

Bathtub Reef Beach Park / Sailfish Point Beach Renourishment Project



Olsen Associates, Inc.
Jacksonville, FL

Steven C. Howard, PE
Kevin R Bodge, PE, PhD

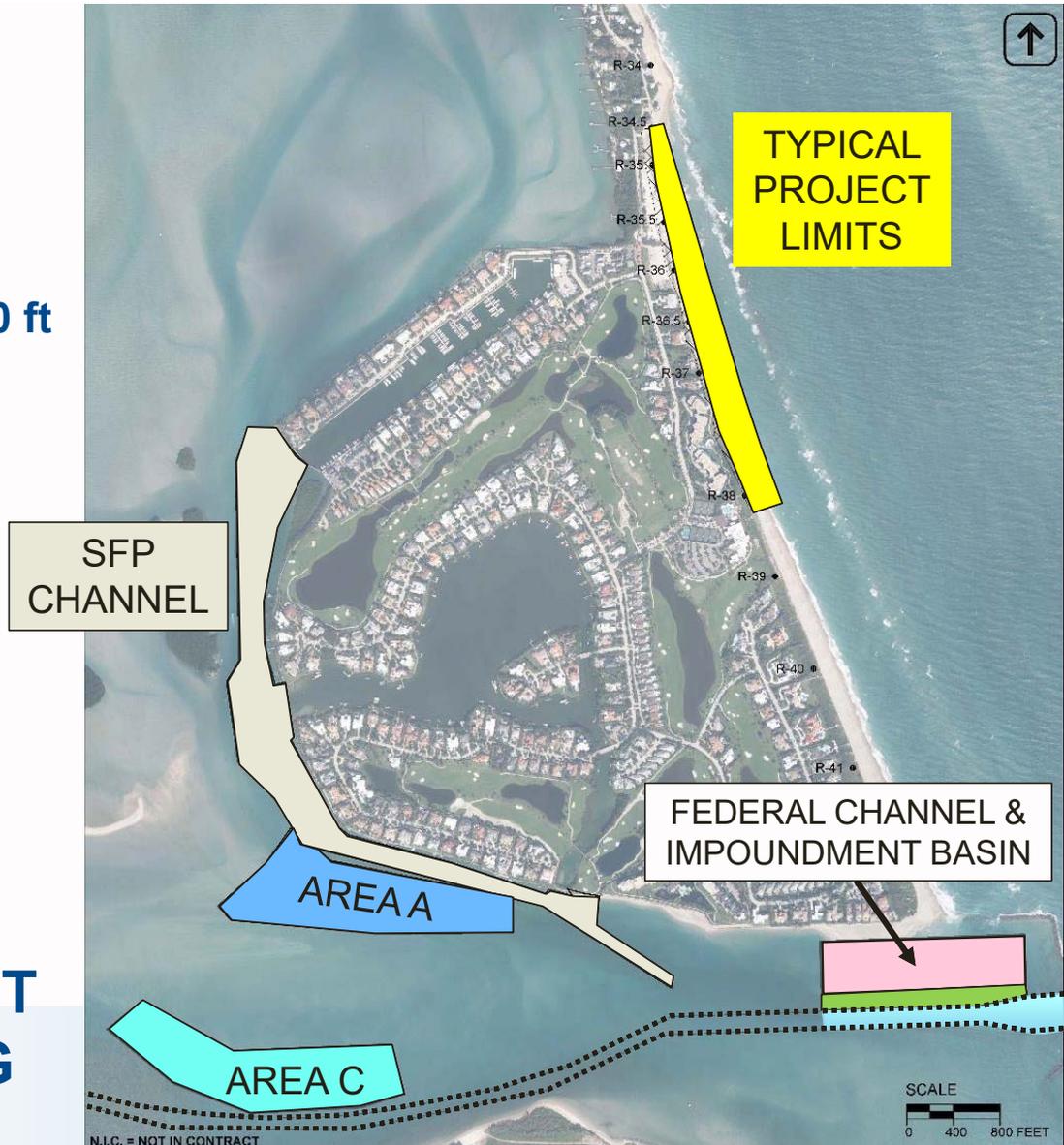
