation probability). The scale is not linear; rather, finer increments are shown at lower probabilities. For example, Figure 4-1A shows for present day conditions that the northernmost portion of the island is mostly light green (5% inundation probability) and yellow (1% inundation probability).

The probability of inundation model results are useful for gaining an understanding of the patterns of flooding vulnerability. In addition, it is helpful to understand the depth of flooding corresponding to certain inundation probabilities. Depending upon the asset in question, some assets may tolerate several feet of sustained flooding, whereas other assets may be at risk from less than one foot of water (particularly salty coastal storm surge water) even for a short period. To present this detail, the inundation maps (Figures 4-1 through 4-7) also serve as depth maps to help determine whether adaptations are needed now or in the future. These depths of inundation are shown by the remaining three panels across the bottom of each Figure. Depth maps are provided for a 1% probability scenario, 10% probability scenario, and 25% probability scenario. The color bar transitions from red to blue ranging from a peak flood depth of 1 ft to more than 9 ft. If there is no color, then the flood depth is less than 1 ft for that scenario. Again using Figure 4-1A as the example, the right-most panel shows only the coastal fringe is expected to have even 1 ft of flooding in the present day for a 25% annual event. By contrast, the depth associated with a 1% inundation probability event (100-year storm) can be several feet. These are interpreted as the depth that would result from a storm having a particular probability of occurrence in a given year. Probability of inundation is valuable for identifying spatial patterns and vulnerabilities at different scales, and the maps provide an understanding of how those vulnerabilities change from present day to a future scenario. For instance, comparing Figures 4-1A for present case and 4-1B for future case is instructive.

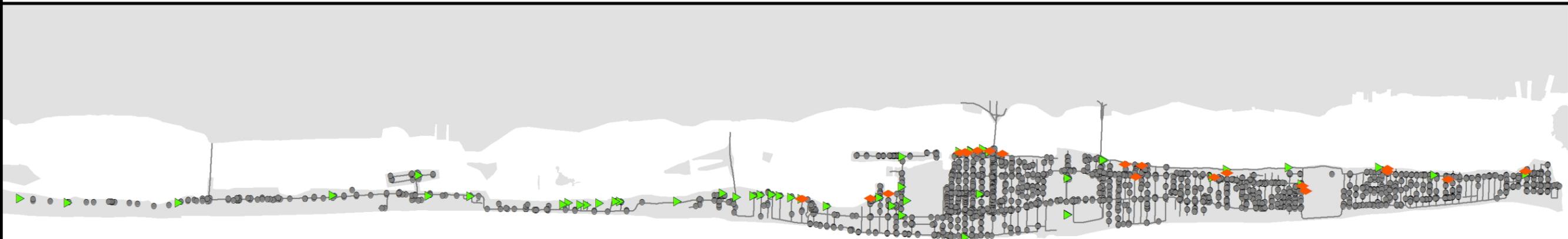
This information also is provided to the Town in the form of GIS compatible shape files for on-screen planning work by Town staff.

Figure 3-1



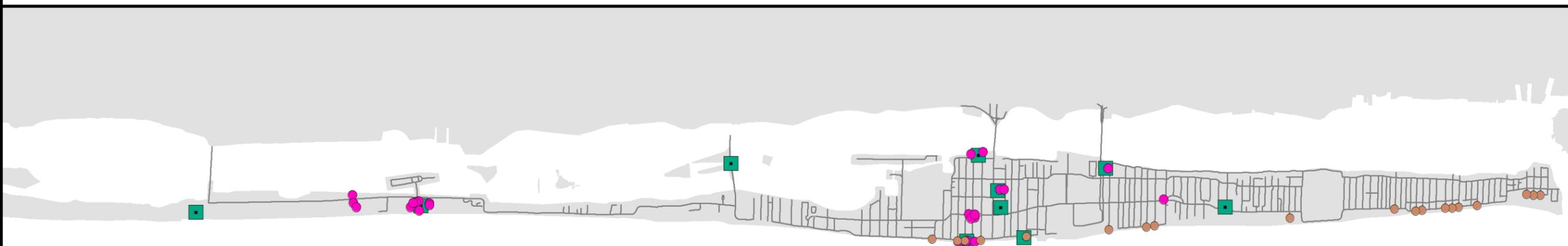
Palm Beach Road Transportation Network

— Palm Beach Roads • Critical Elevation of Road Segment



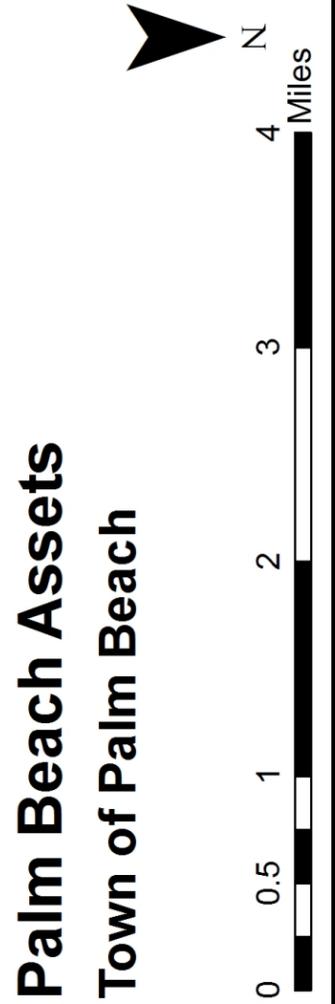
Palm Beach Sewer and Stormwater Infrastructure

◆ Stormwater Pump Stations ▲ Sewer Lift Stations • Stormwater Basin Inlets



Palm Beach Buildings, Parks and Beach Access

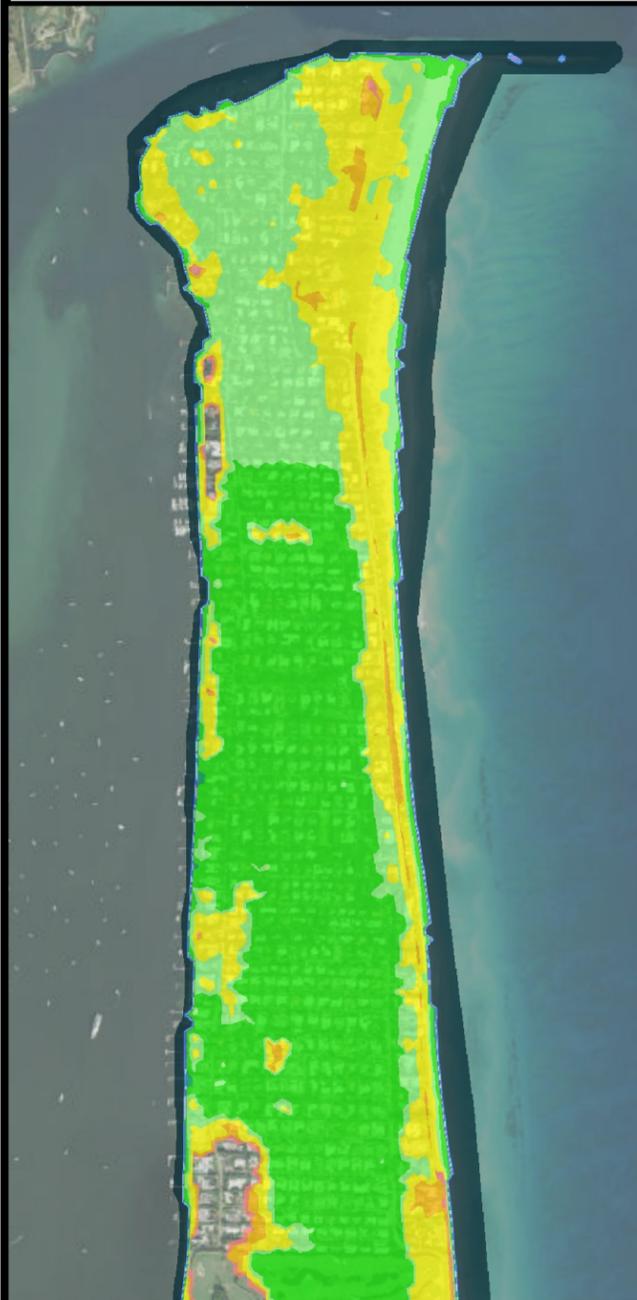
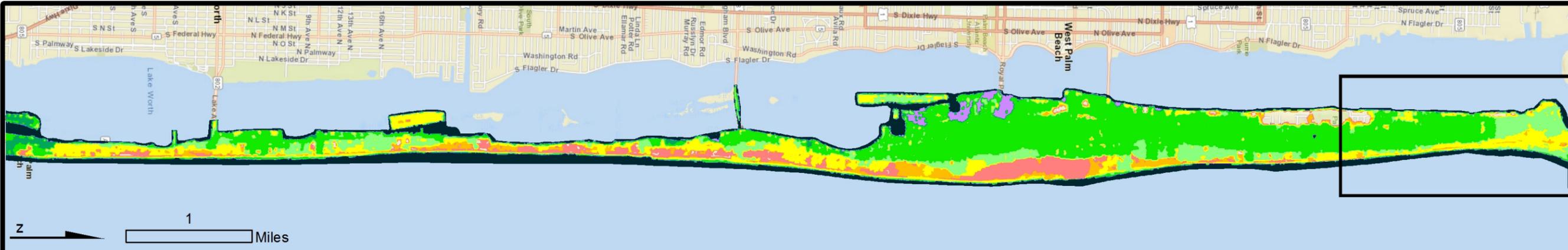
● Beach Access ● Town Buildings ■ Parks



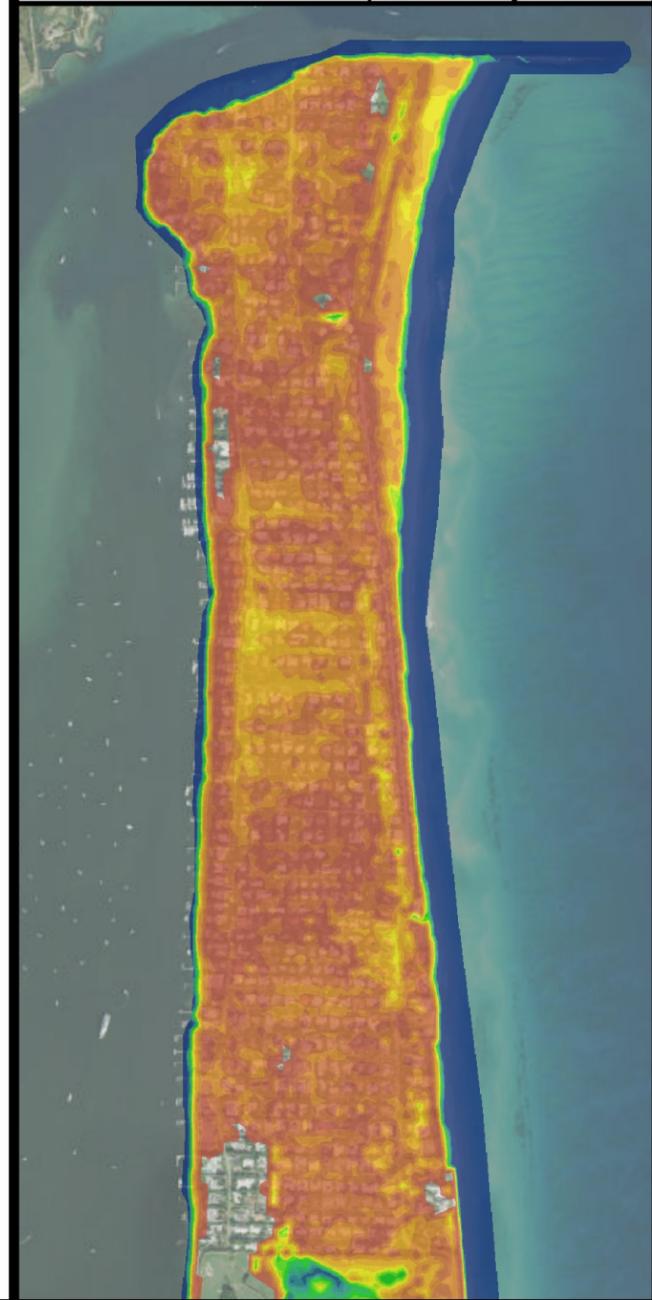
Palm Beach Assets
Town of Palm Beach



Figure 4-1A



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability



Present Day Coastal Vulnerability
Town of Palm Beach

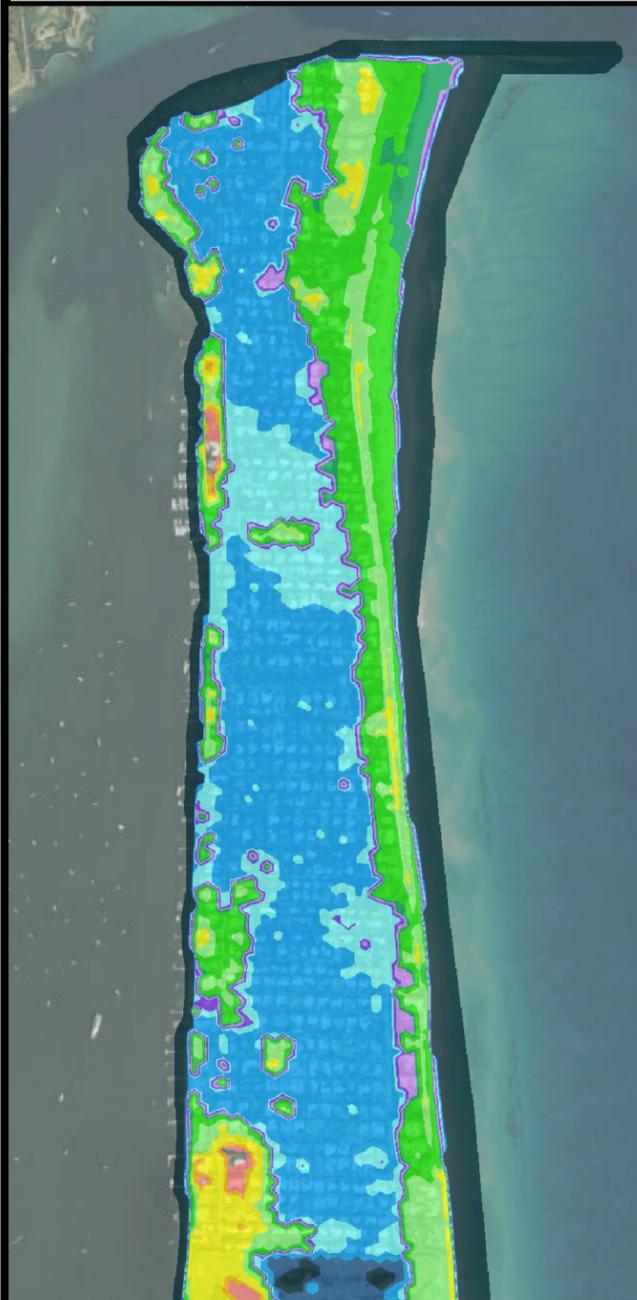
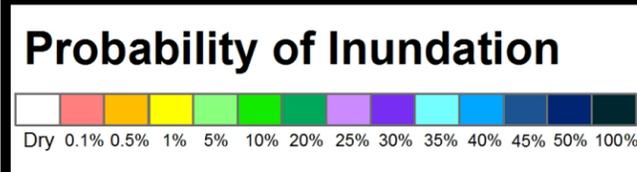
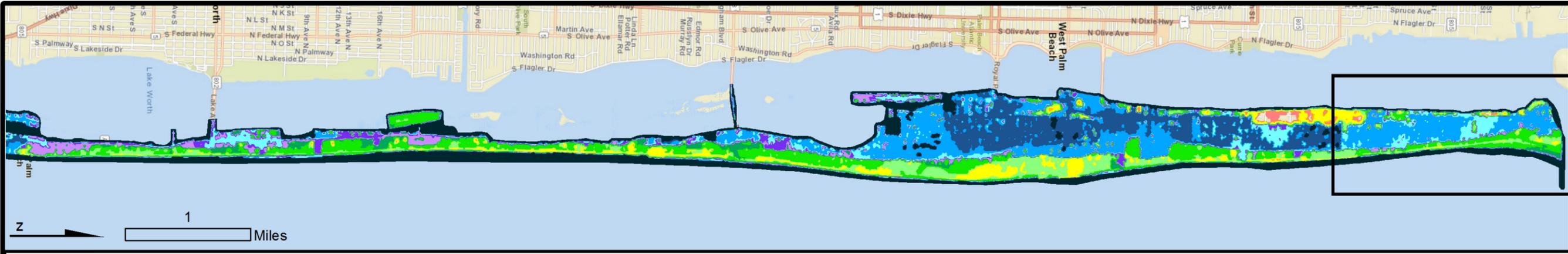
0 0.25 0.5 1 Miles



