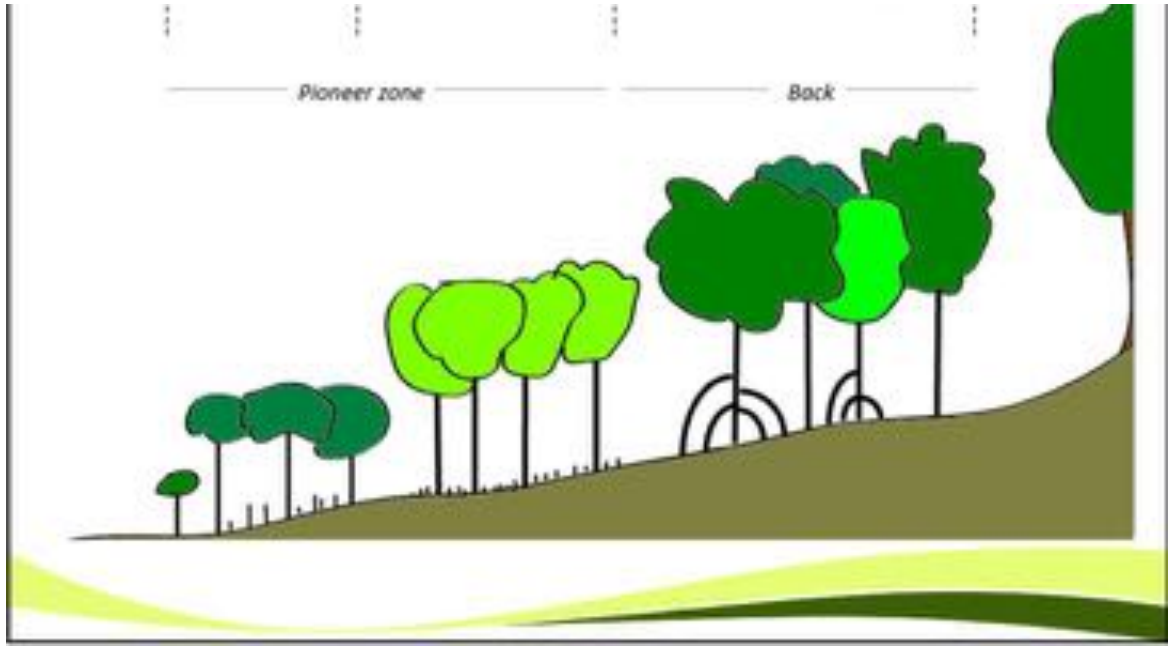
MODELLING SEA-LEVEL RISE, SUBSIDENCE AND ACCRETION RATES IN MANGROVE ECOSYSTEMS