April 9, 2024

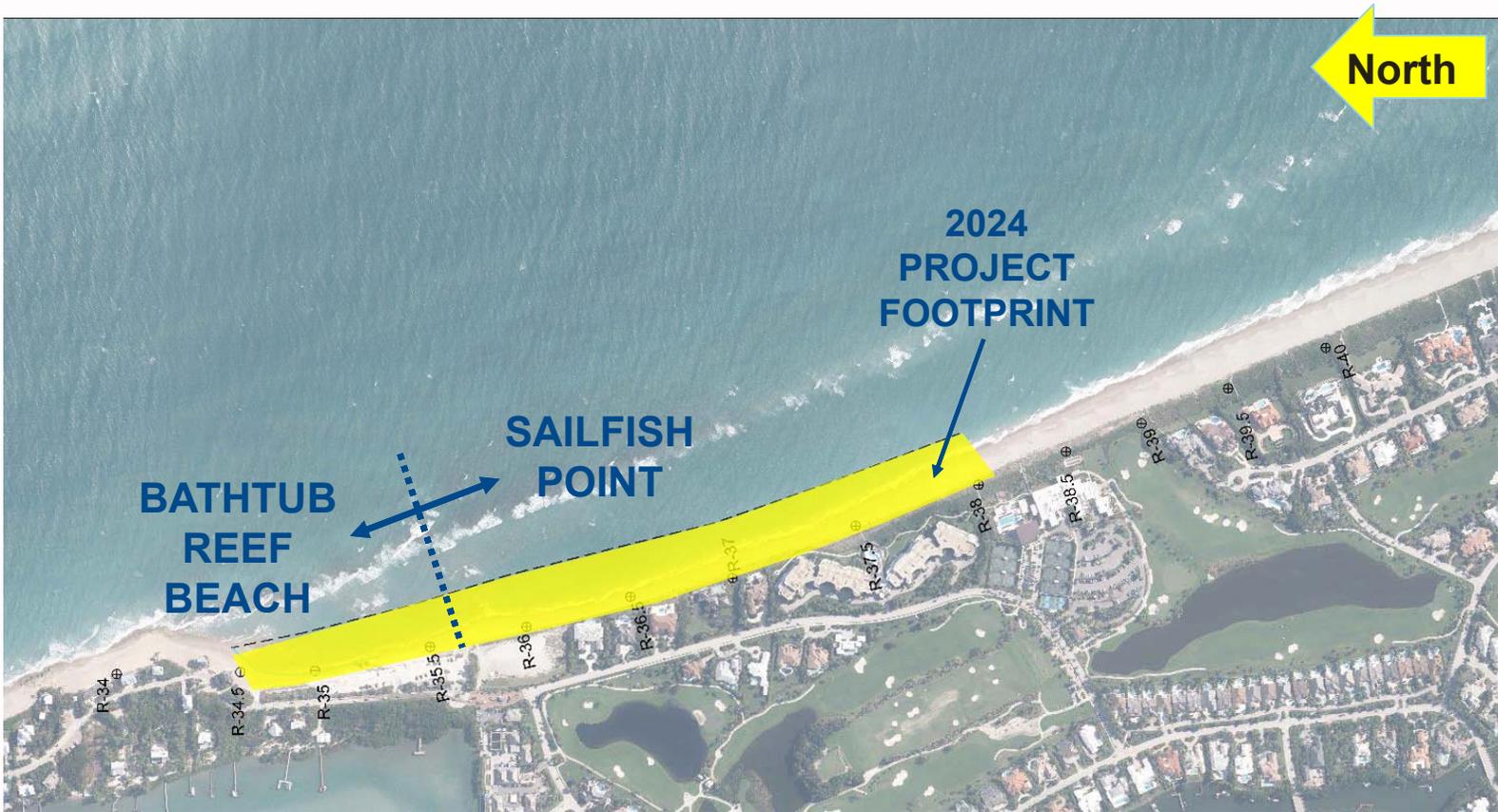
Overview

- Renourishes up to 5,300 ft of shoreline, typically 3,400 ft
- Six borrow areas
- Requires 150,000 to 250,000 cubic yards