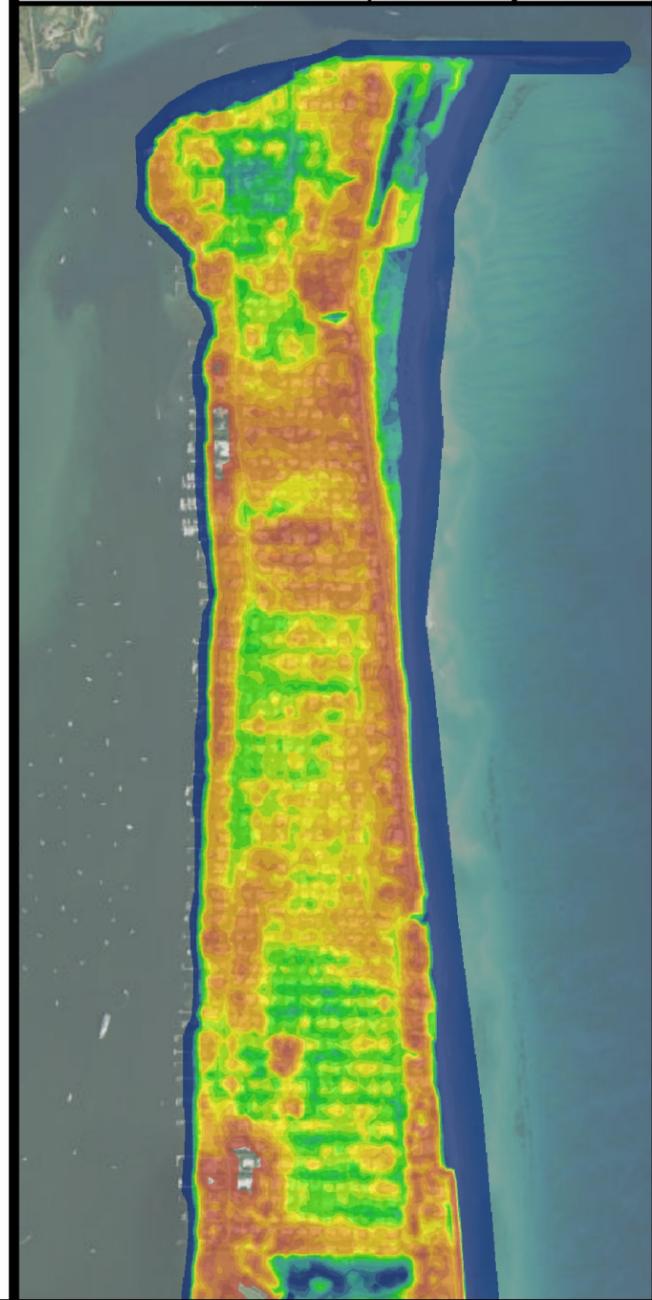
WOODS HOLE GROUP
A CLS COMPANY

SEAL OF THE TOWN OF PALM BEACH FLORIDA
APRIL 17, 1911
INCORPORATED

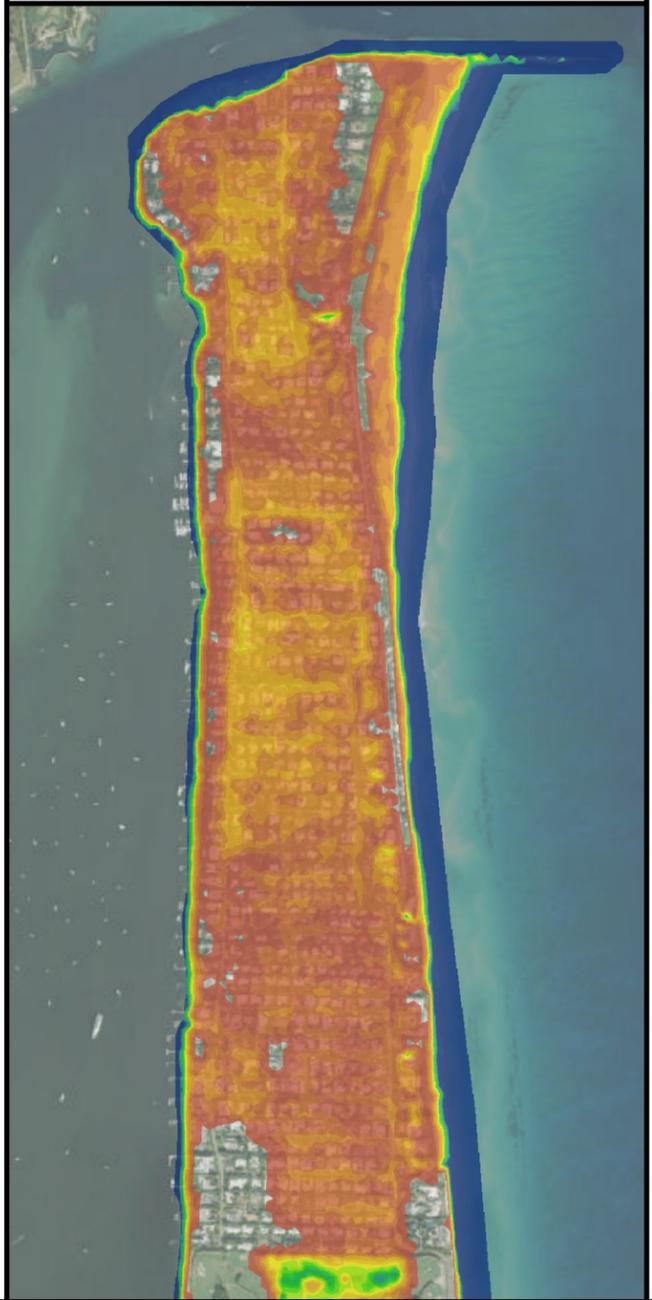
Figure 4-1B



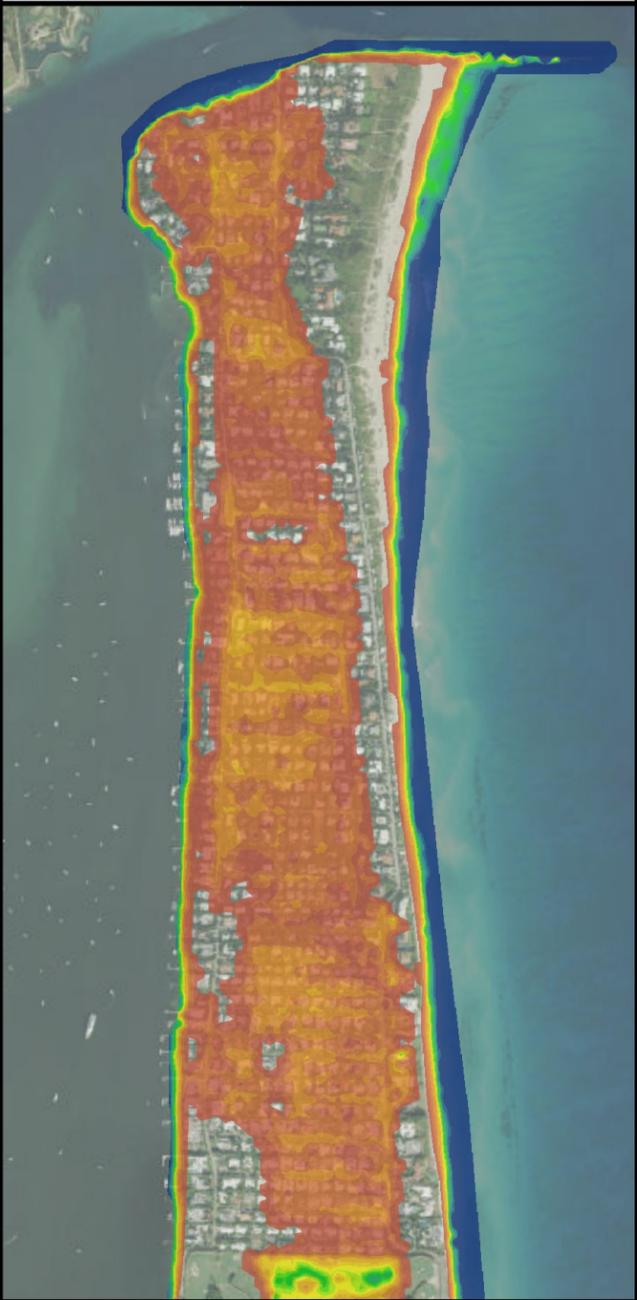
Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability



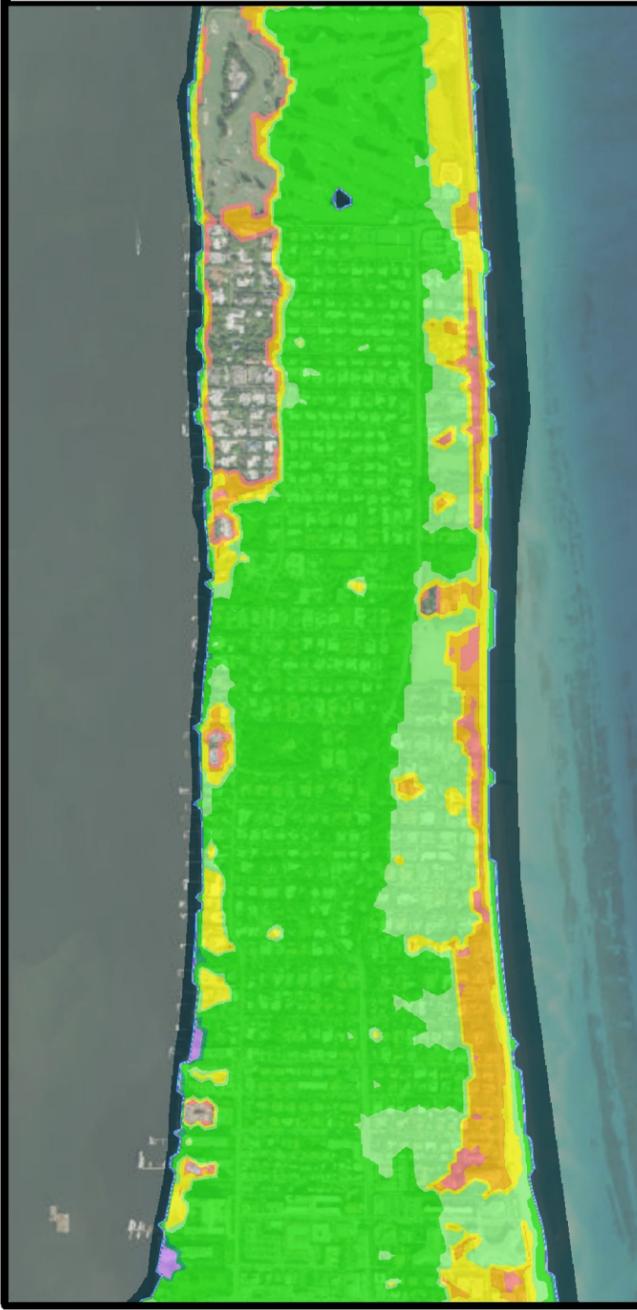
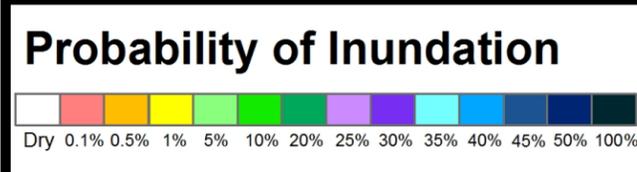
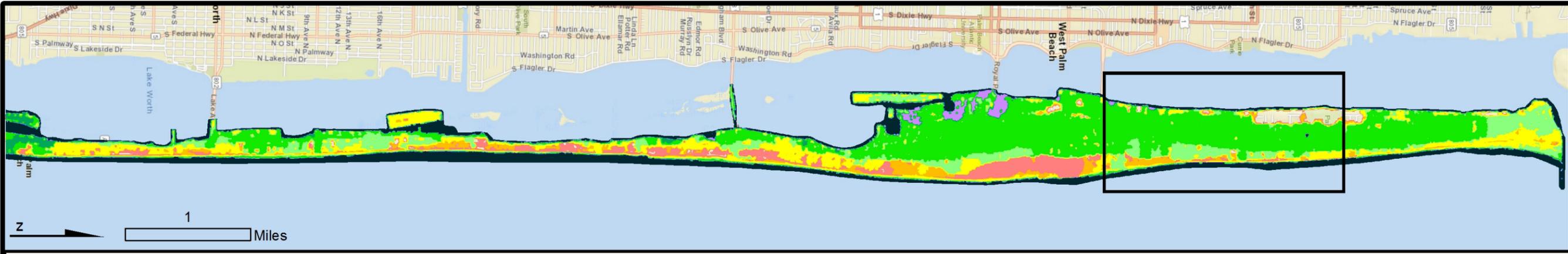
Future Coastal Vulnerability Town of Palm Beach