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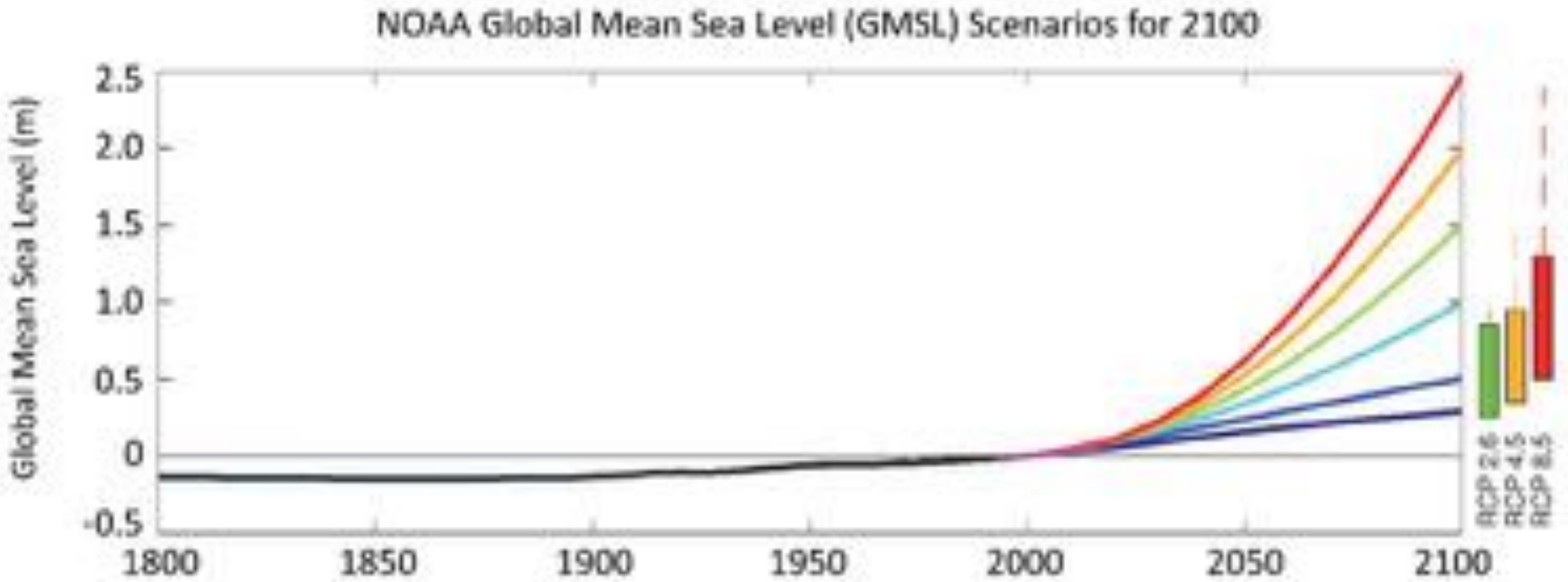
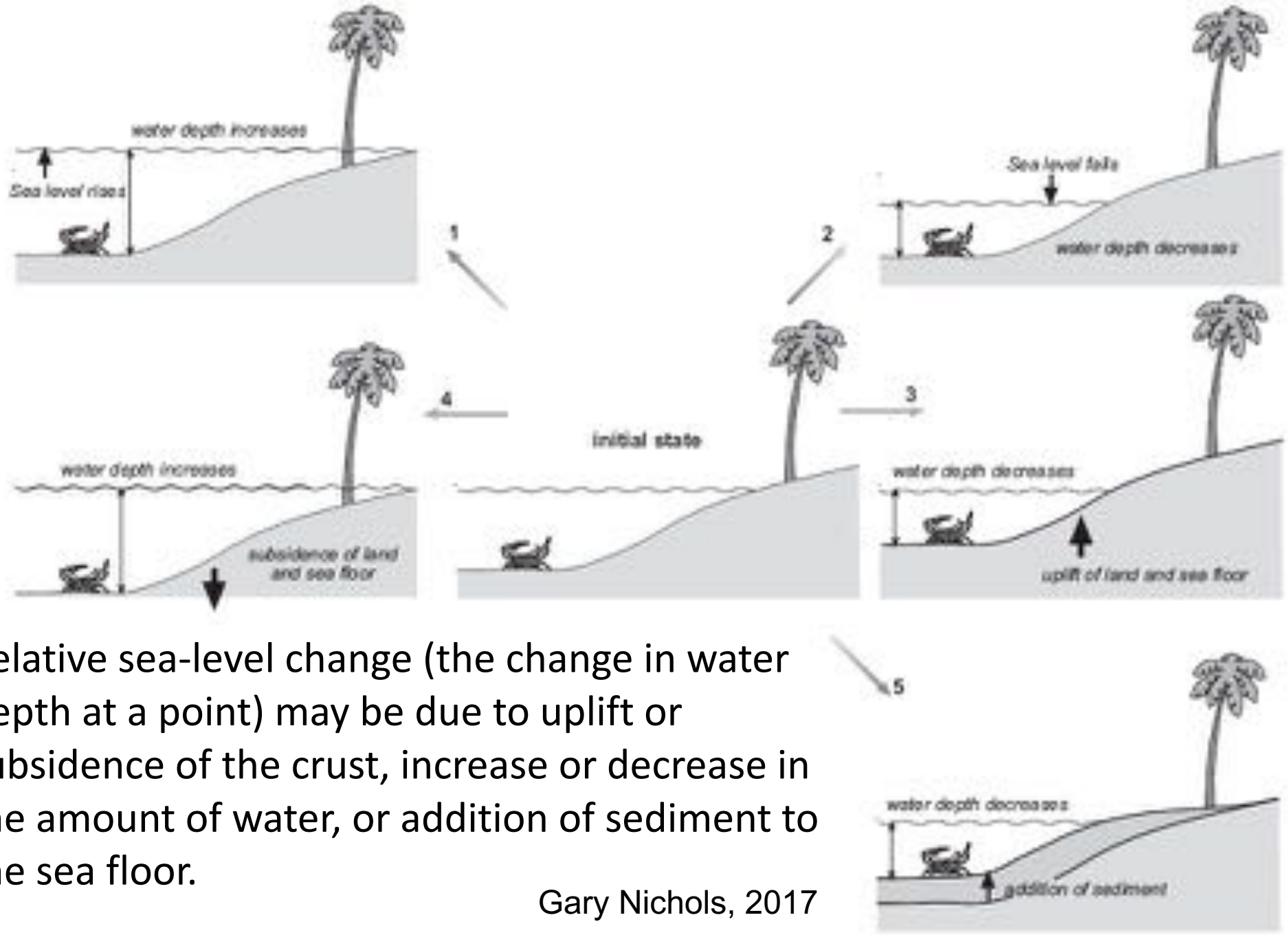
OUTLINE