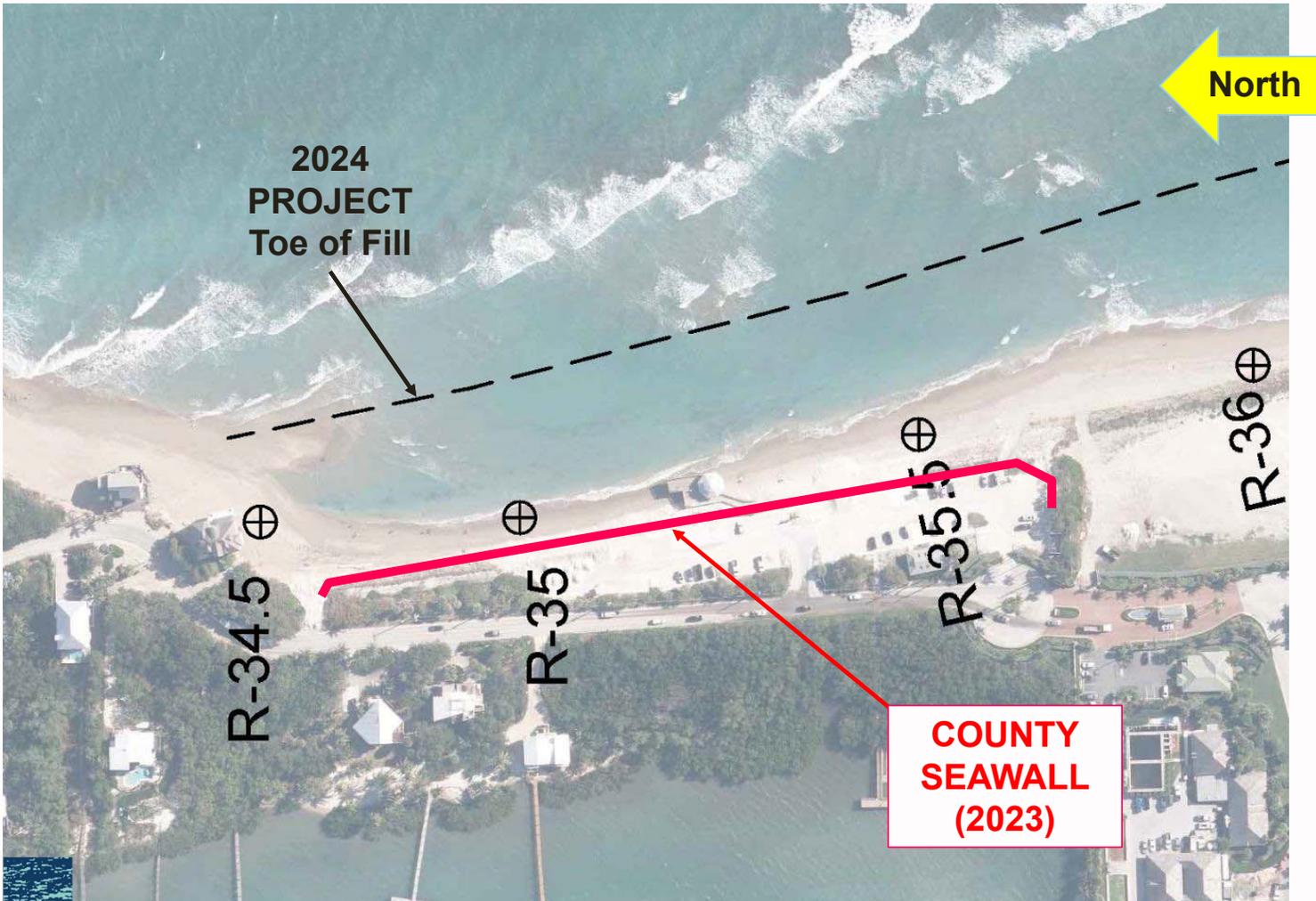


PROJECT SETTING

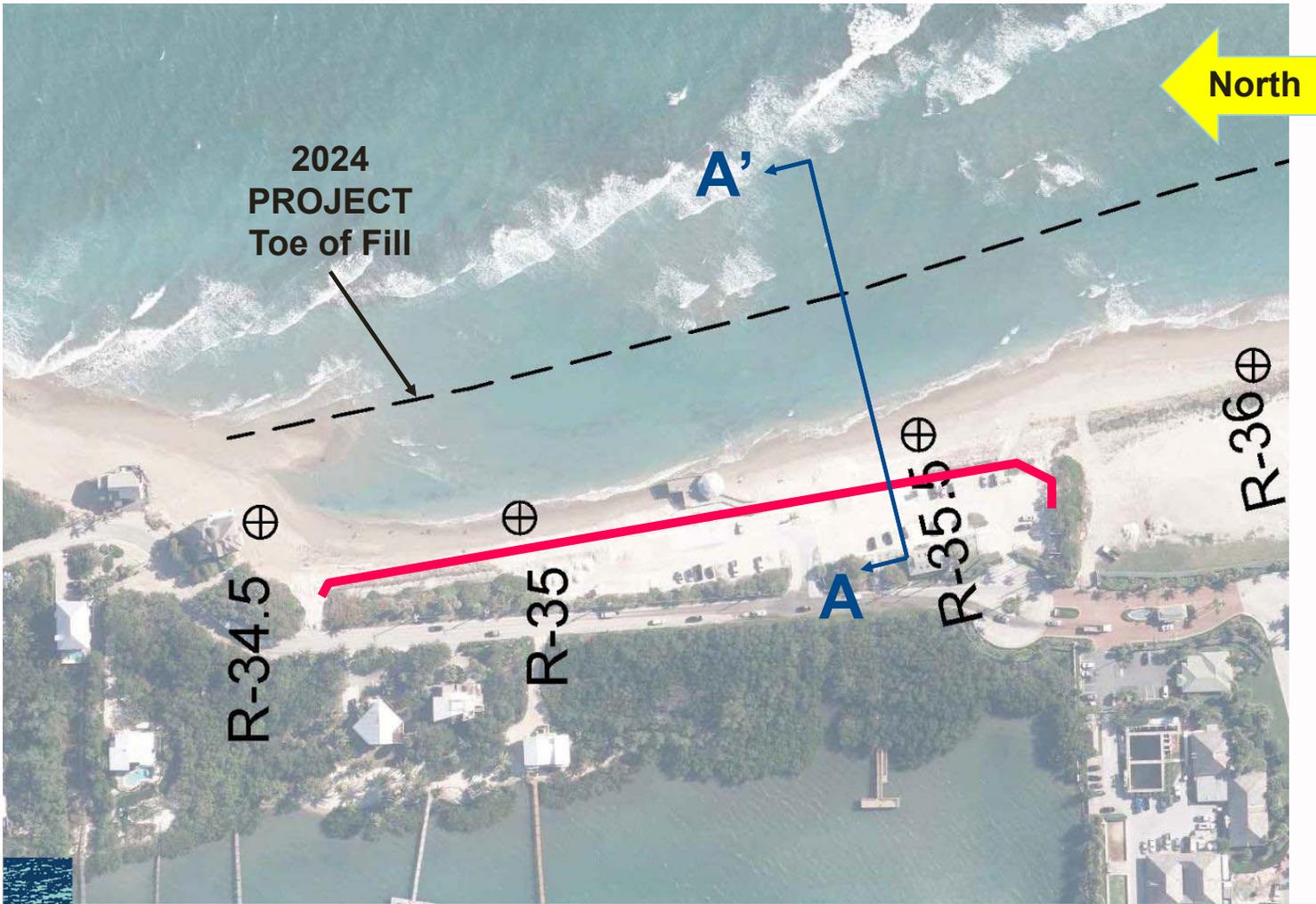