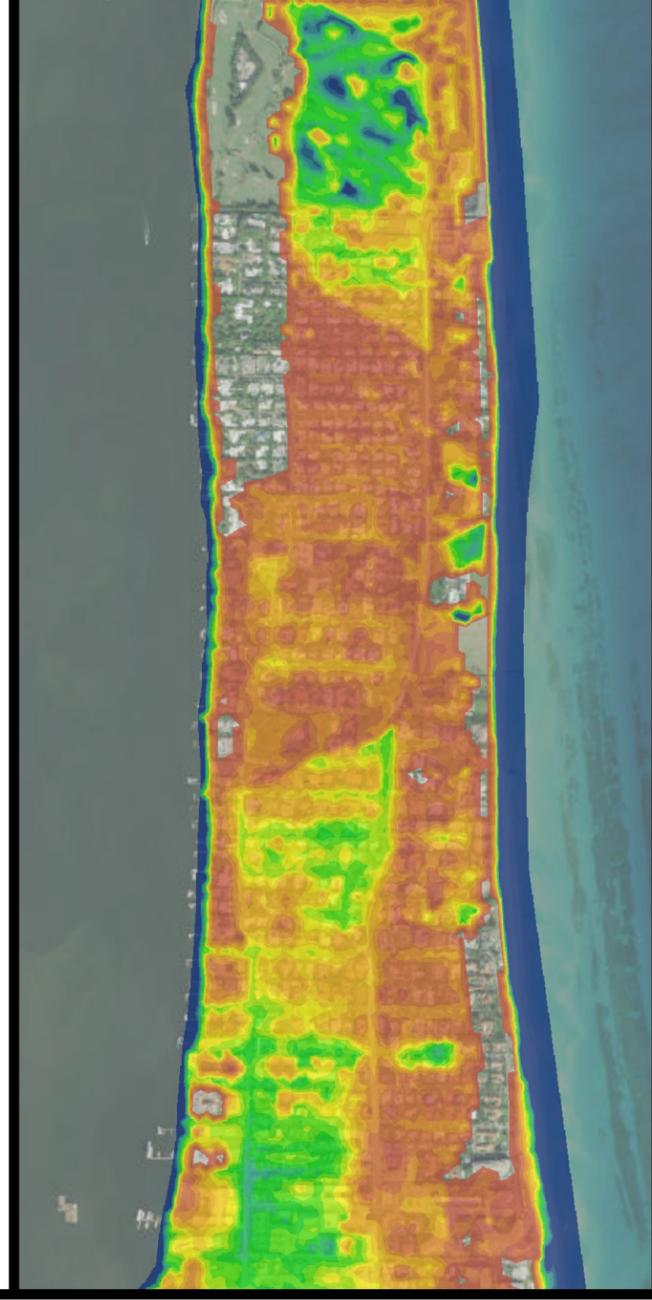
WOODS HOLE GROUP
A CLS COMPANY

SEAL OF THE TOWN OF PALM BEACH FLORIDA
APRIL 17, 1911
INCORPORATED

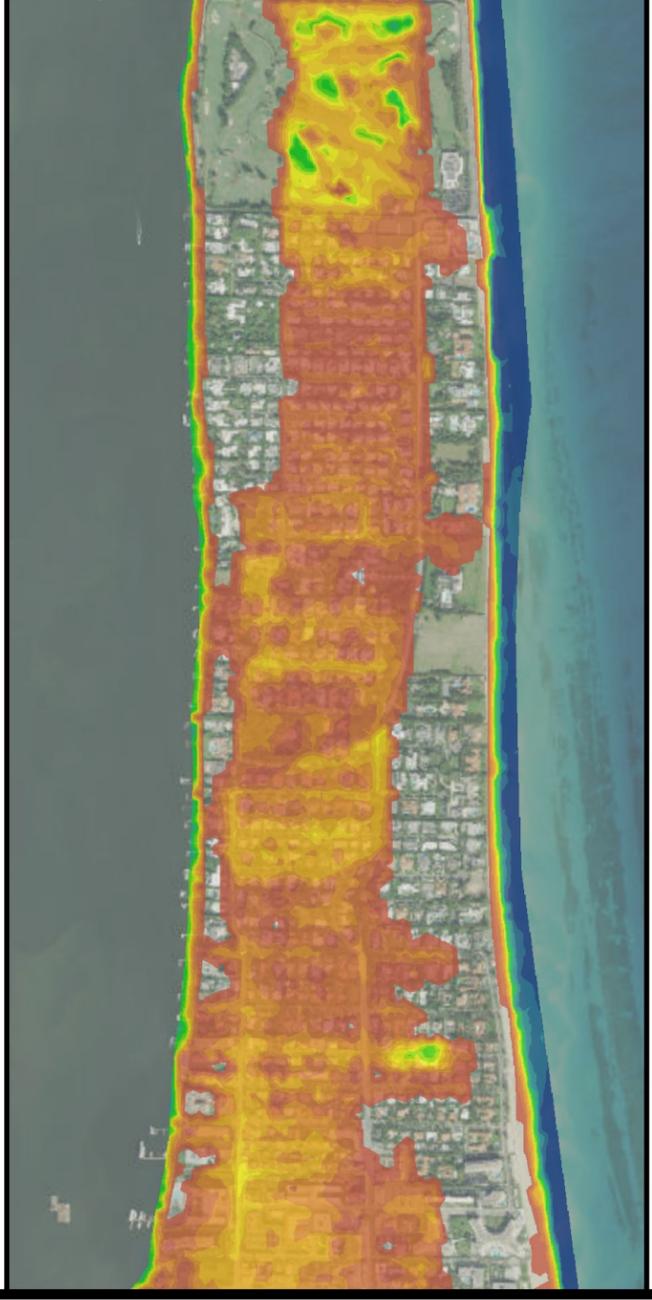
Figure 4-2A



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability

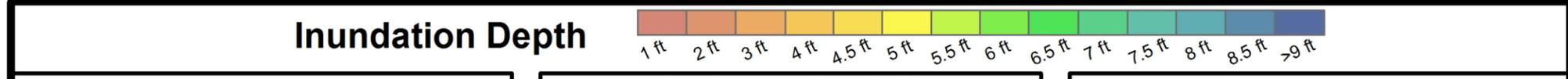
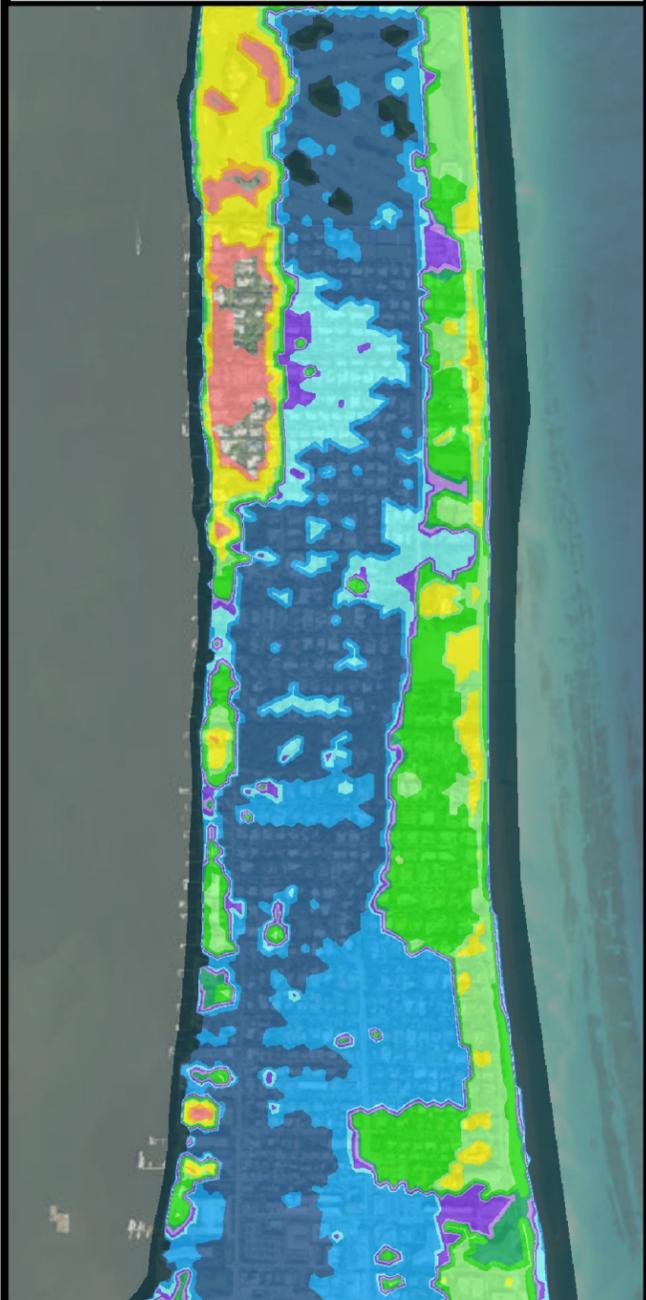
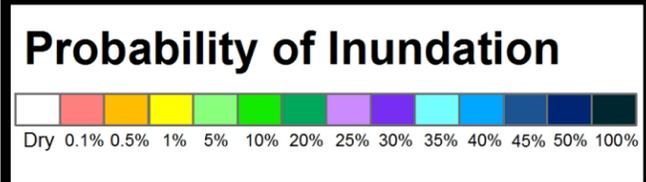
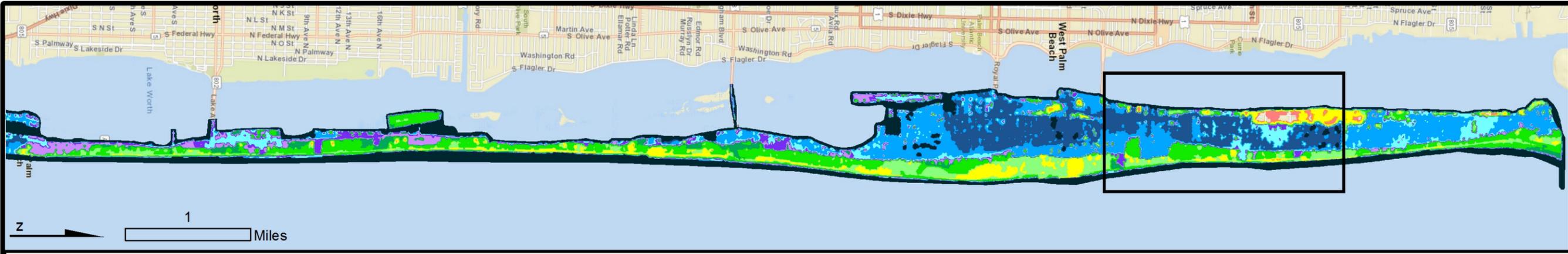


Present Day Coastal Vulnerability
Town of Palm Beach

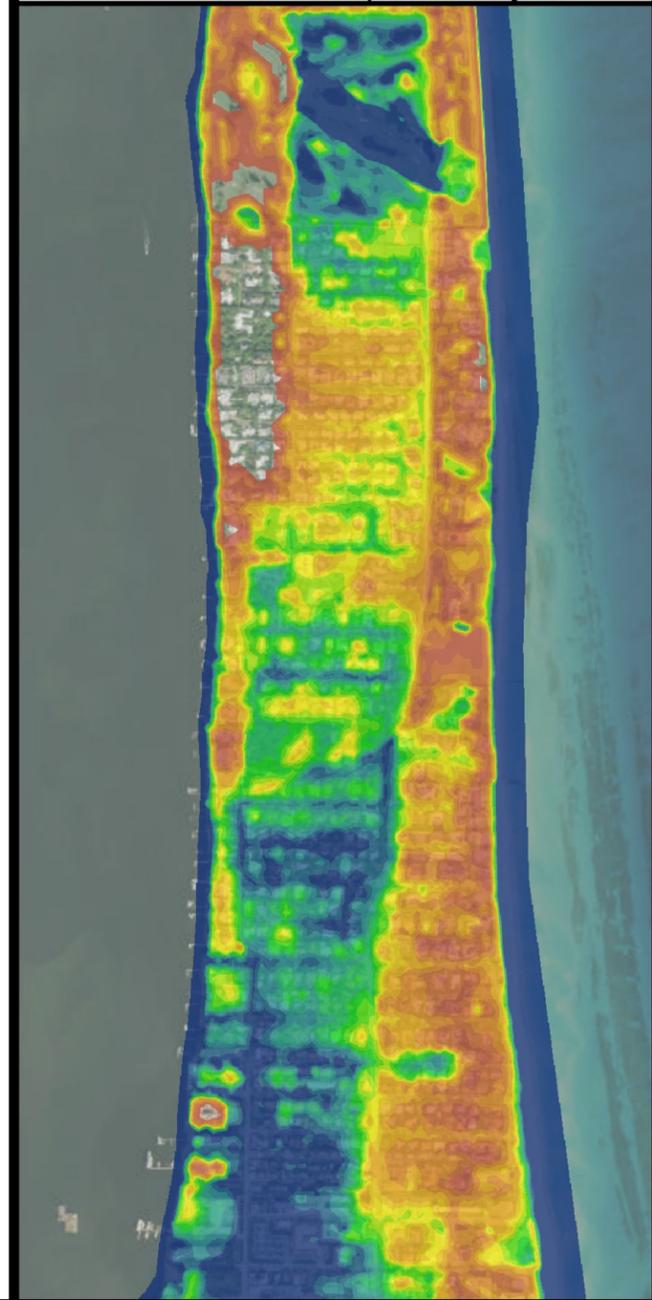


WOODS HOLE GROUP
A CLS COMPANY

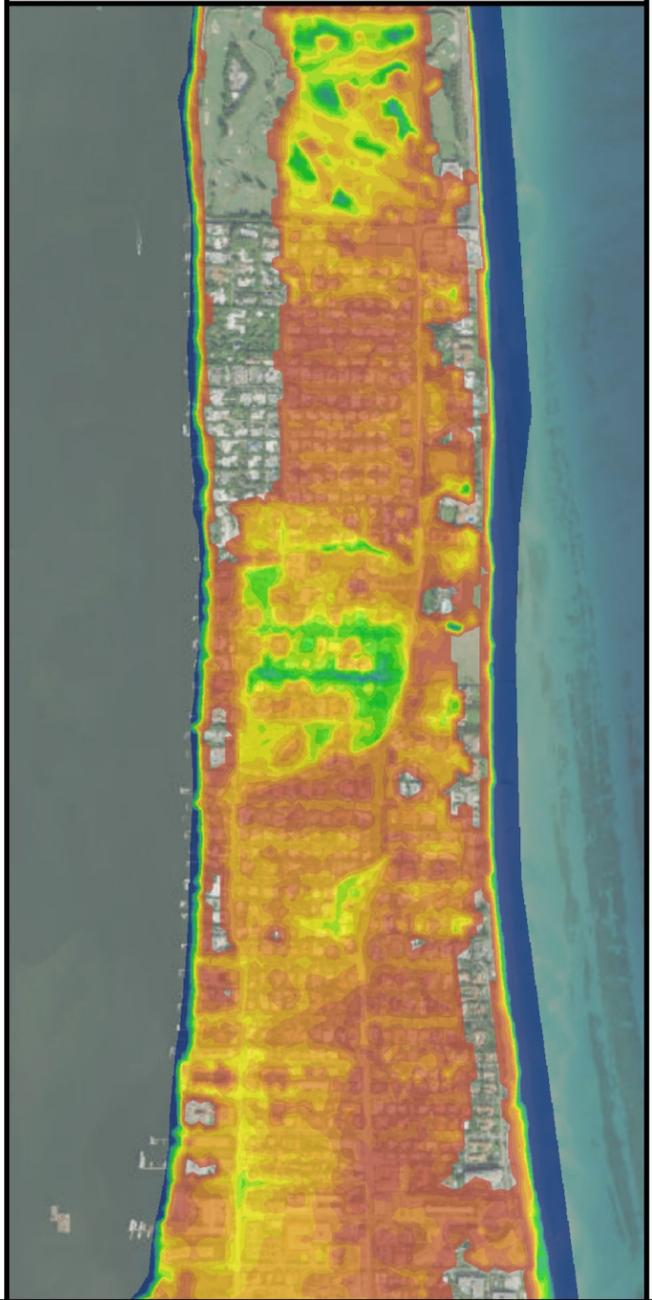
Figure 4-2B



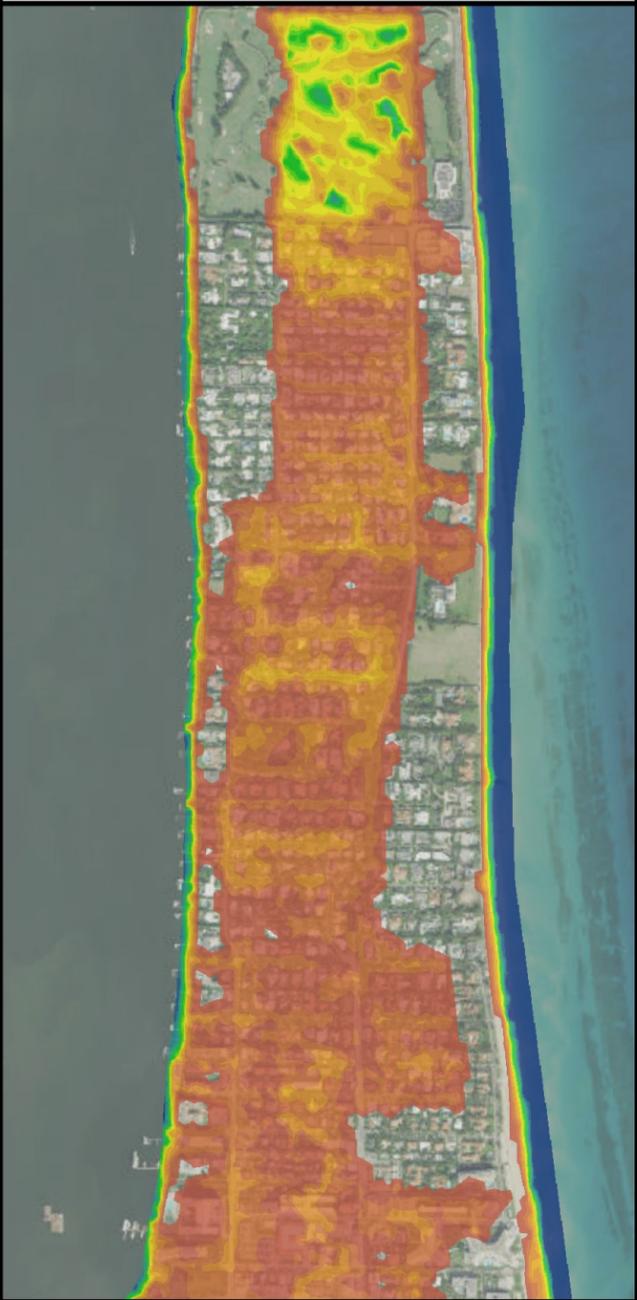
Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability



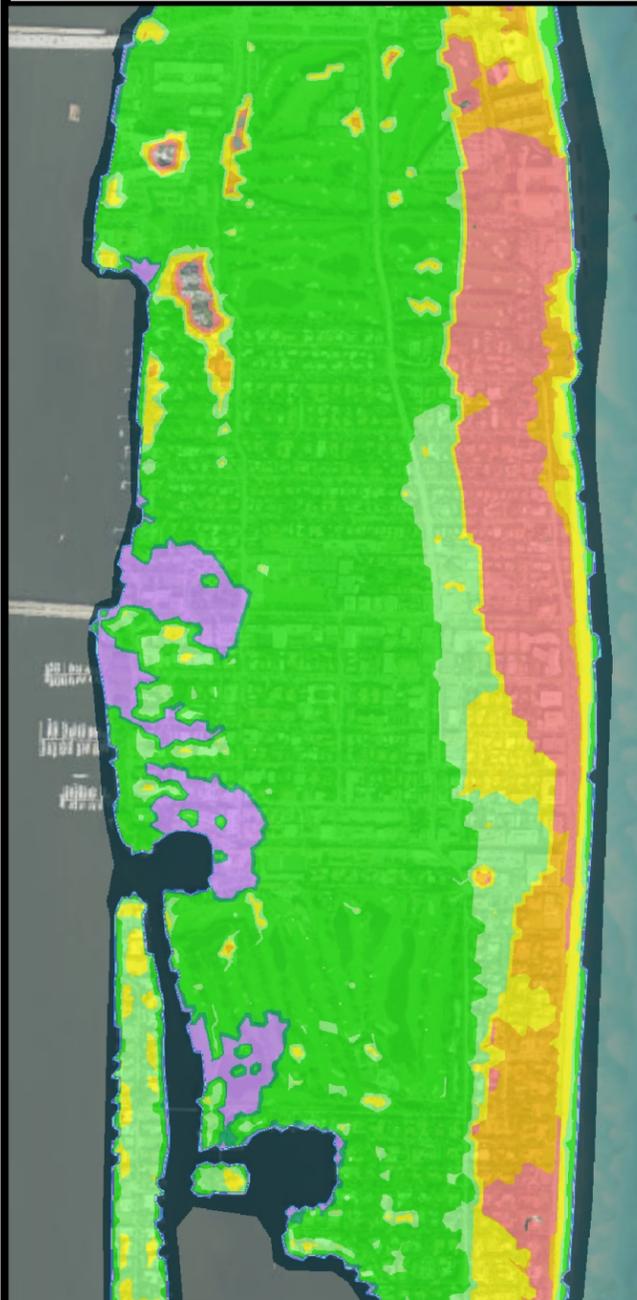
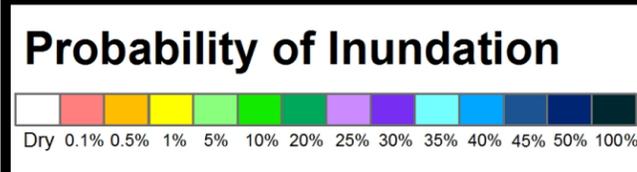
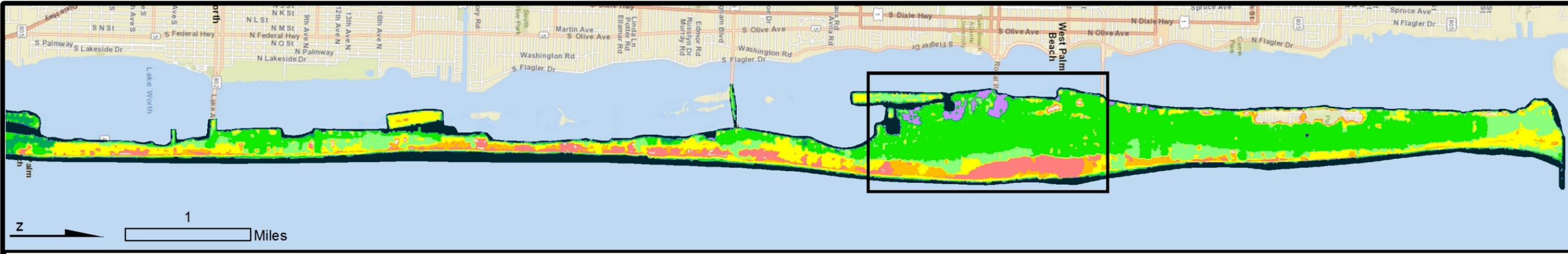
Future Coastal Vulnerability Town of Palm Beach