- Brief Introduction
- Study area: Rookery Bay, Southwestern Florida
- Results
- Conclusion



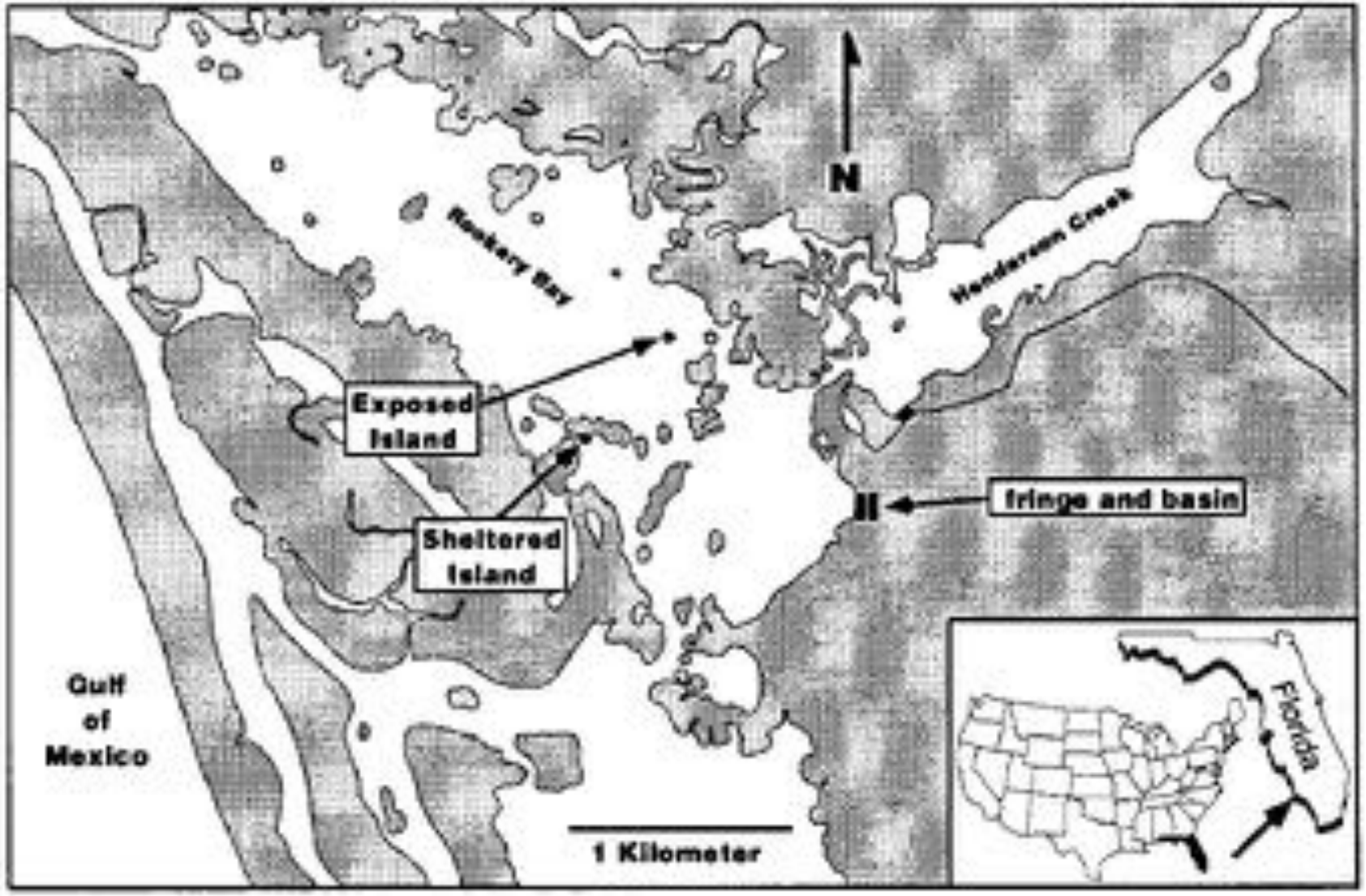
After Sweet et al. 2017
IPCC Projections