PROJECT DETAILS

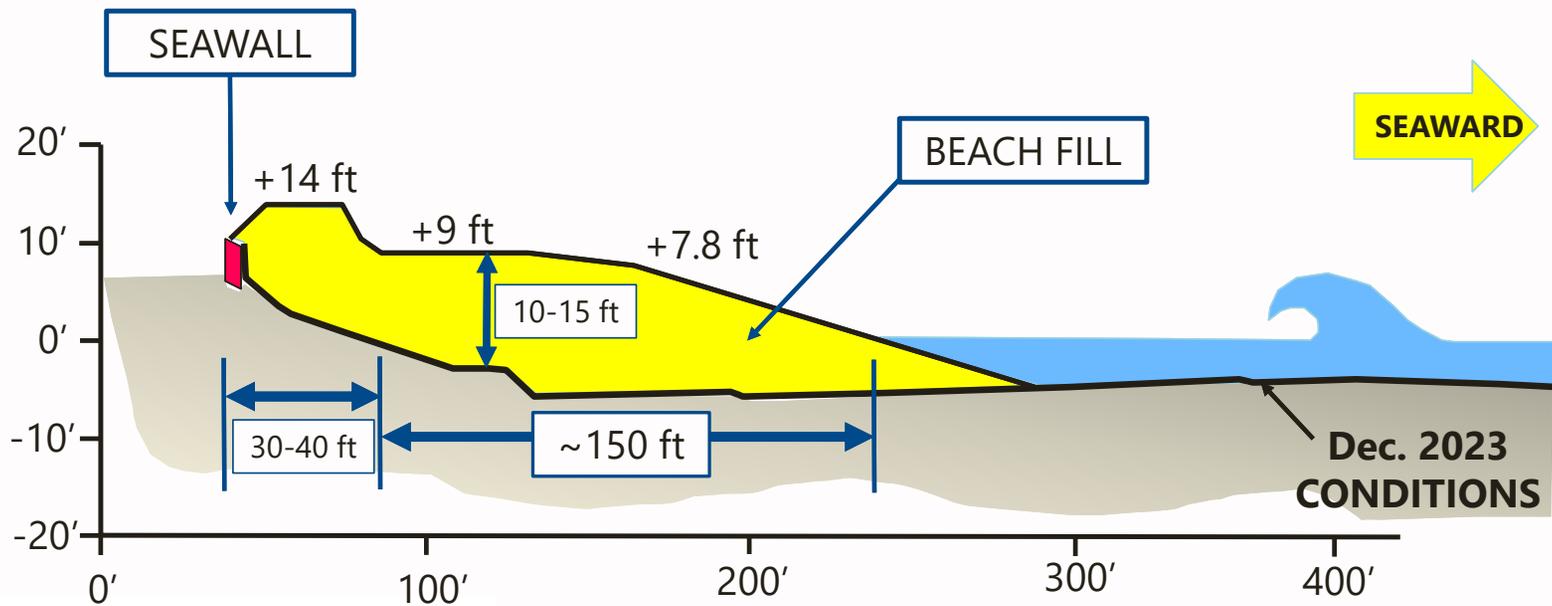


Bathtub Reef Beach Park



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TYPICAL FILL SECTION A-A'