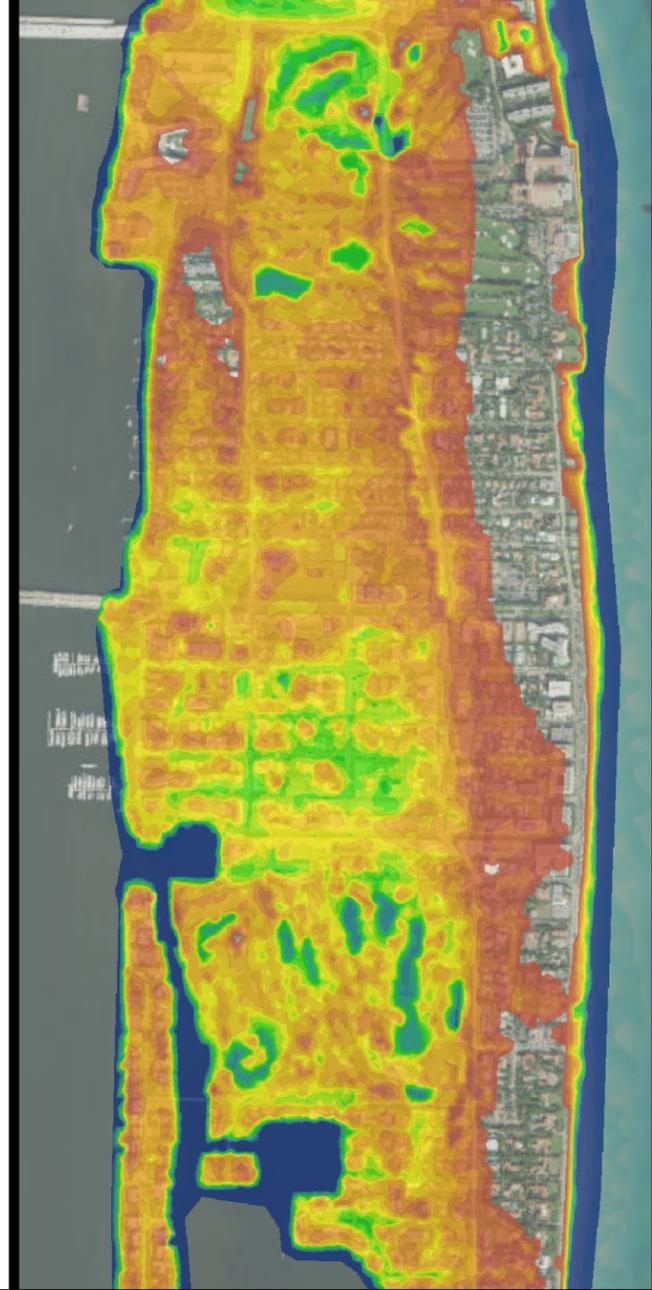
WOODS HOLE GROUP
A CLS COMPANY

SEAL OF THE TOWN OF PALM BEACH FLORIDA
APRIL 17, 1911
INCORPORATED

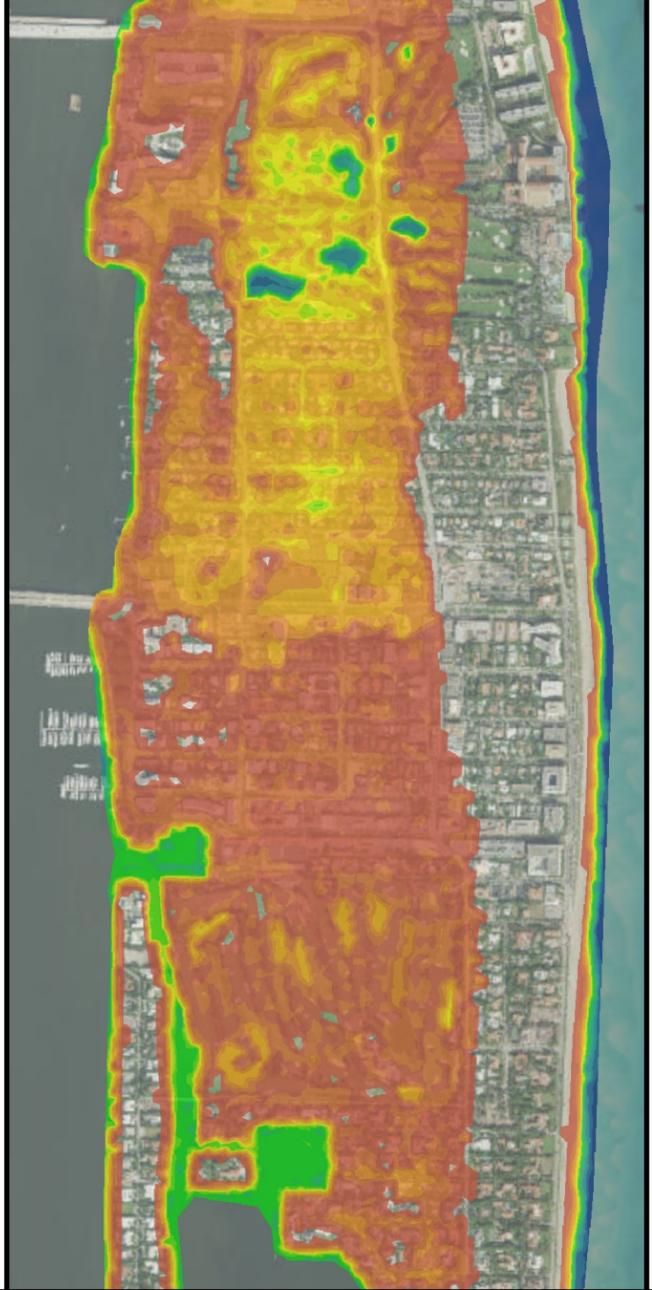
Figure 4-3A



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability



Present Day Coastal Vulnerability Town of Palm Beach



1 Miles

0.5

0.25

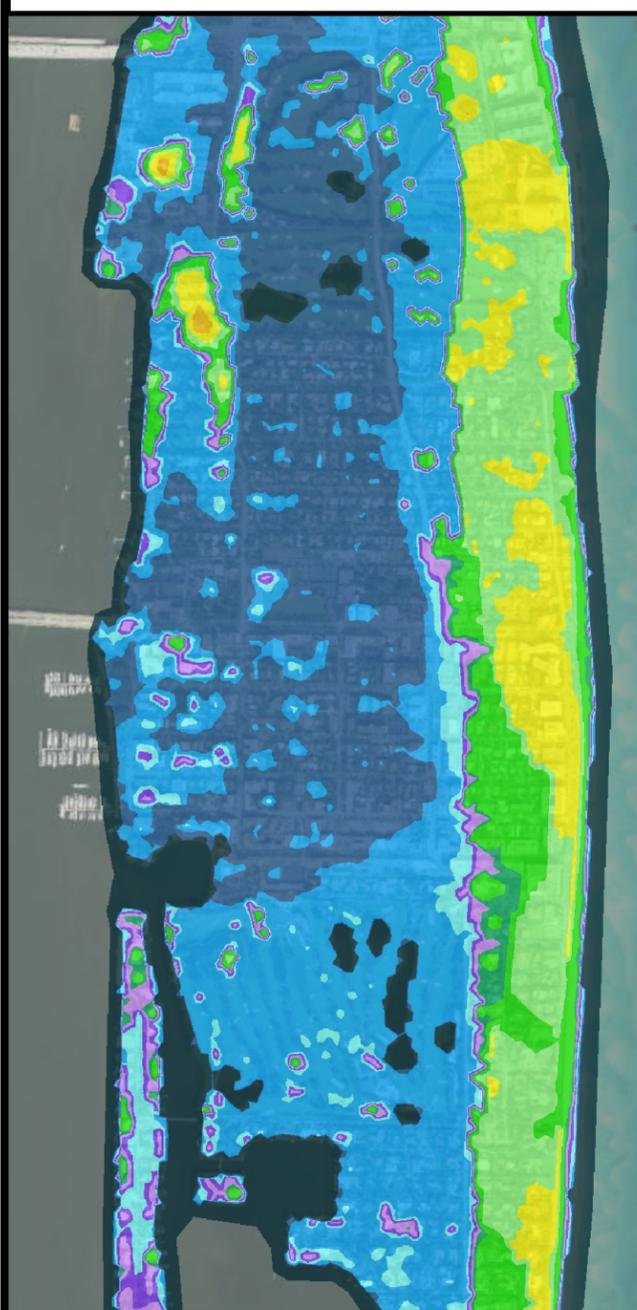
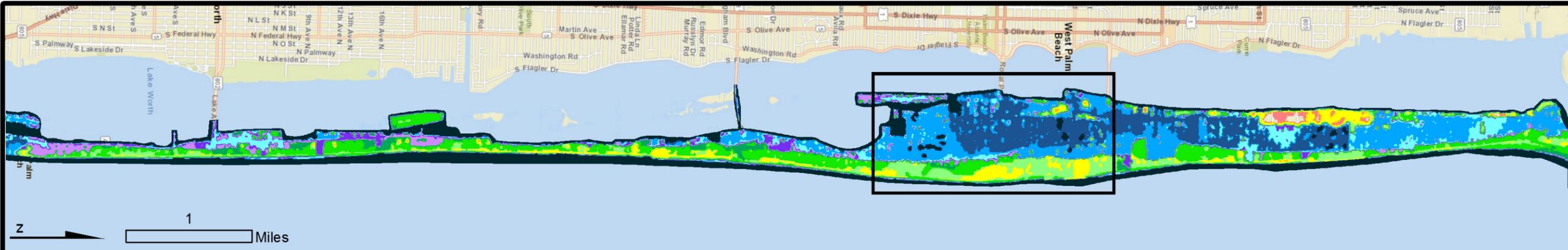
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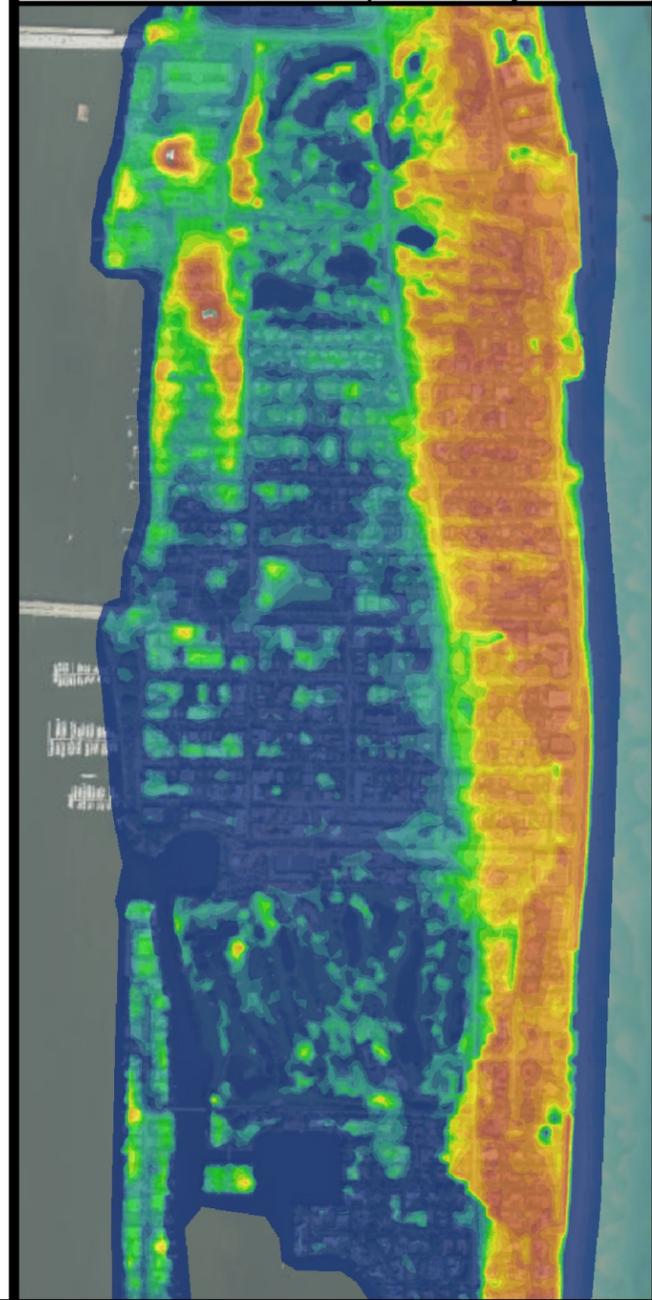
WOODS HOLE GROUP
A CLS COMPANY

SEAL OF THE TOWN OF PALM BEACH FLORIDA
APRIL 17, 1911
INCORPORATED

Figure 4-3B



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



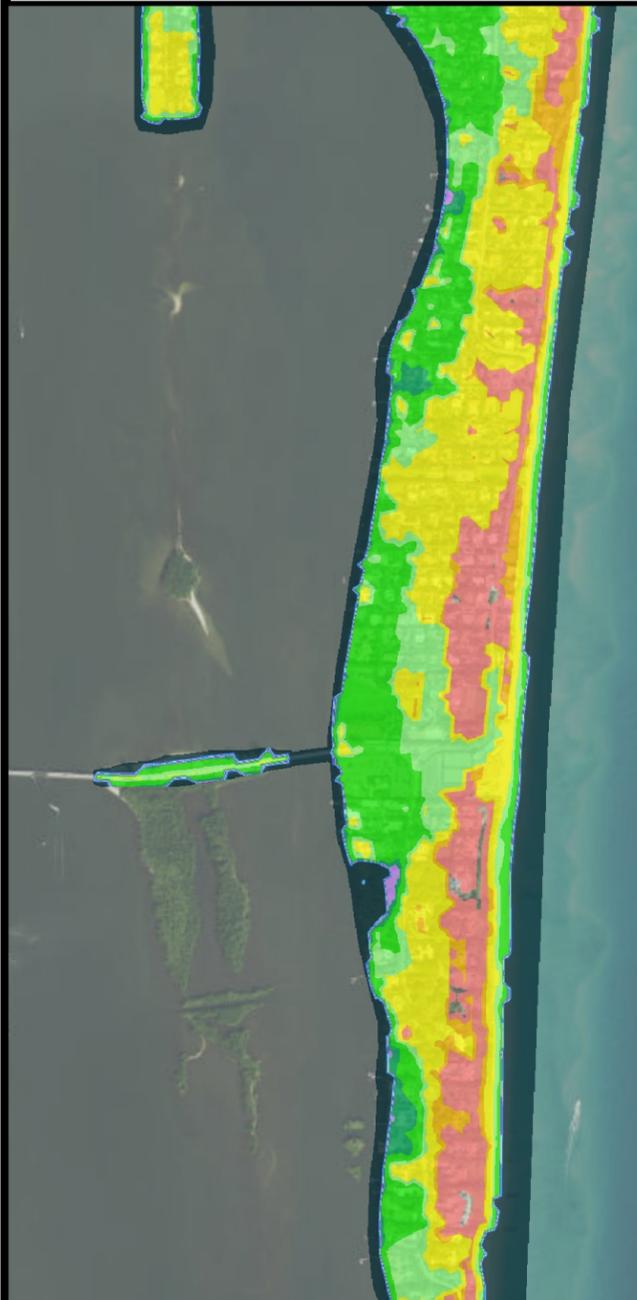
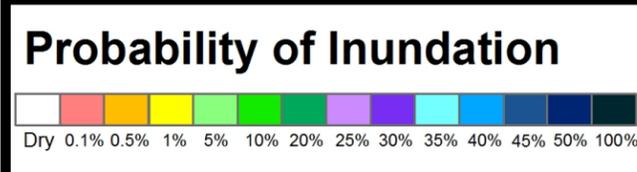
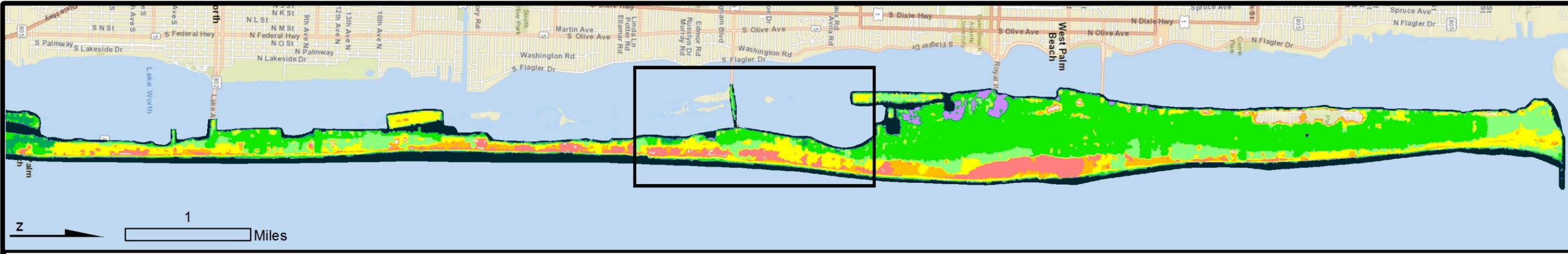
Depth associated with a 25% inundation probability