Relative sea-level change (the change in water depth at a point) may be due to uplift or subsidence of the crust, increase or decrease in the amount of water, or addition of sediment to the sea floor.

Gary Nichols, 2017

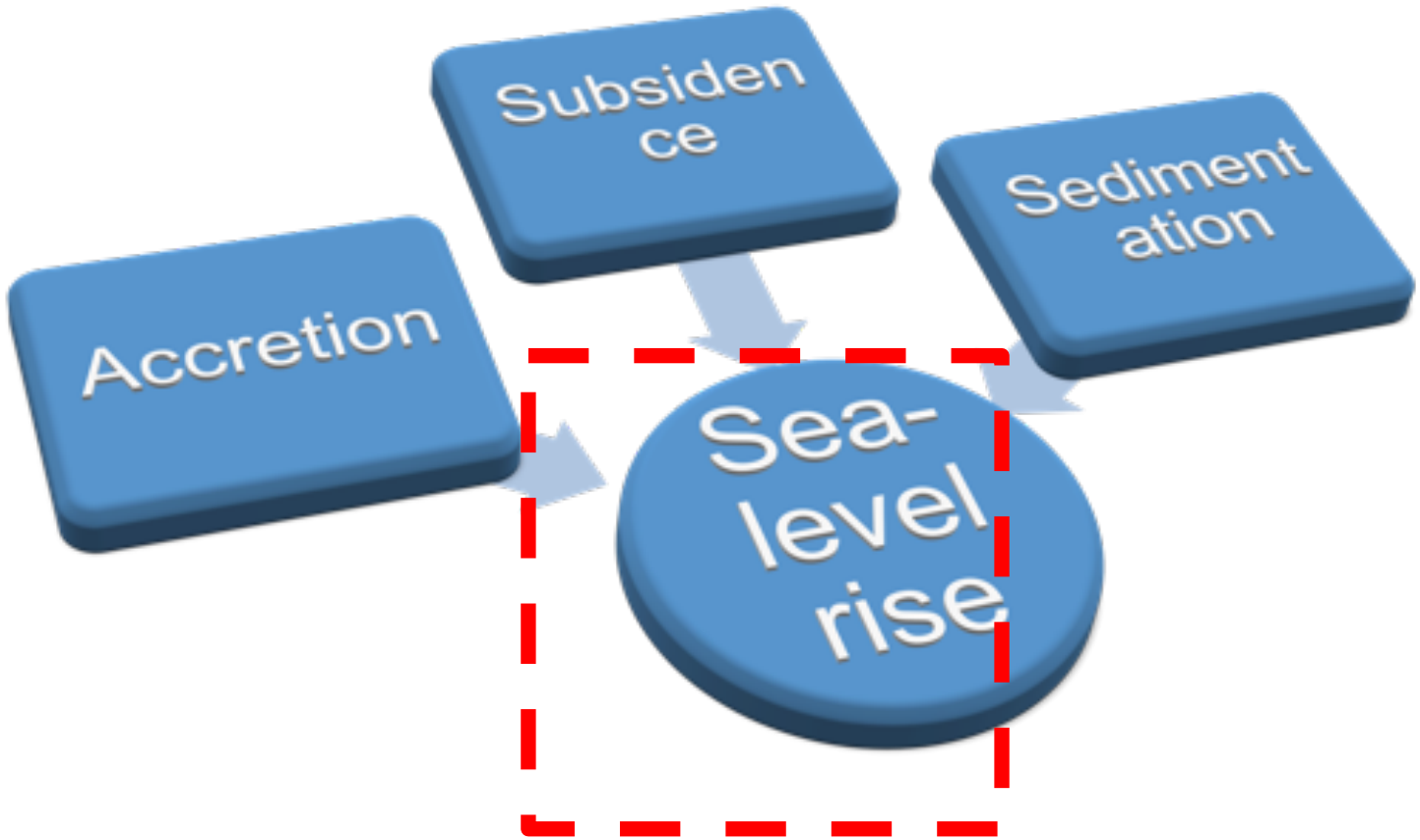
Study Area: Rookery Bay, Florida