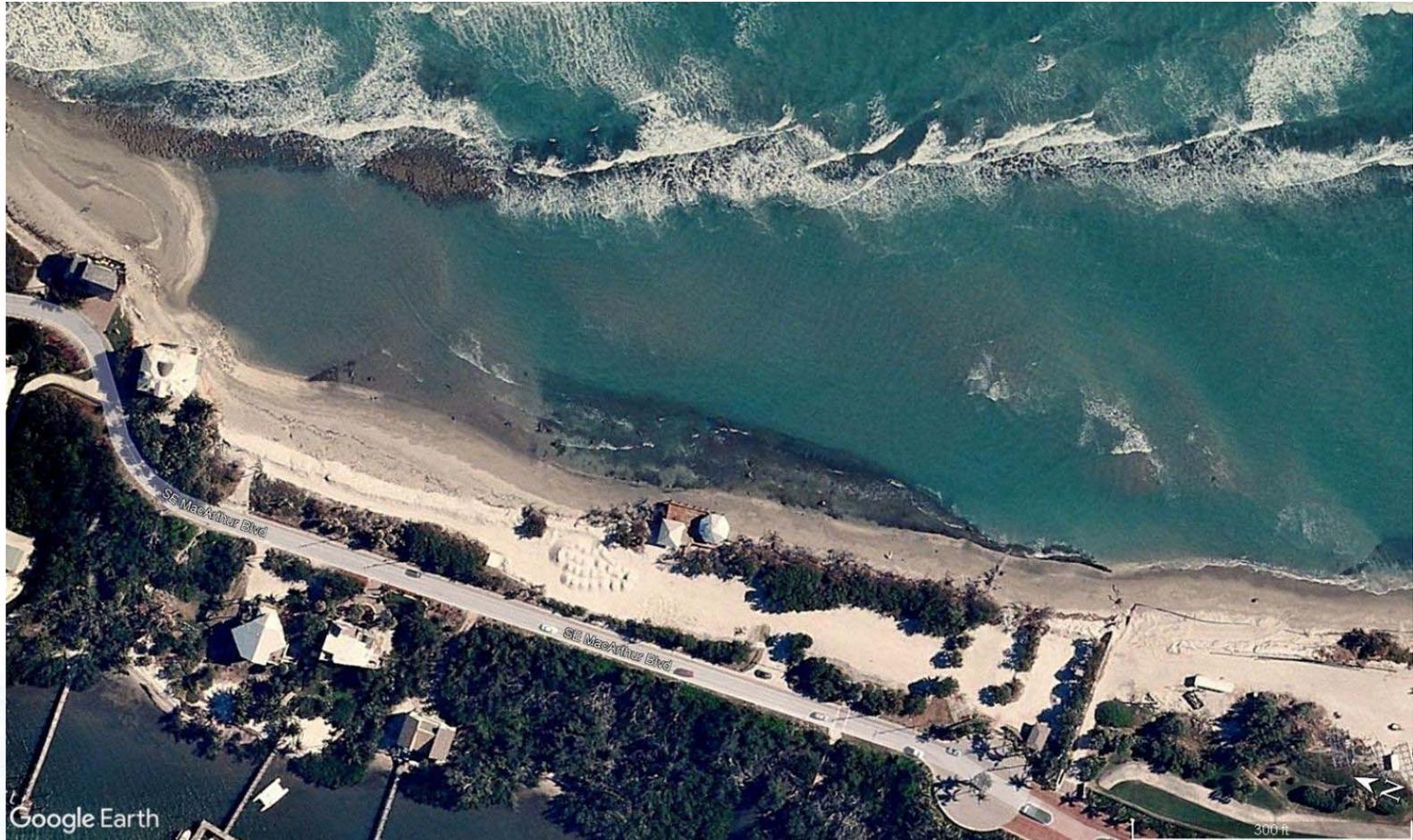
2024 Beach Renourishment
~150 ft Seaward Extension + Dune Repair
~10 to 15 ft Vertical Lift