Future Coastal Vulnerability Town of Palm Beach



Figure 4-4A



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability



1 Miles

0.5

0.25

0

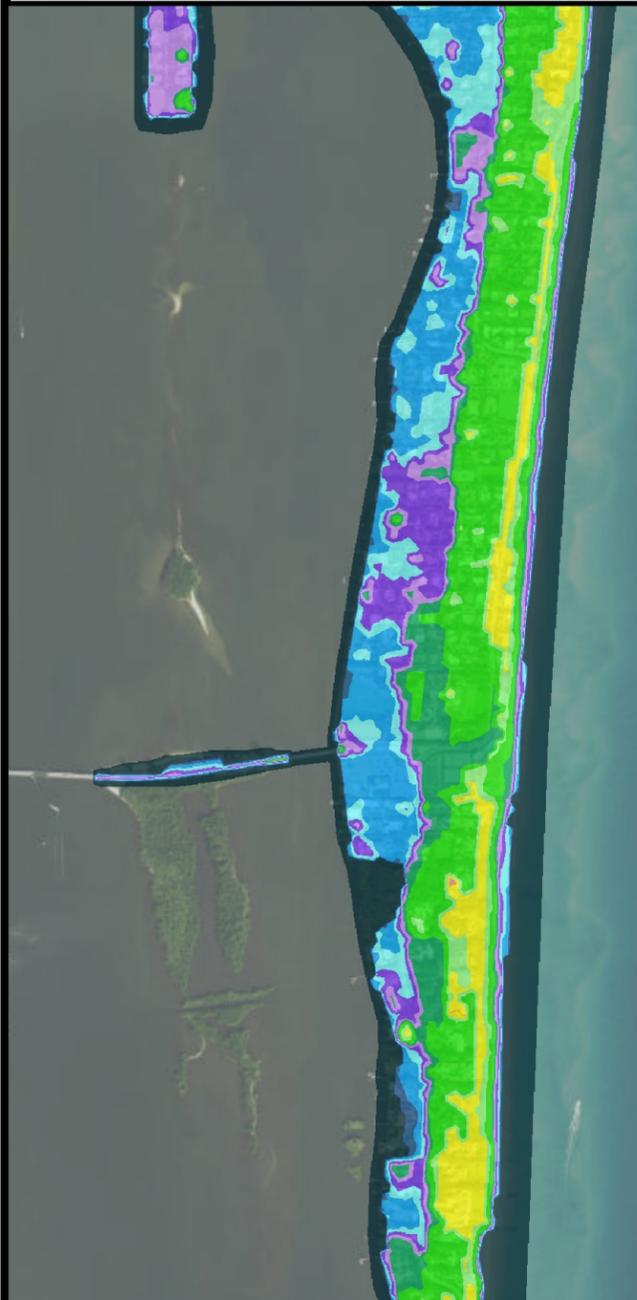
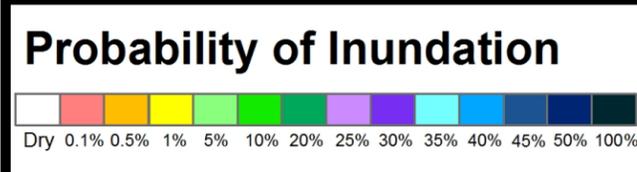
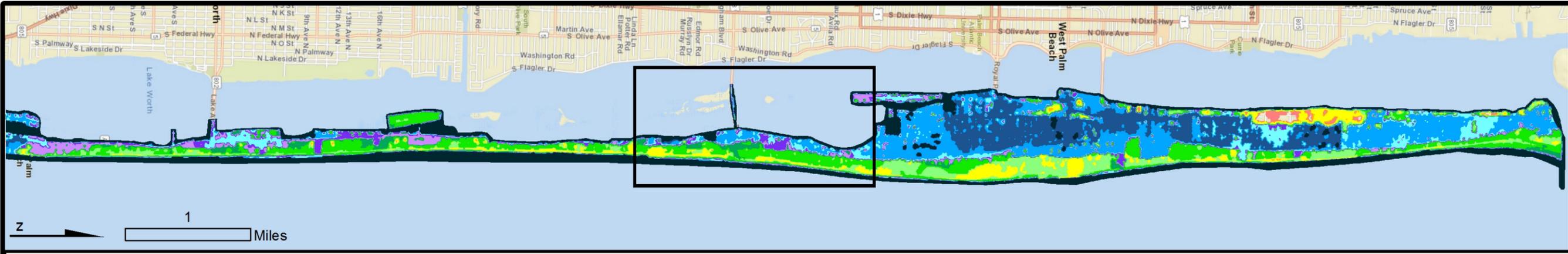
**Present Day Coastal Vulnerability
Town of Palm Beach**



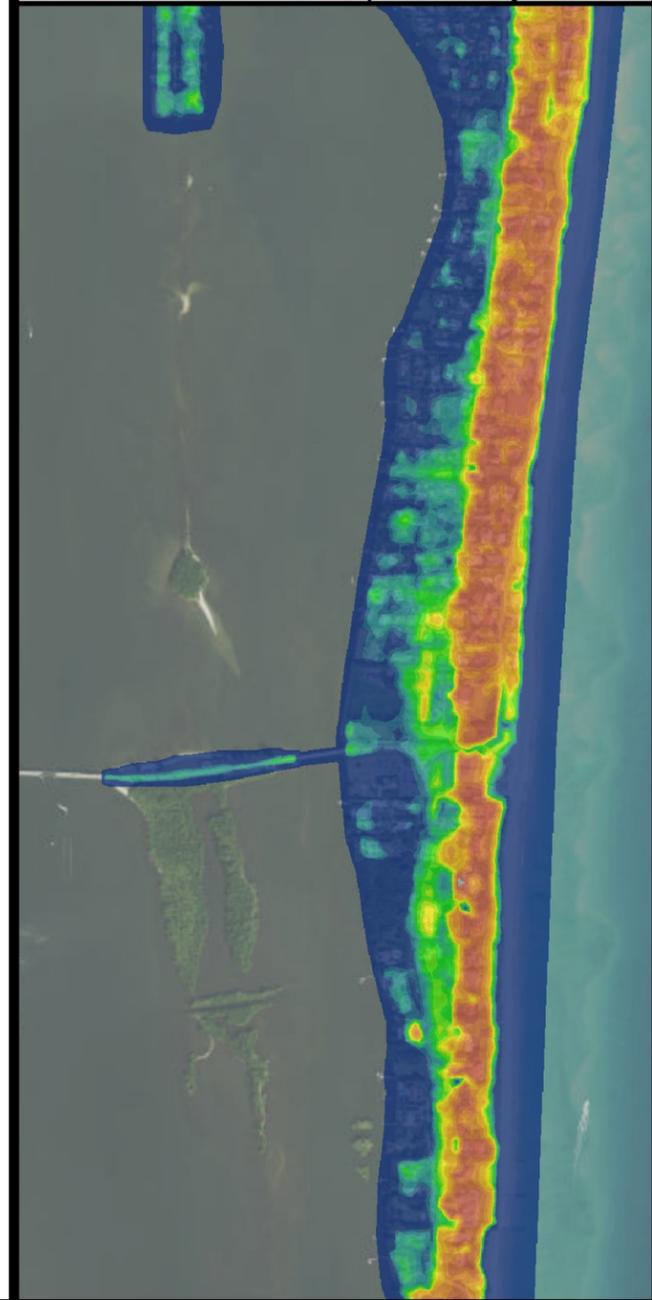
WOODS HOLE GROUP
A CLS COMPANY

SEAL OF THE TOWN OF PALM BEACH FLORIDA
INCORPORATED APRIL 17, 1911

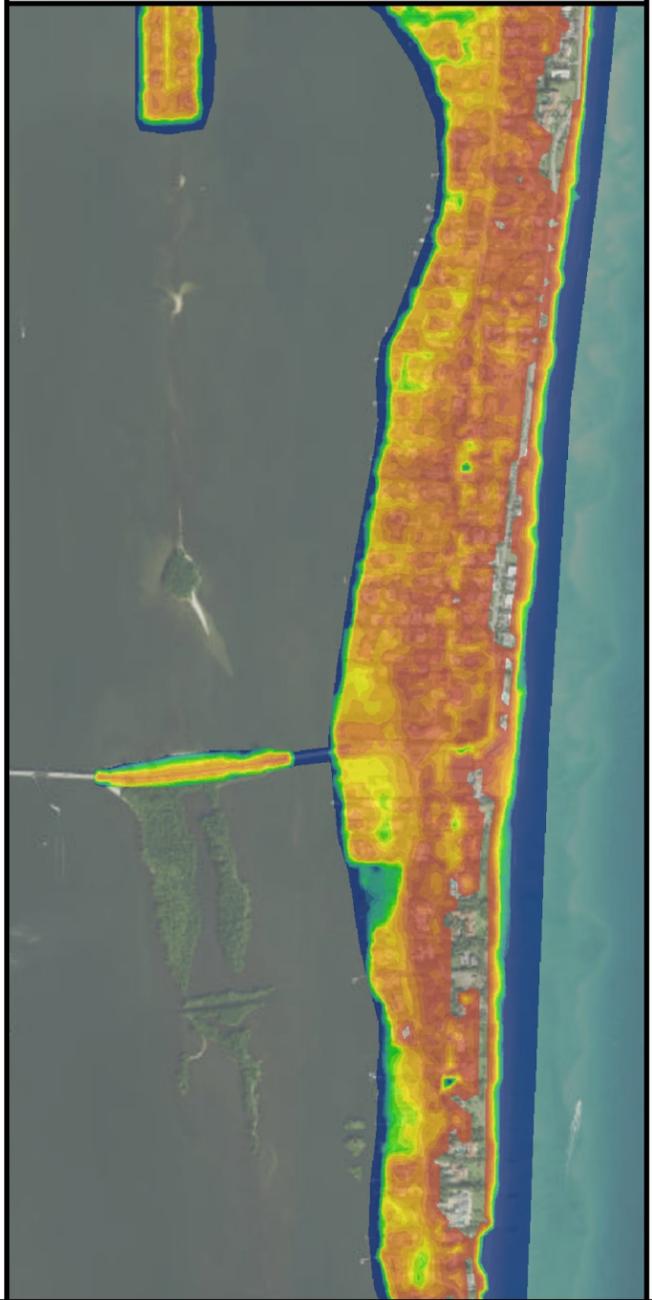
Figure 4-4B



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



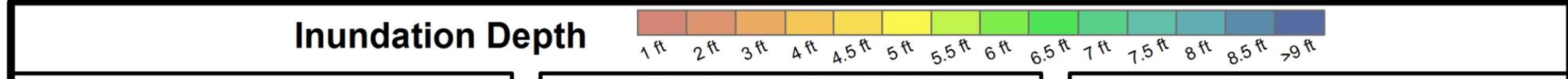
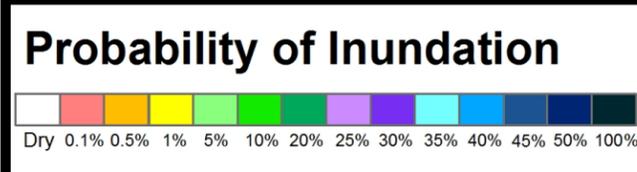
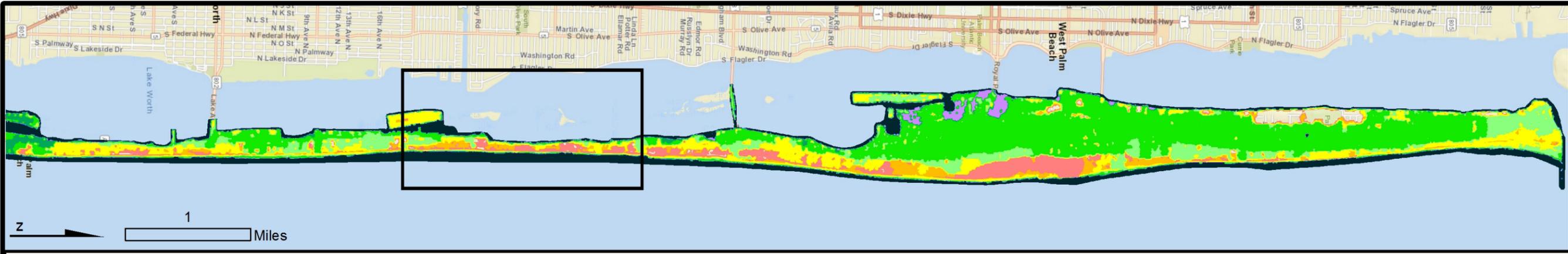
Depth associated with a 25% inundation probability



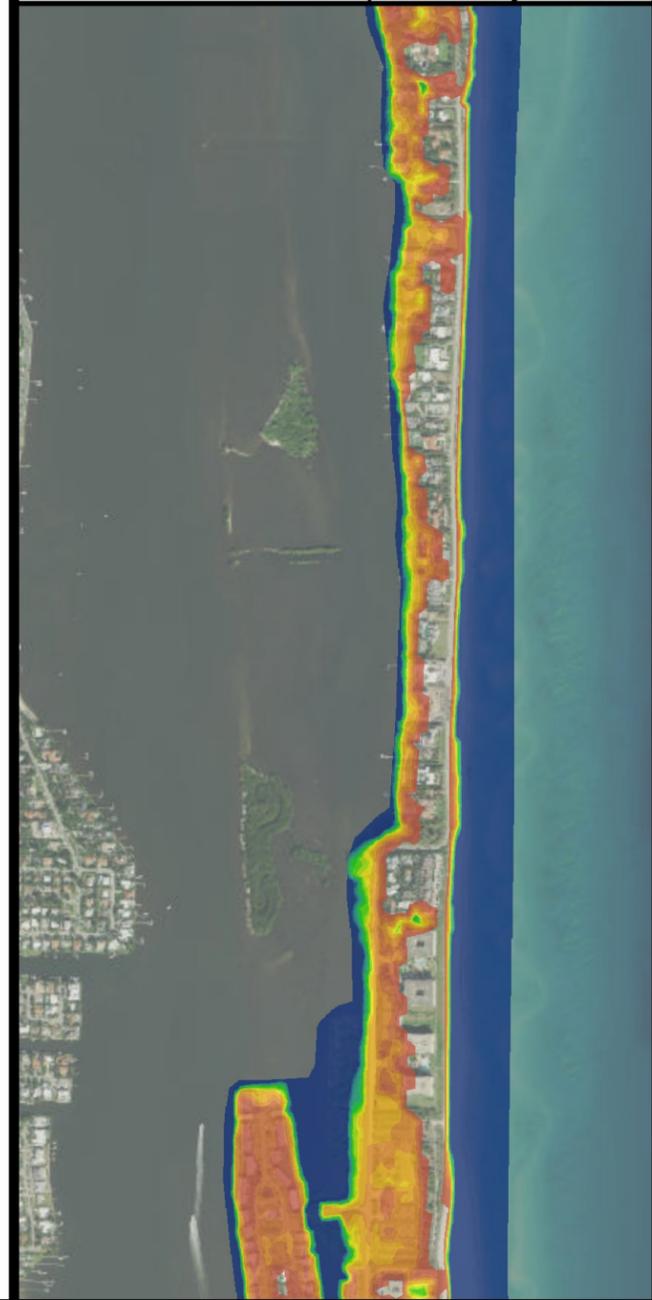
Future Coastal Vulnerability Town of Palm Beach



Figure 4-5A



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability



Present Day Coastal Vulnerability Town of Palm Beach



1 Miles

0.5

0.25

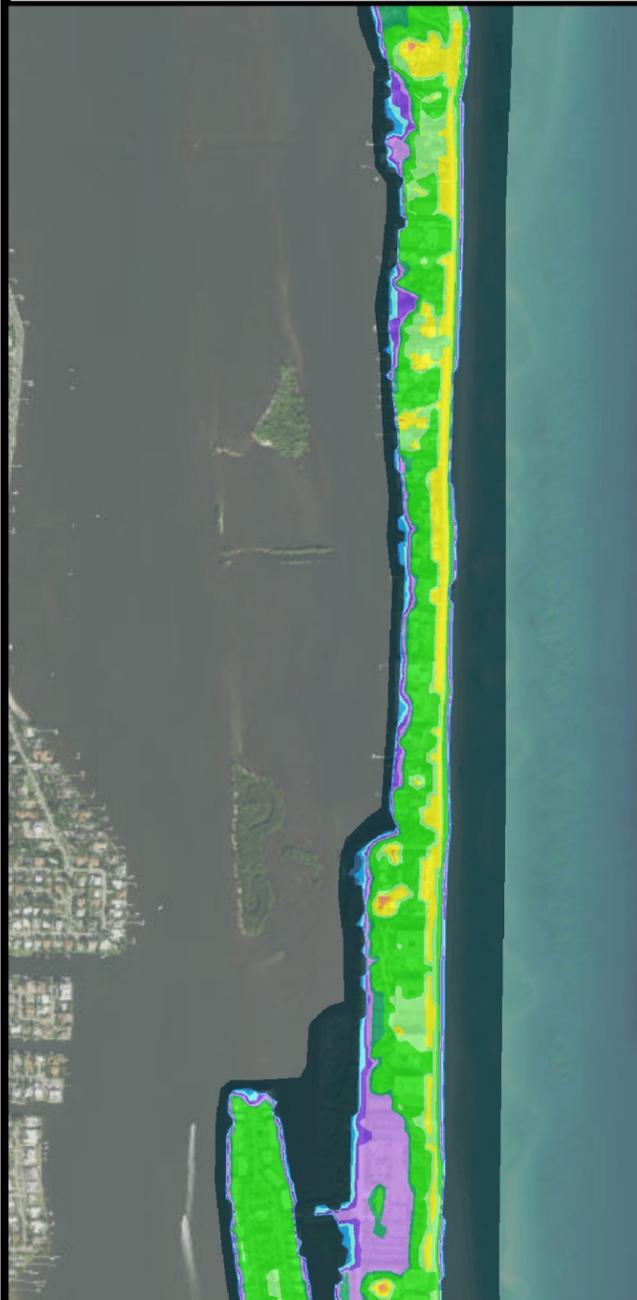
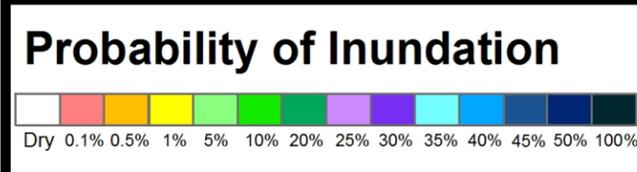
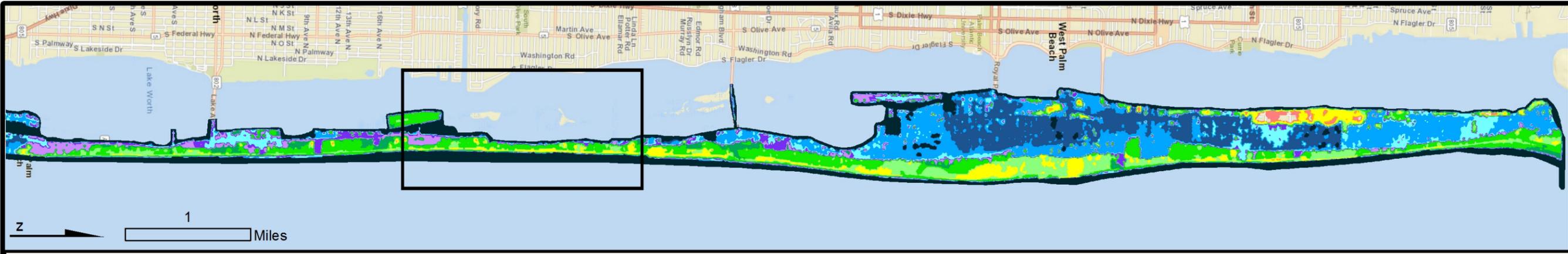
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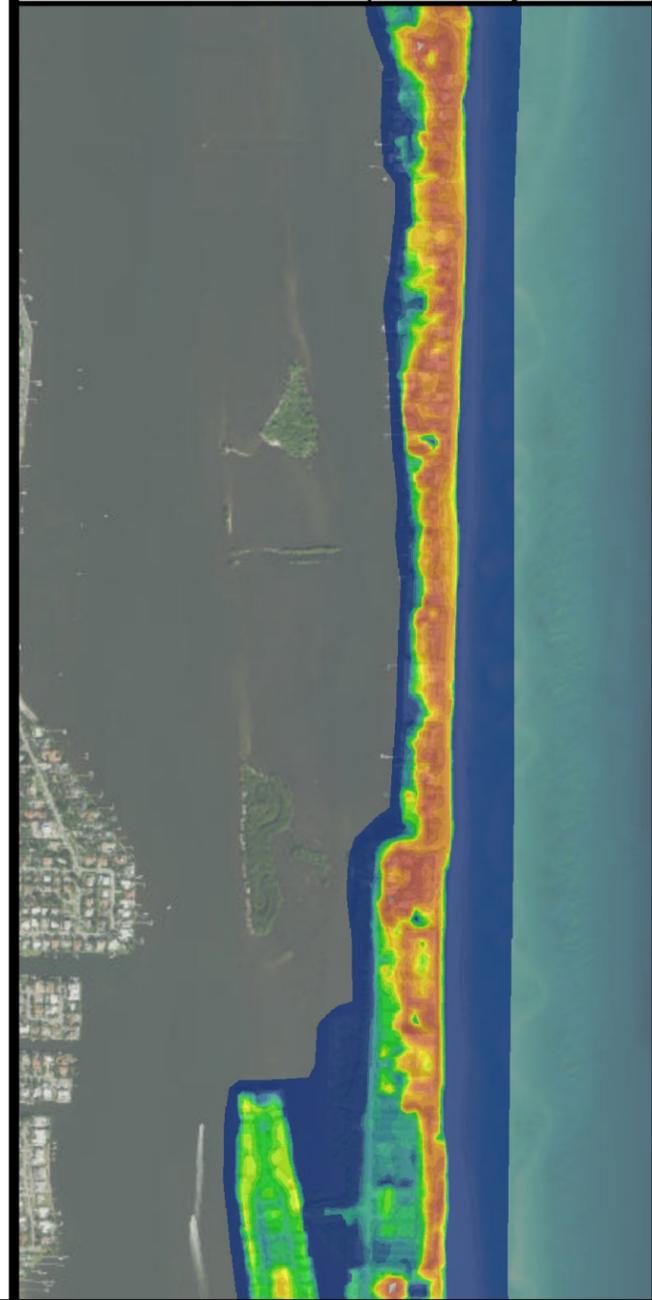
WOODS HOLE GROUP
A CLS COMPANY