Methodology

- Literature Review
- We used Webplot Digitizer to extract our data from “Sweet., et. al 2017.”
- We employed Python software to develop our Model of global sea-level rises in the 2100s.

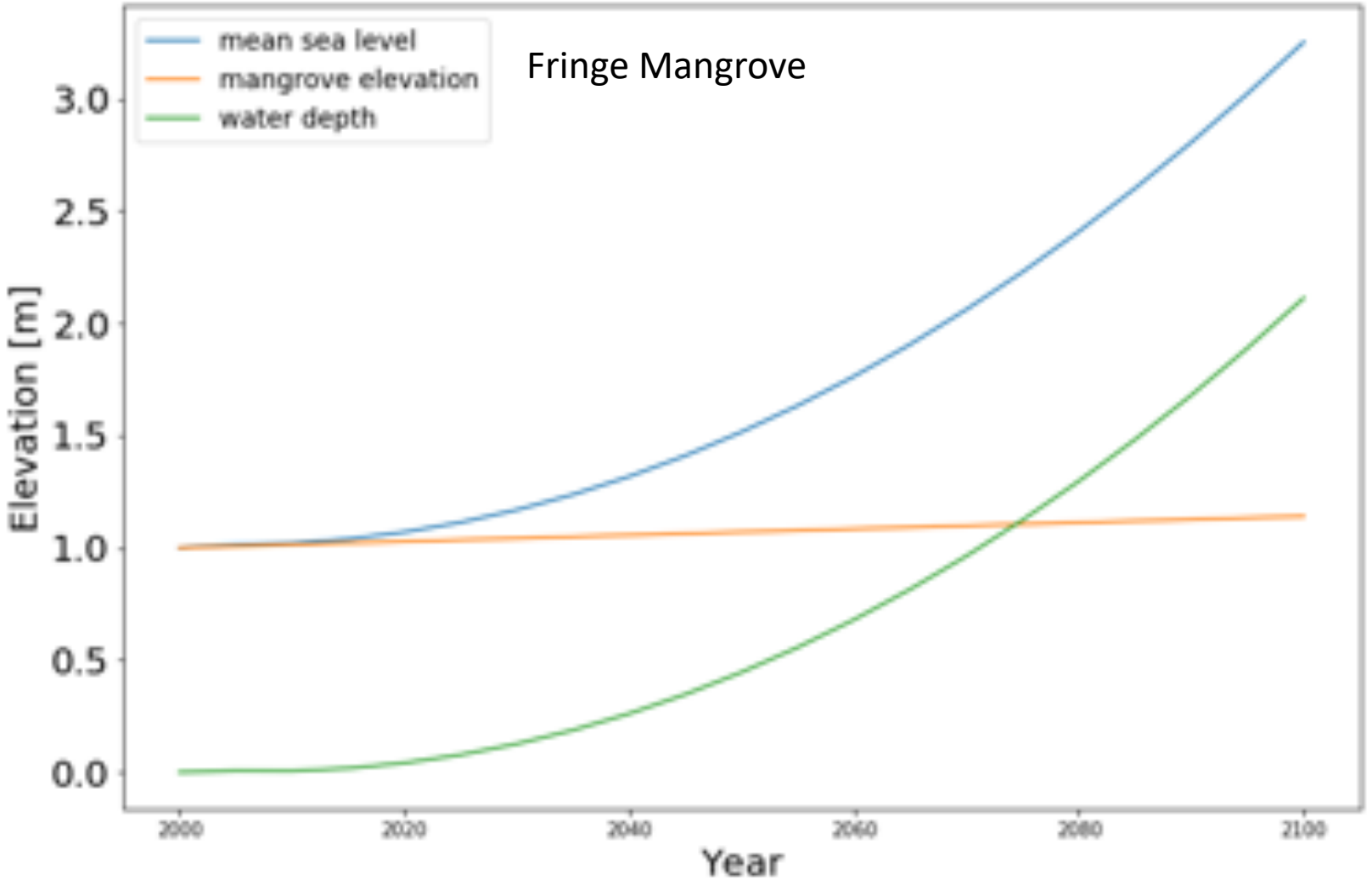
The Mangrove Ecosystem is governed chiefly by these factors:



Paramaters defined

- Accretion rate
- Subsidence rate
- Total elevation
- Representative Concentration Pathways (RCP)
- Flood rate

Prediction at extreme Scenario 2.5m



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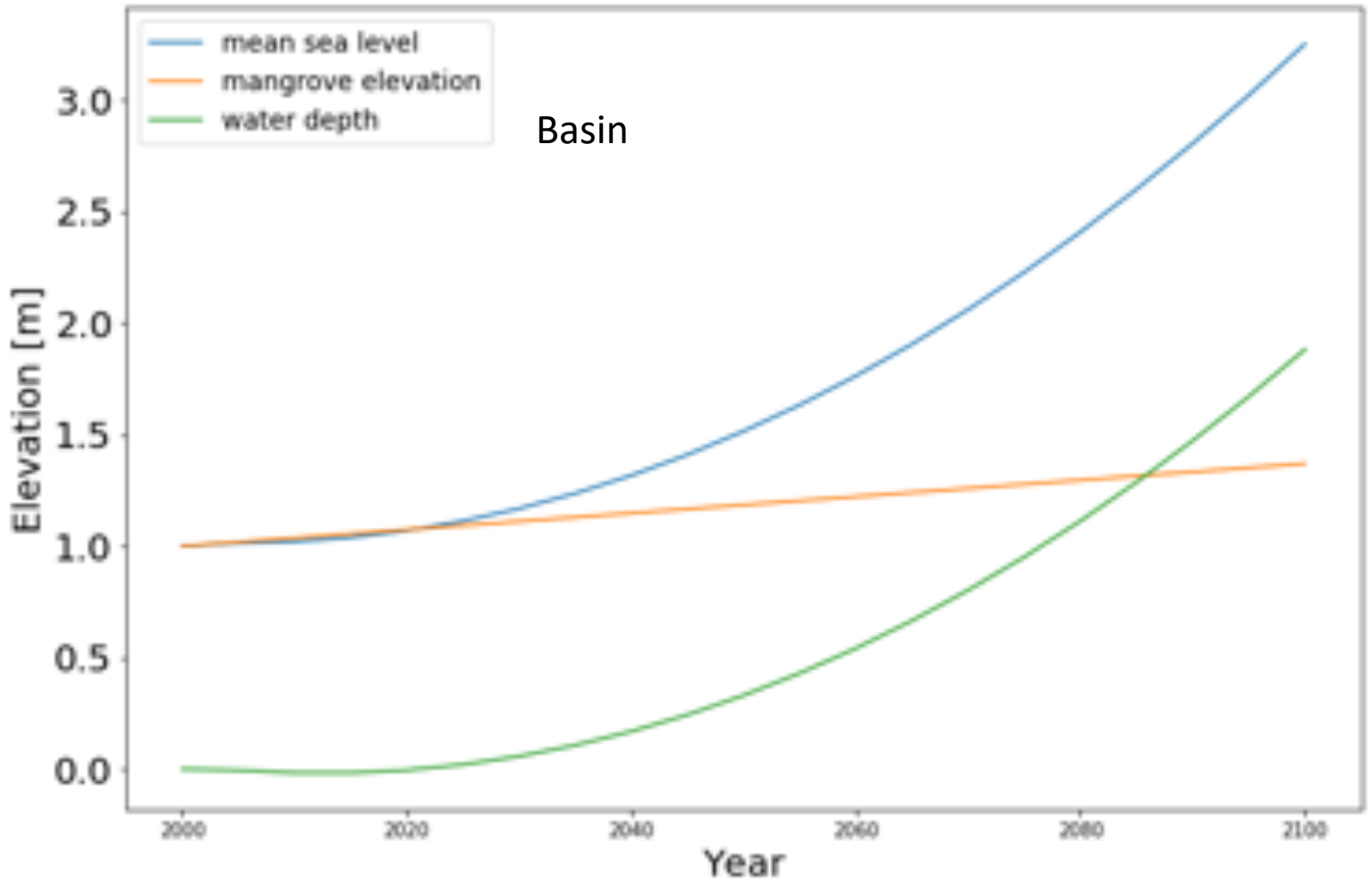