North Project Design, Parking Lot Bathtub Reef Beach: 2007



North Project Design, Parking Lot Bathtub Reef Beach: 2009



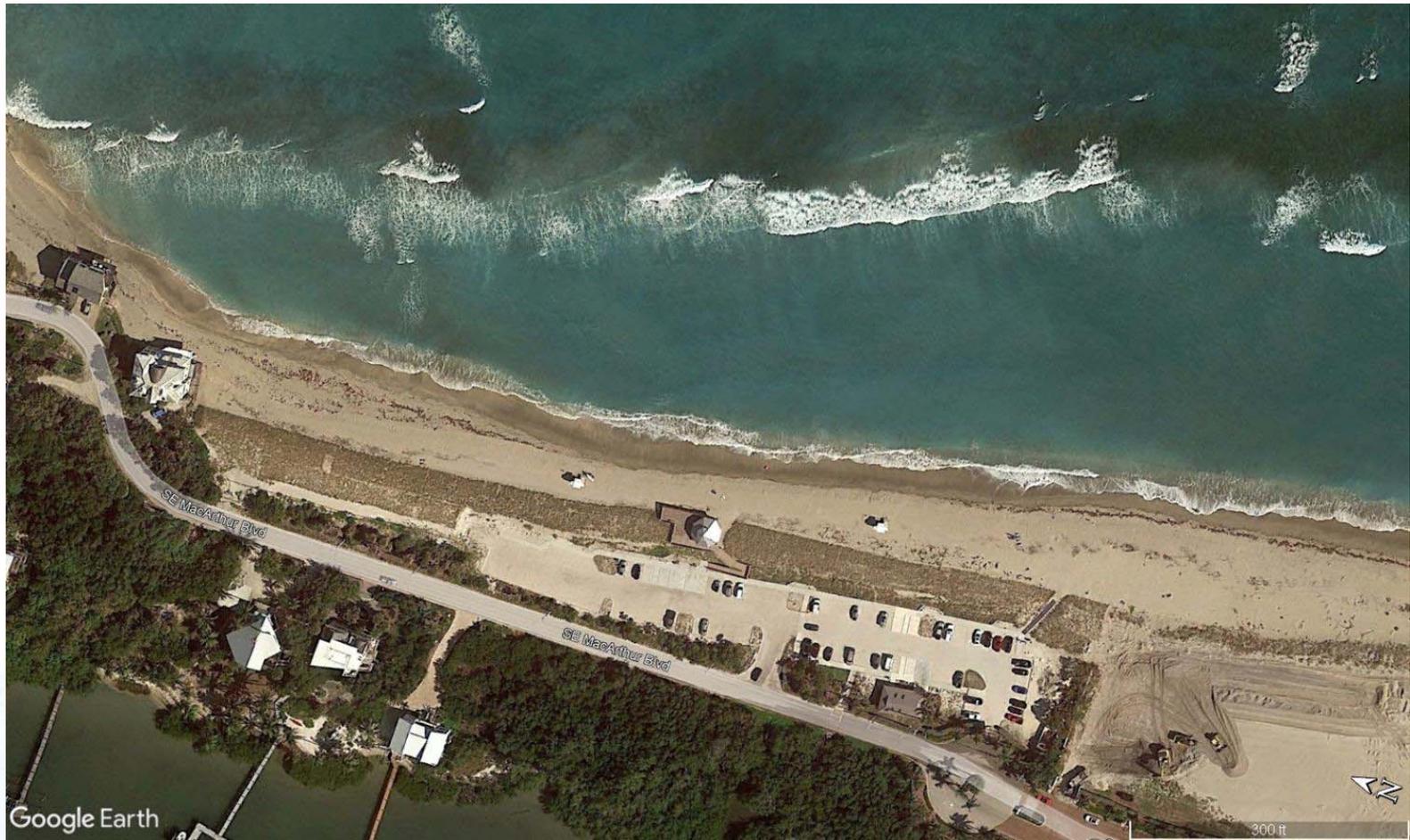
North Project Design, Parking Lot Bathtub Reef Beach: 2017