SEAL OF THE TOWN OF PALM BEACH FLORIDA
INCORPORATED APRIL 17, 1917

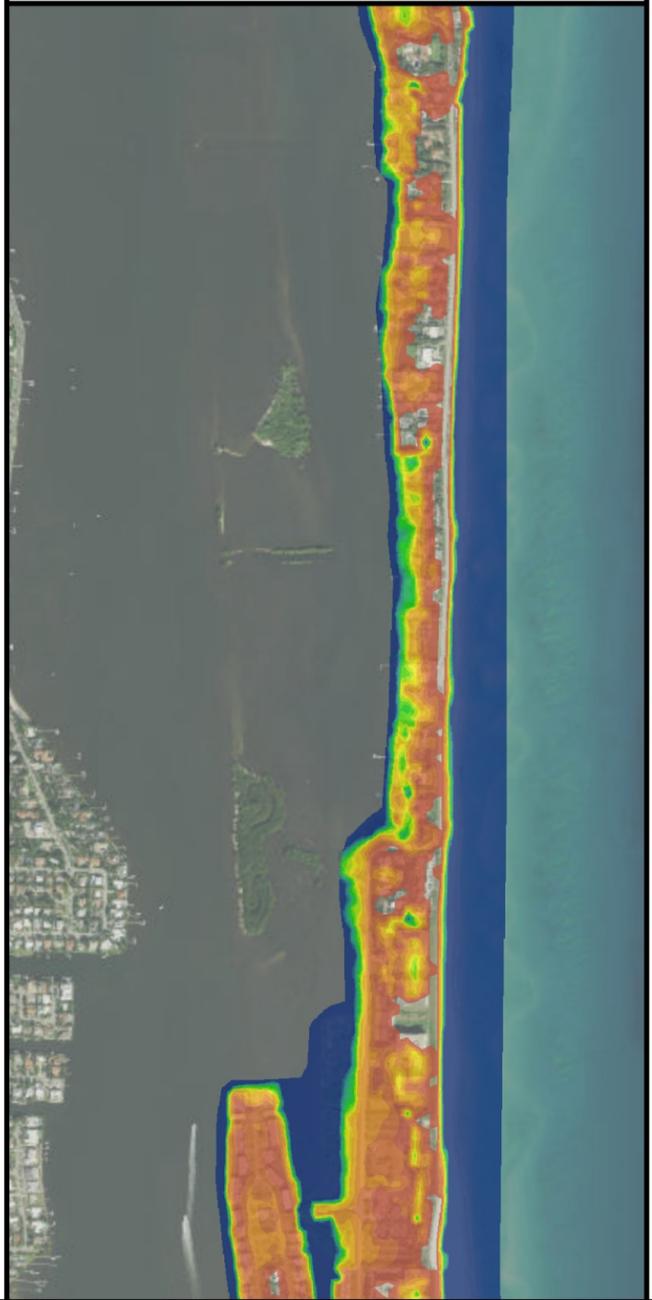
Figure 4-5B



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability

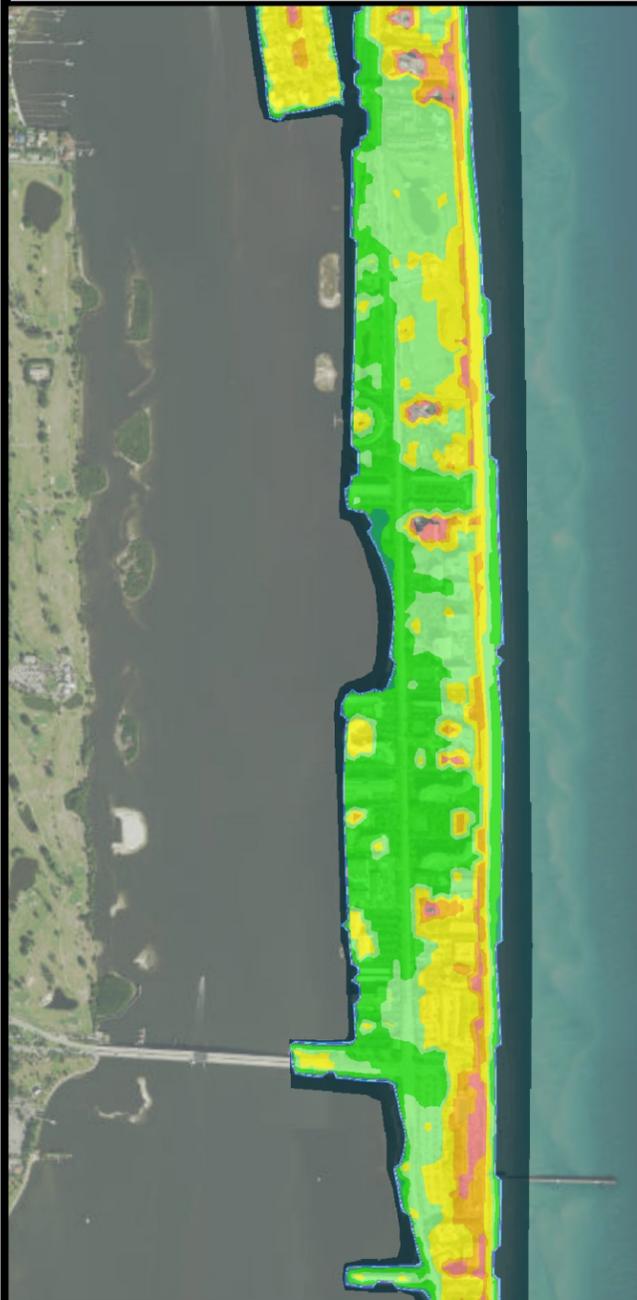
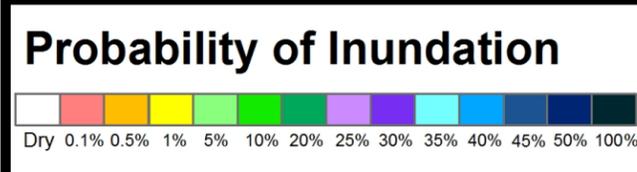
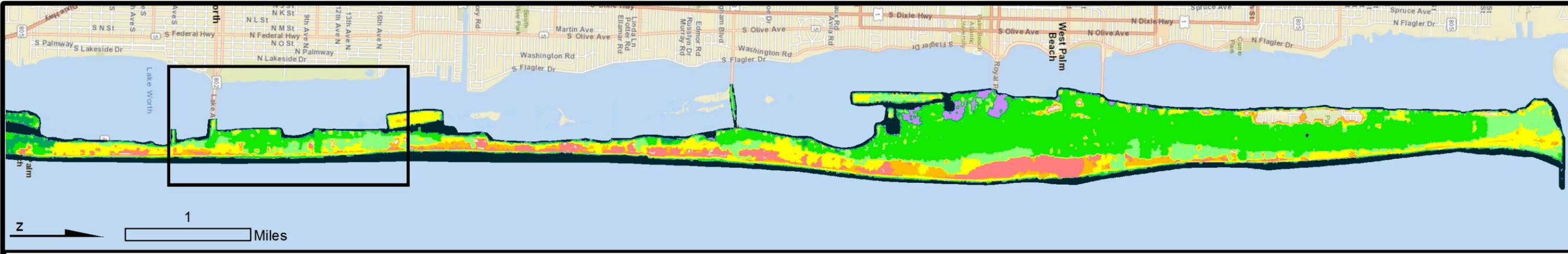


**Future Coastal Vulnerability
Town of Palm Beach**

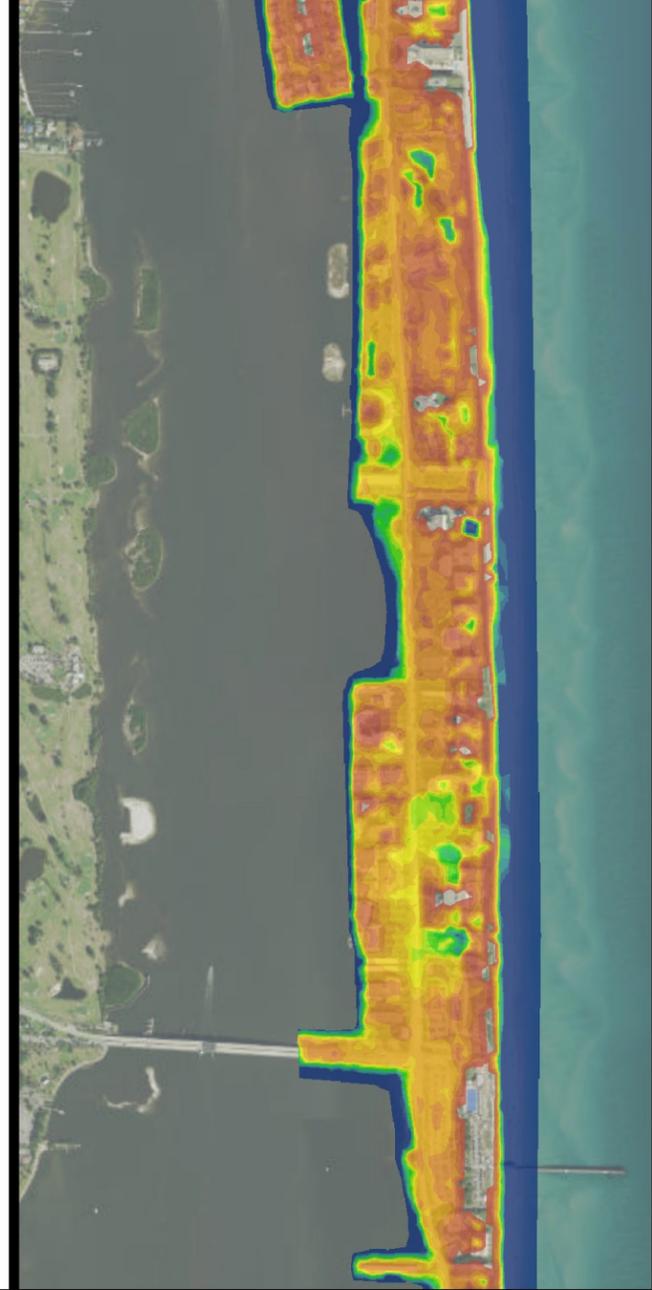


WOODS HOLE GROUP
A CLS COMPANY

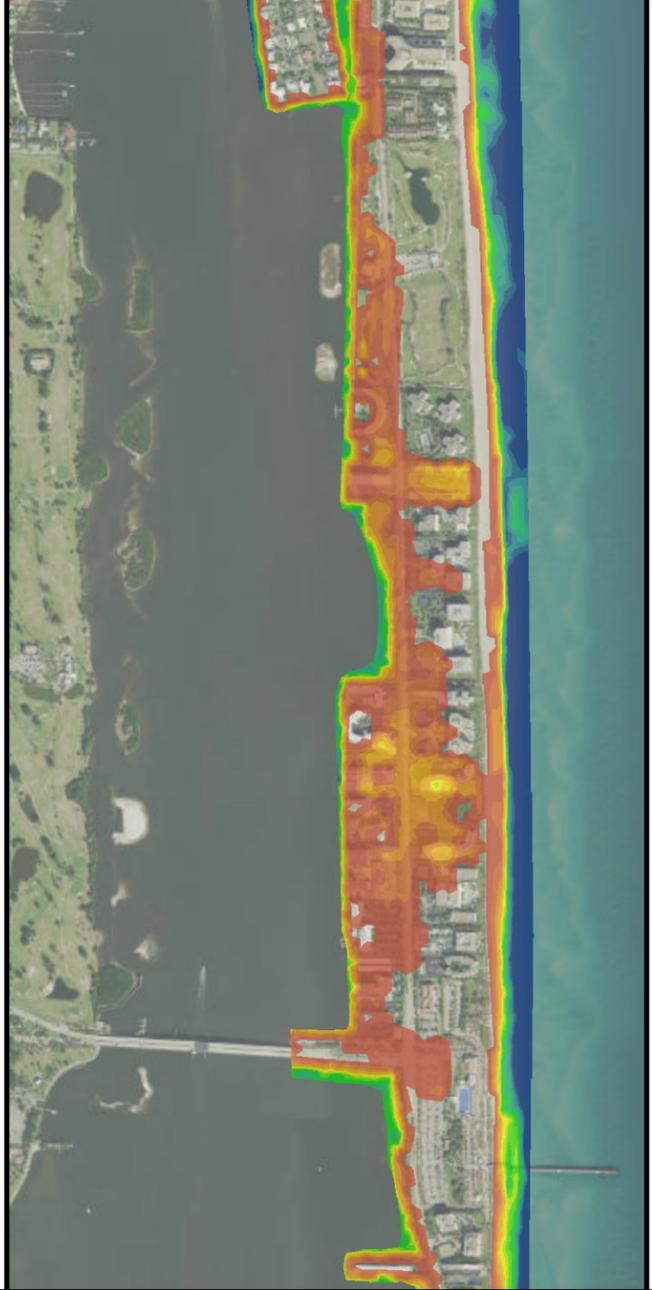
Figure 4-6A



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability



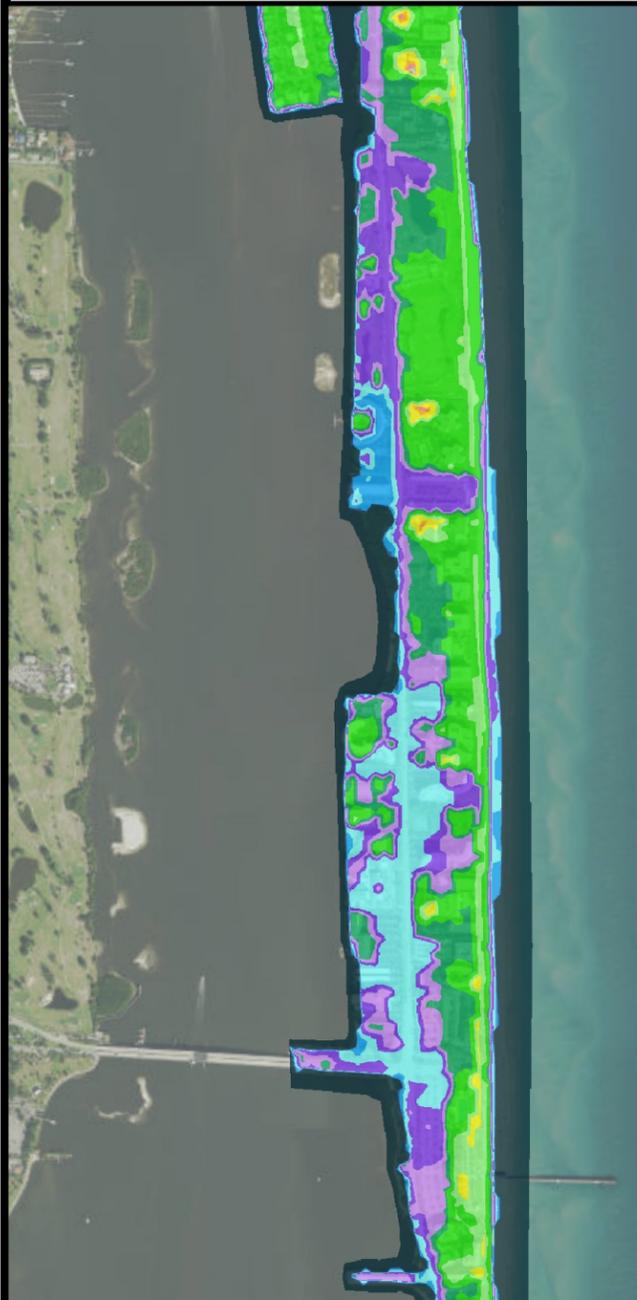
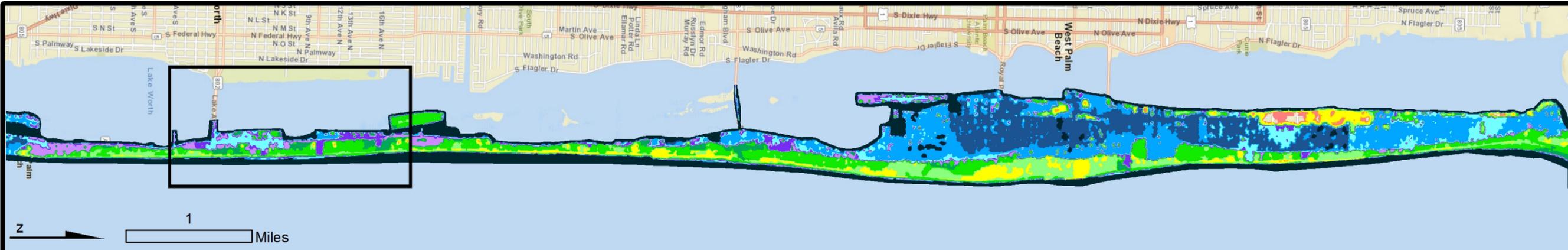
Present Day Coastal Vulnerability
Town of Palm Beach