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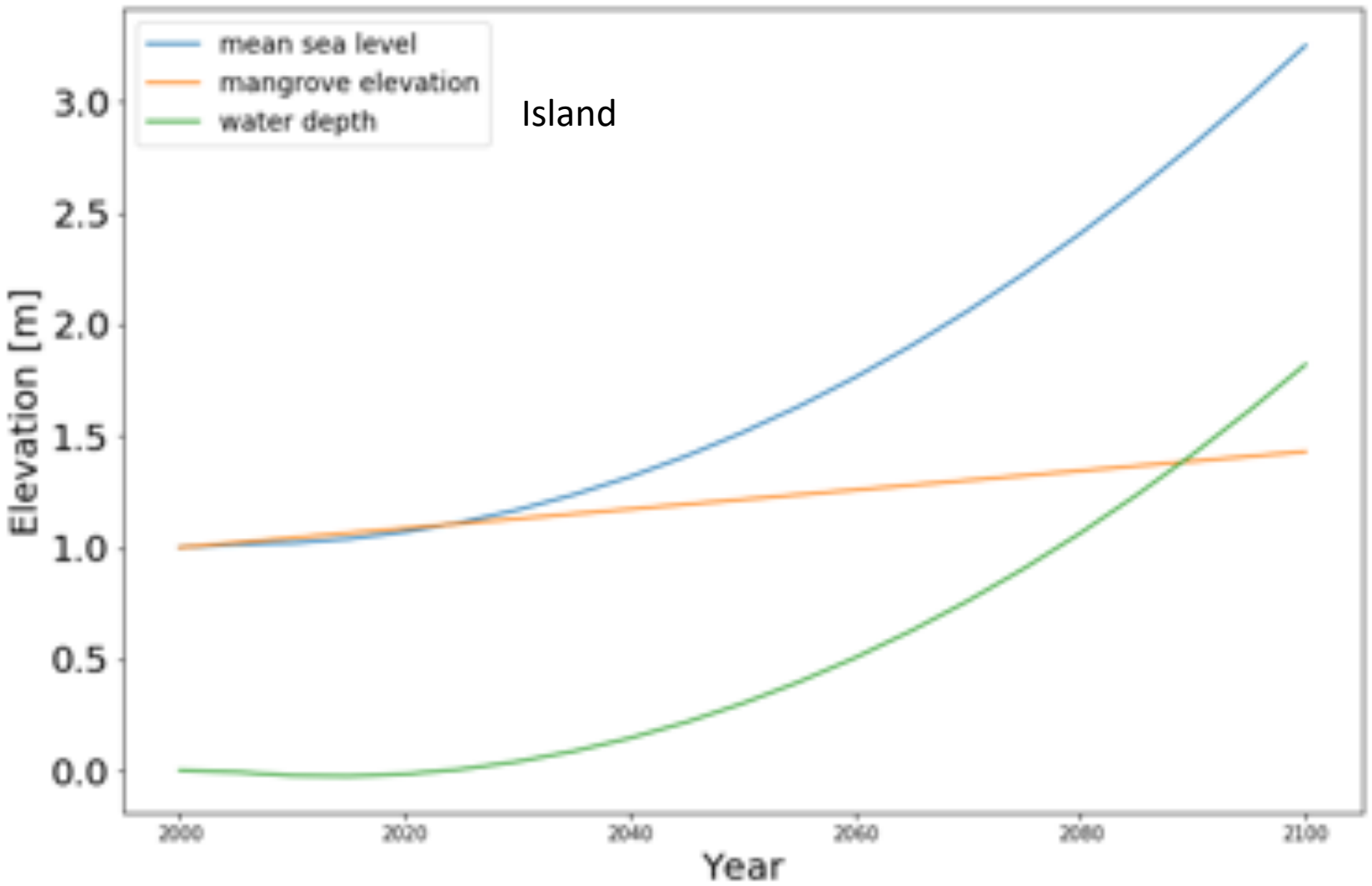

Conclusion

- If the rate of sea level rise is greater than the mangroves accretion rate, then mangroves are pressed to retreat landward so that they can maintain their preferred hydroperiods


THANK YOU FOR
LISTENING