0 0.25 0.5 1 Miles

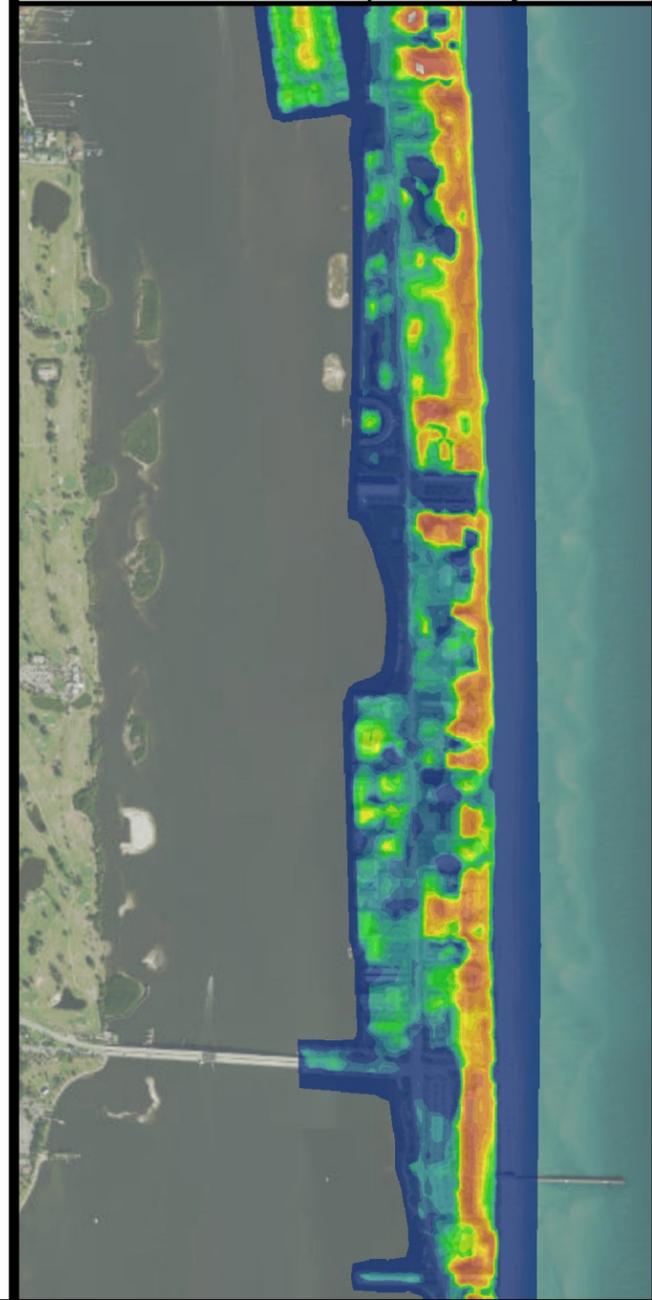


WOODS HOLE GROUP
A CLS COMPANY

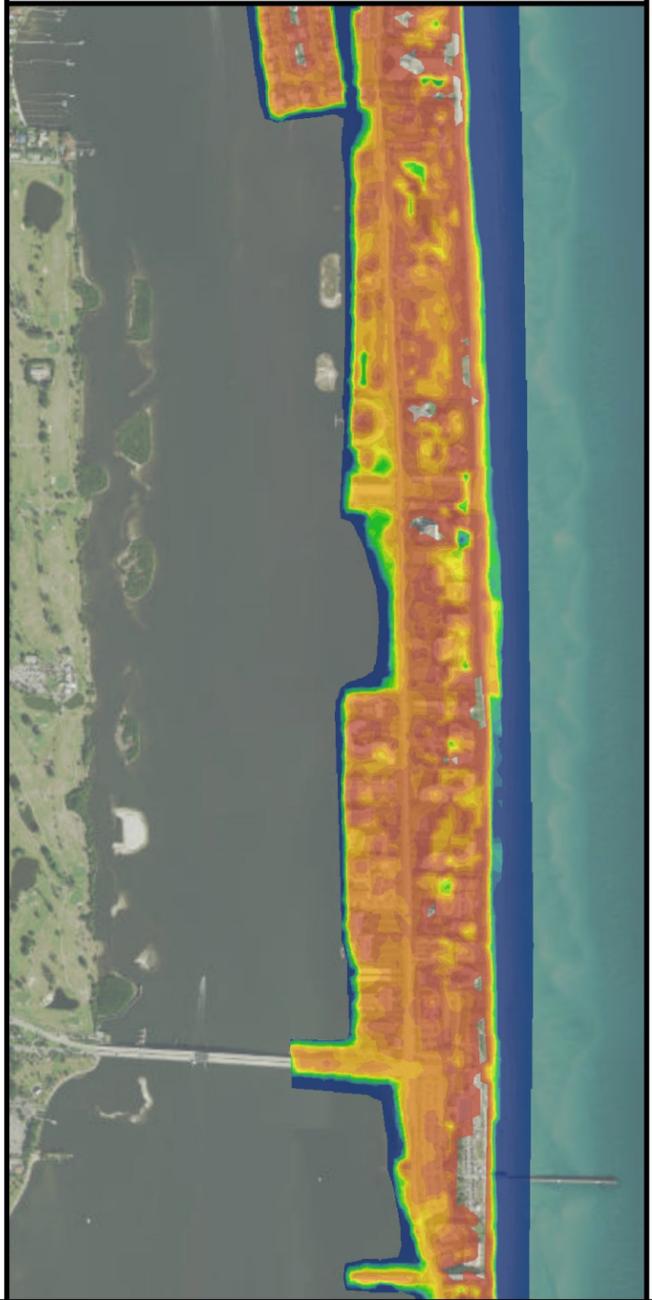
Figure 4-6B



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



Depth associated with a 25% inundation probability



**Future Coastal Vulnerability
Town of Palm Beach**

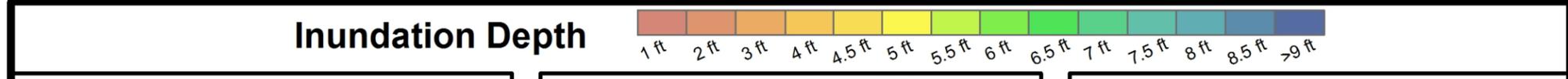
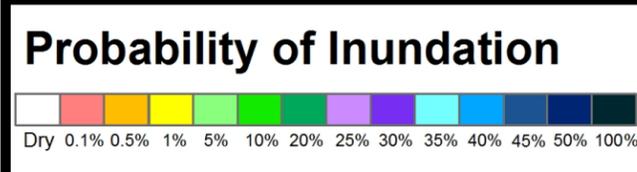
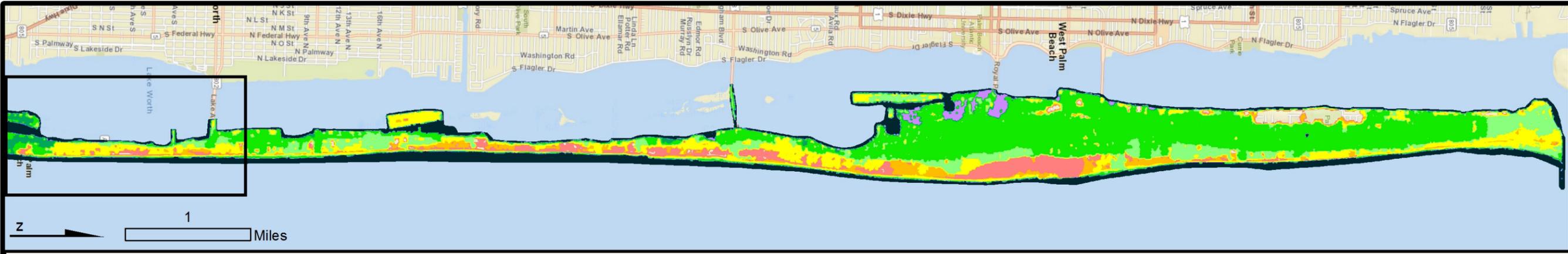


WOODS HOLE GROUP
A CLS COMPANY

SEAL OF THE TOWN OF PALM BEACH FLORIDA
INCORPORATED APRIL 17, 1911



Figure 4-7A



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



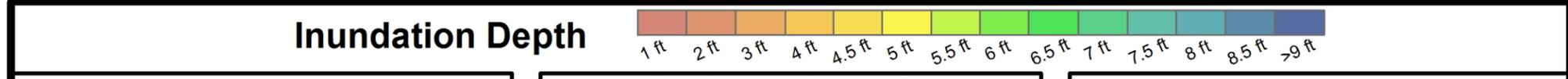
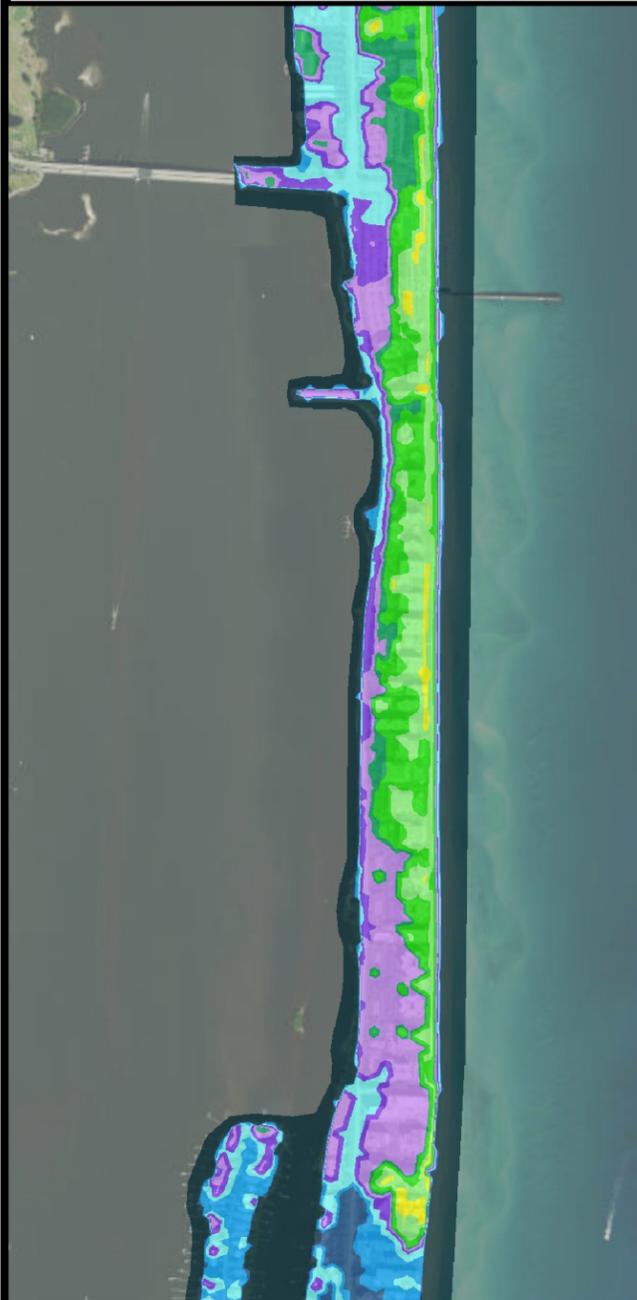
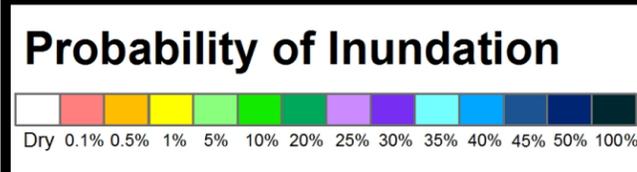
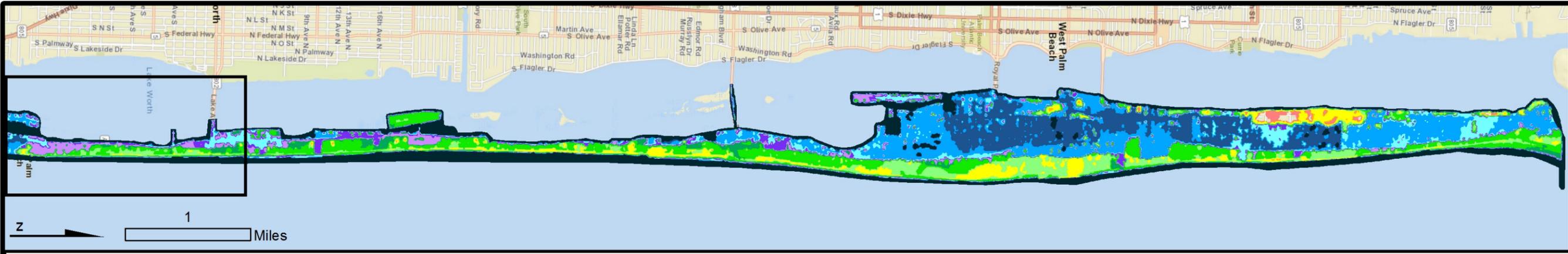
Depth associated with a 25% inundation probability



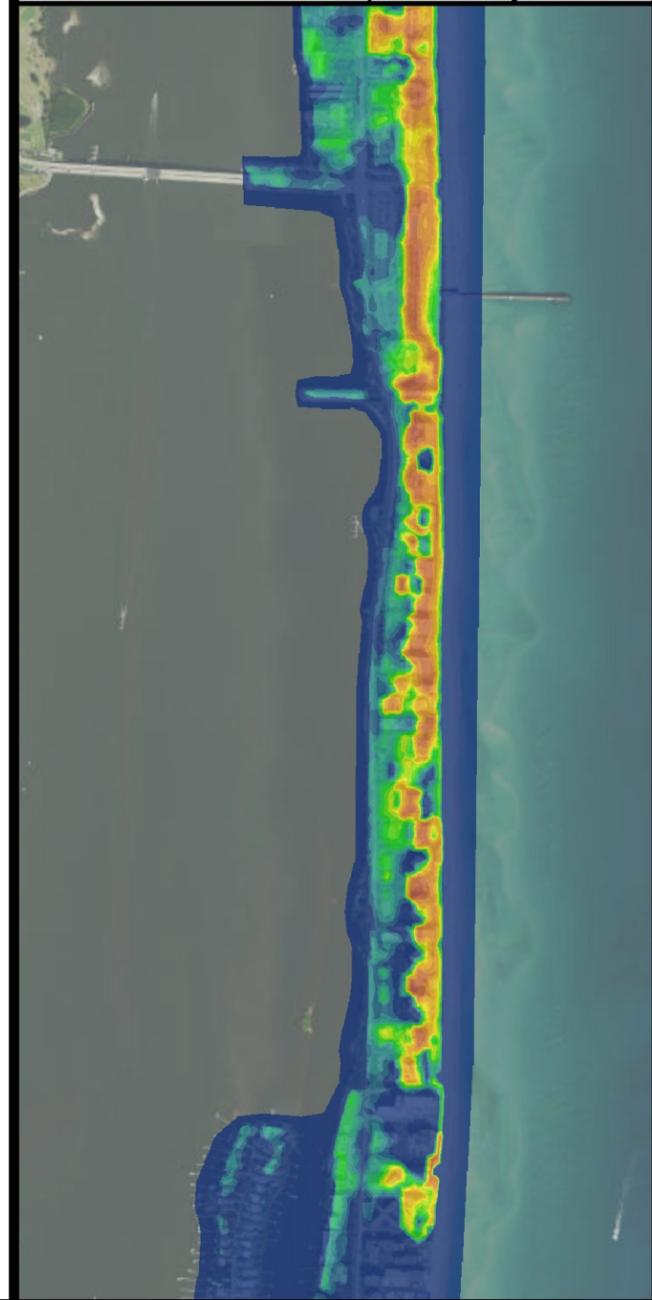
Present Day Coastal Vulnerability Town of Palm Beach



Figure 4-7B



Depth associated with a 1% inundation probability



Depth associated with a 10% inundation probability



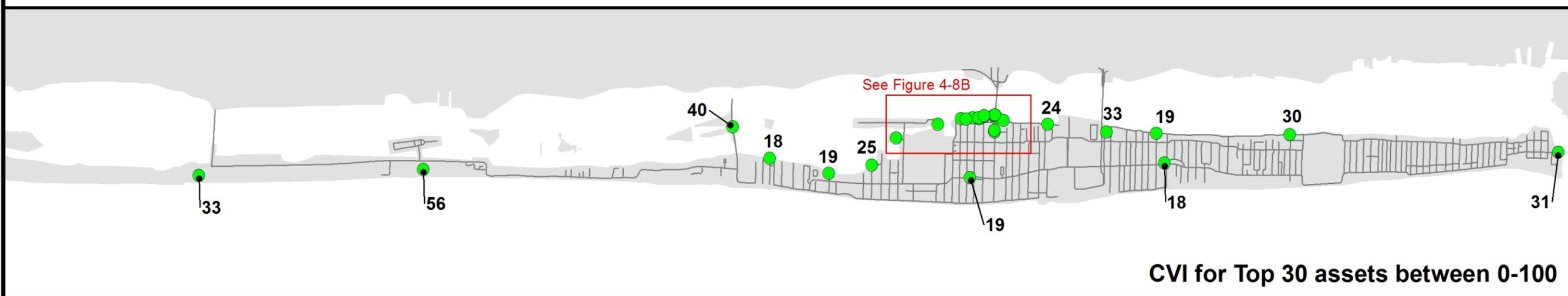
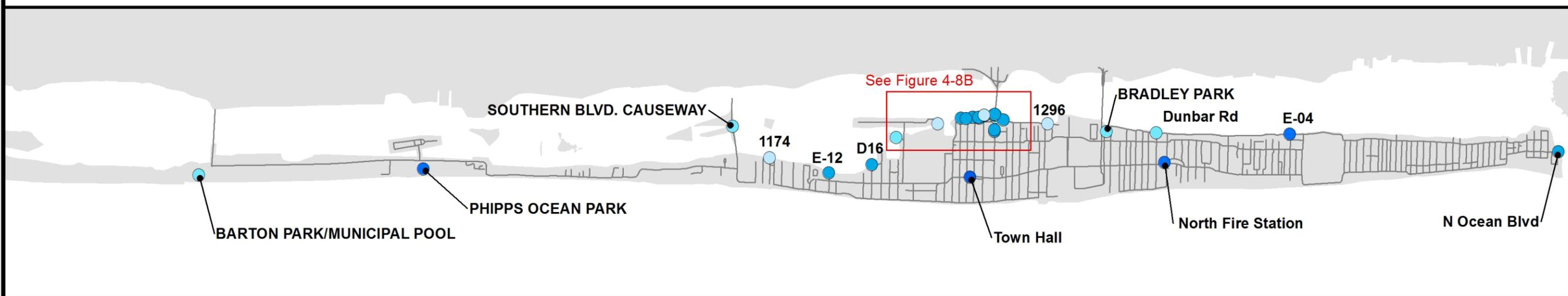
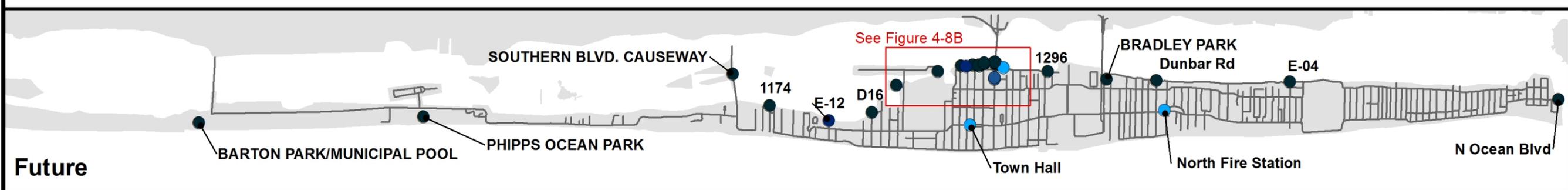
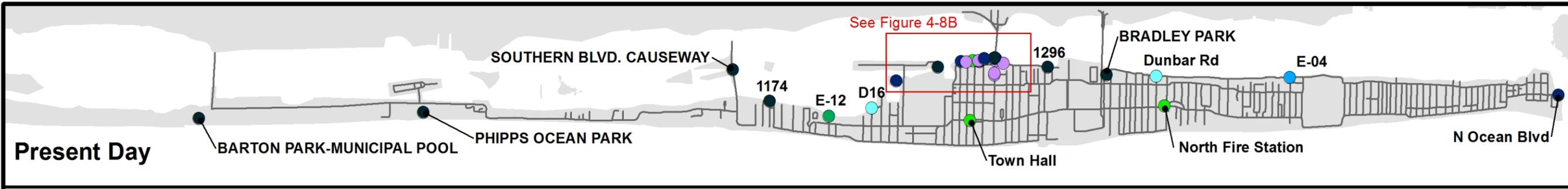
Depth associated with a 25% inundation probability



Future Coastal Vulnerability Town of Palm Beach



Figure 4-8A



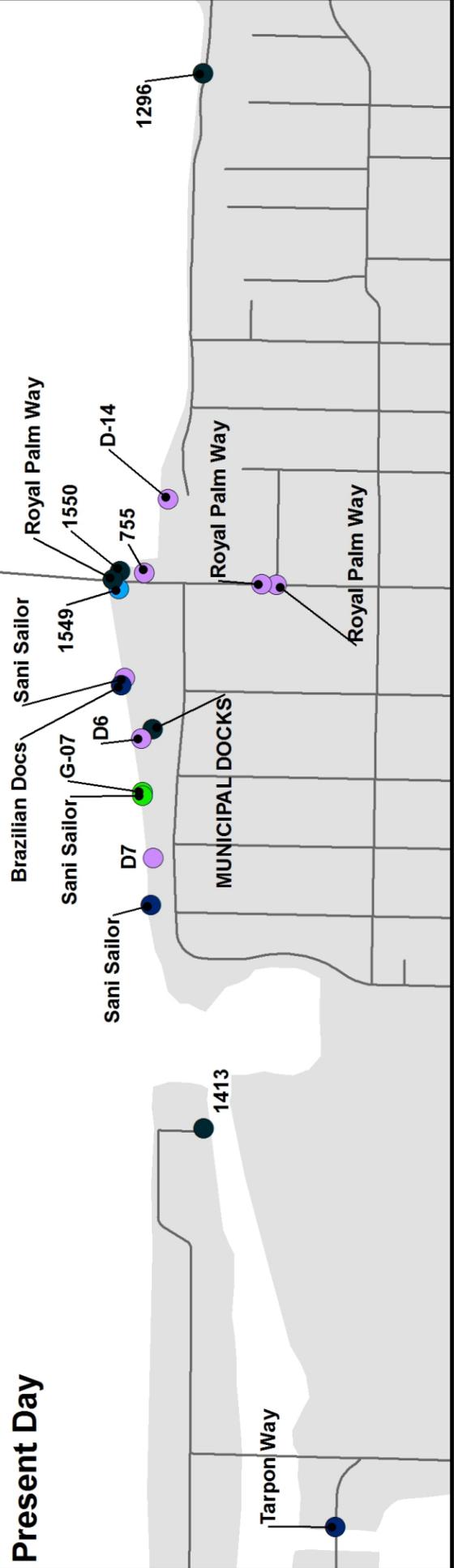
**Top 30 Vulnerable Assets
Town of Palm Beach**



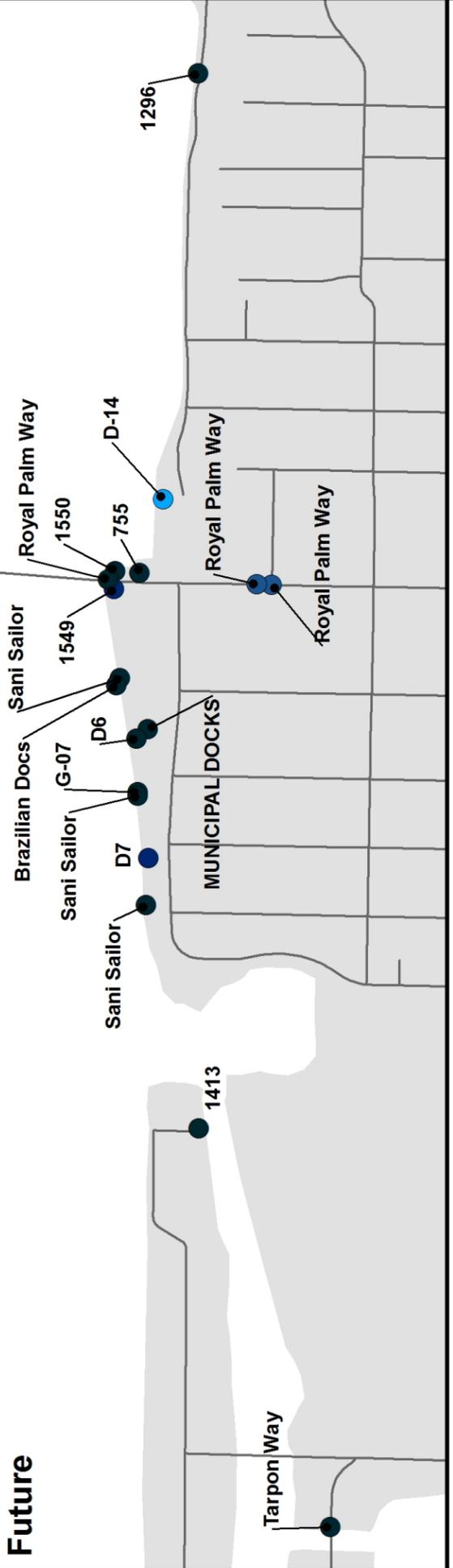
WOODS HOLE GROUP
A CLS COMPANY

SEAL OF THE TOWN OF PALM BEACH FLORIDA
APRIL 17, 1917

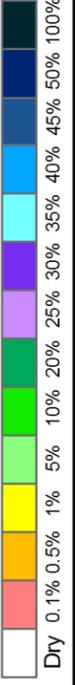
Present Day



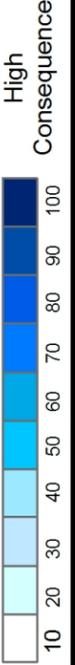
Future



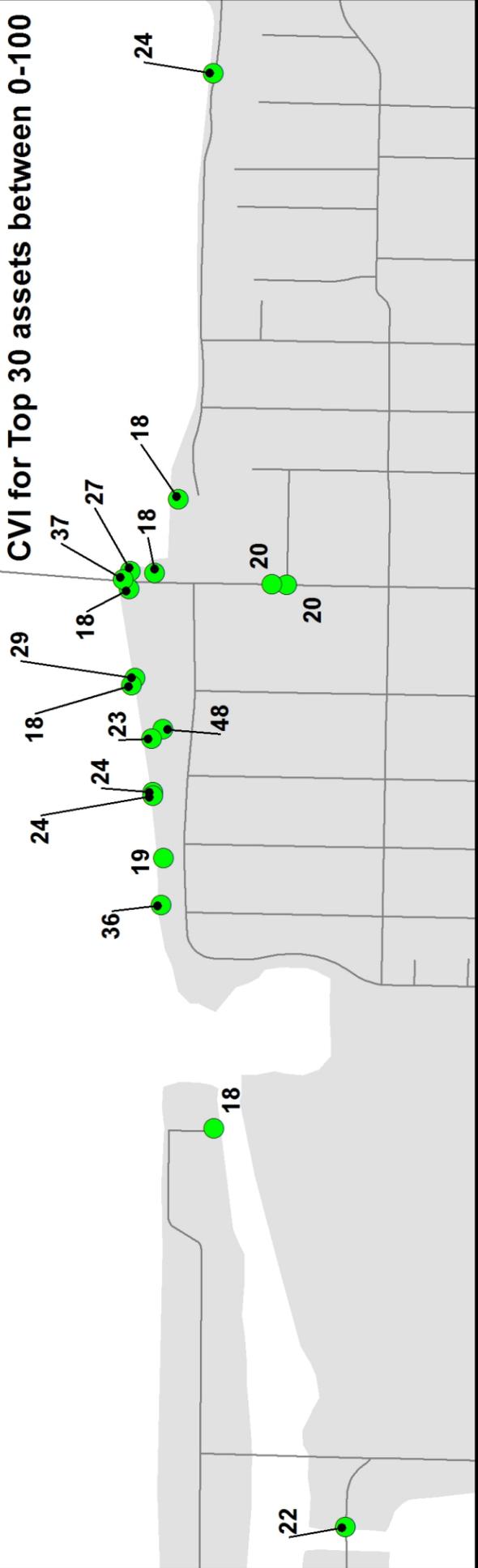
Probability of Inundation



Consequence



CVI for Top 30 assets between 0-100



Coastal Vulnerability Index ● Individual Asset in Top 30



Top 30 Vulnerable Assets-Midtown Town of Palm Beach

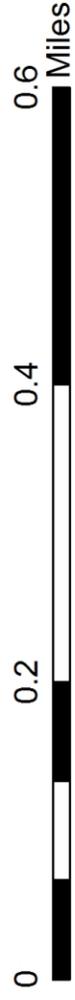
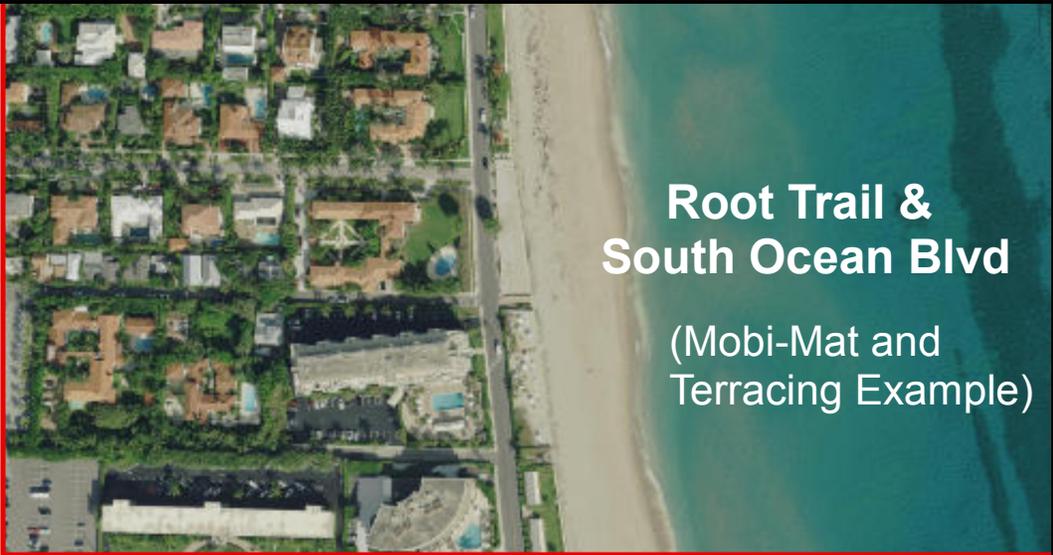
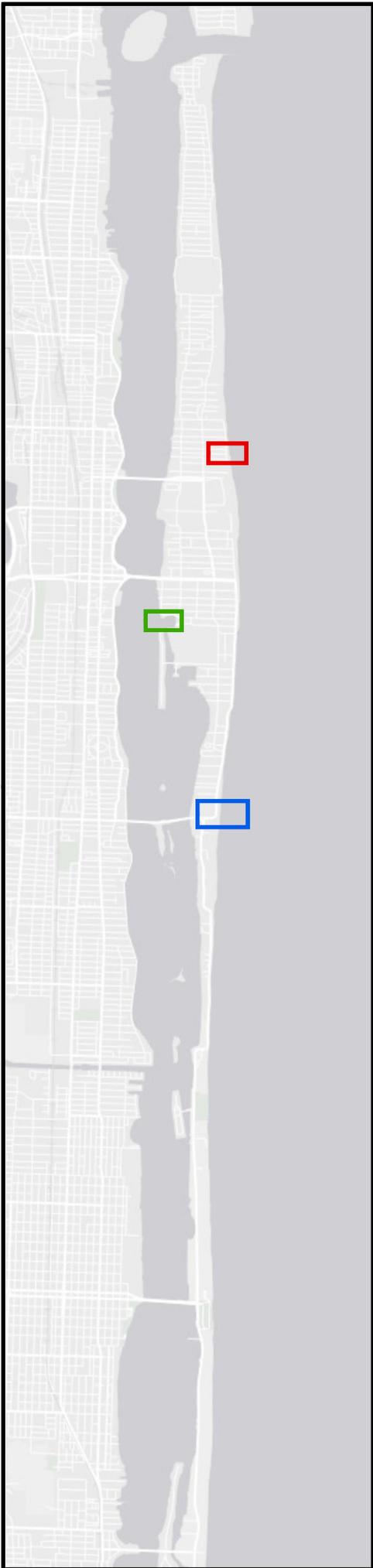


Figure 4-8B



Root Trail & South Ocean Blvd

(Mobi-Mat and Terracing Example)



Everglades Golf Course Area

(Regional Adaptation Example)



South Ocean Blvd at the Bath & Tennis Club

(Deployable Flood Barrier Example)

Town of Palm Beach Adaptation Locus Map



Figure 5-1