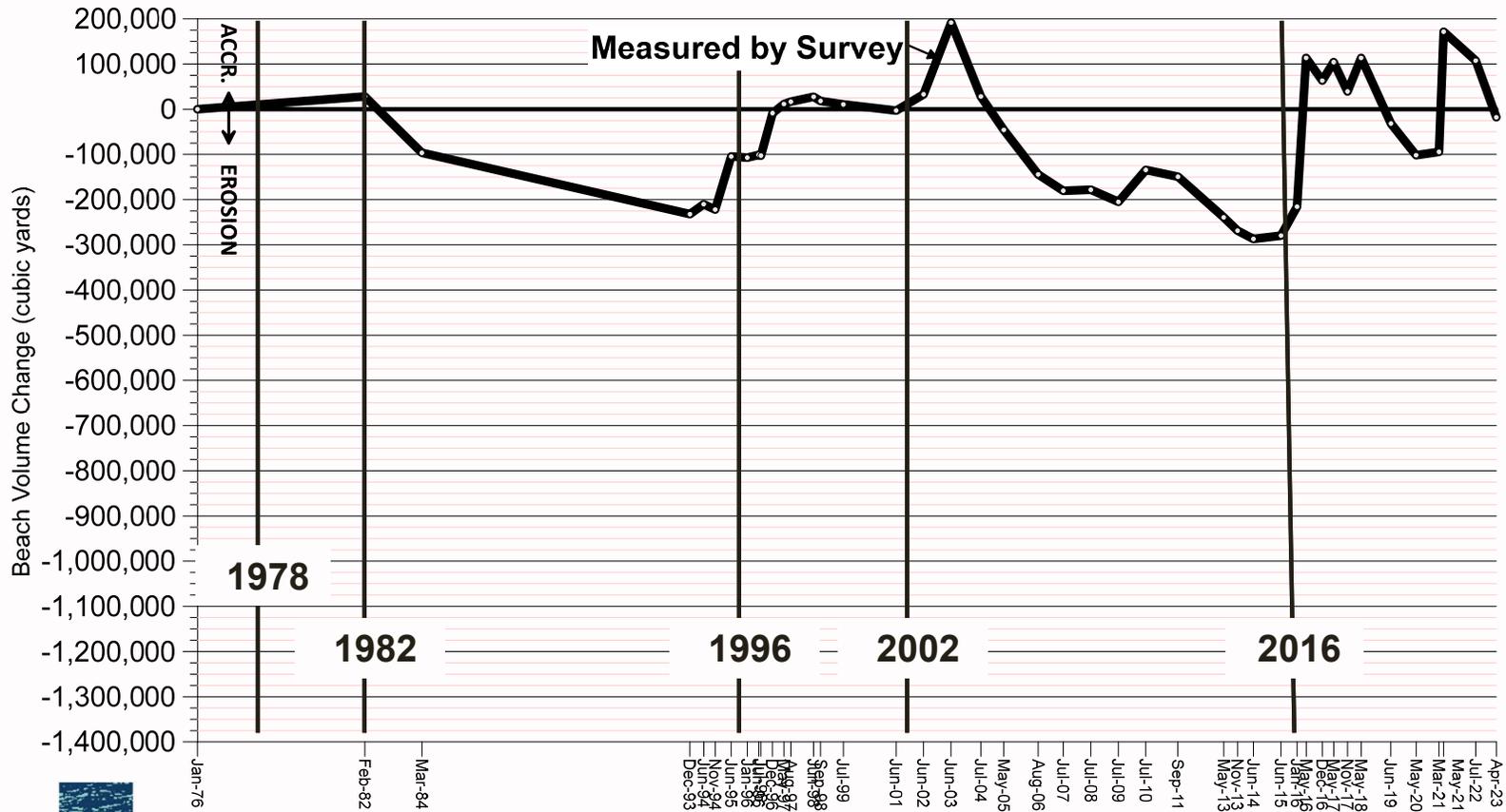
North Project Design, Parking Lot Bathtub Reef Beach: 2018



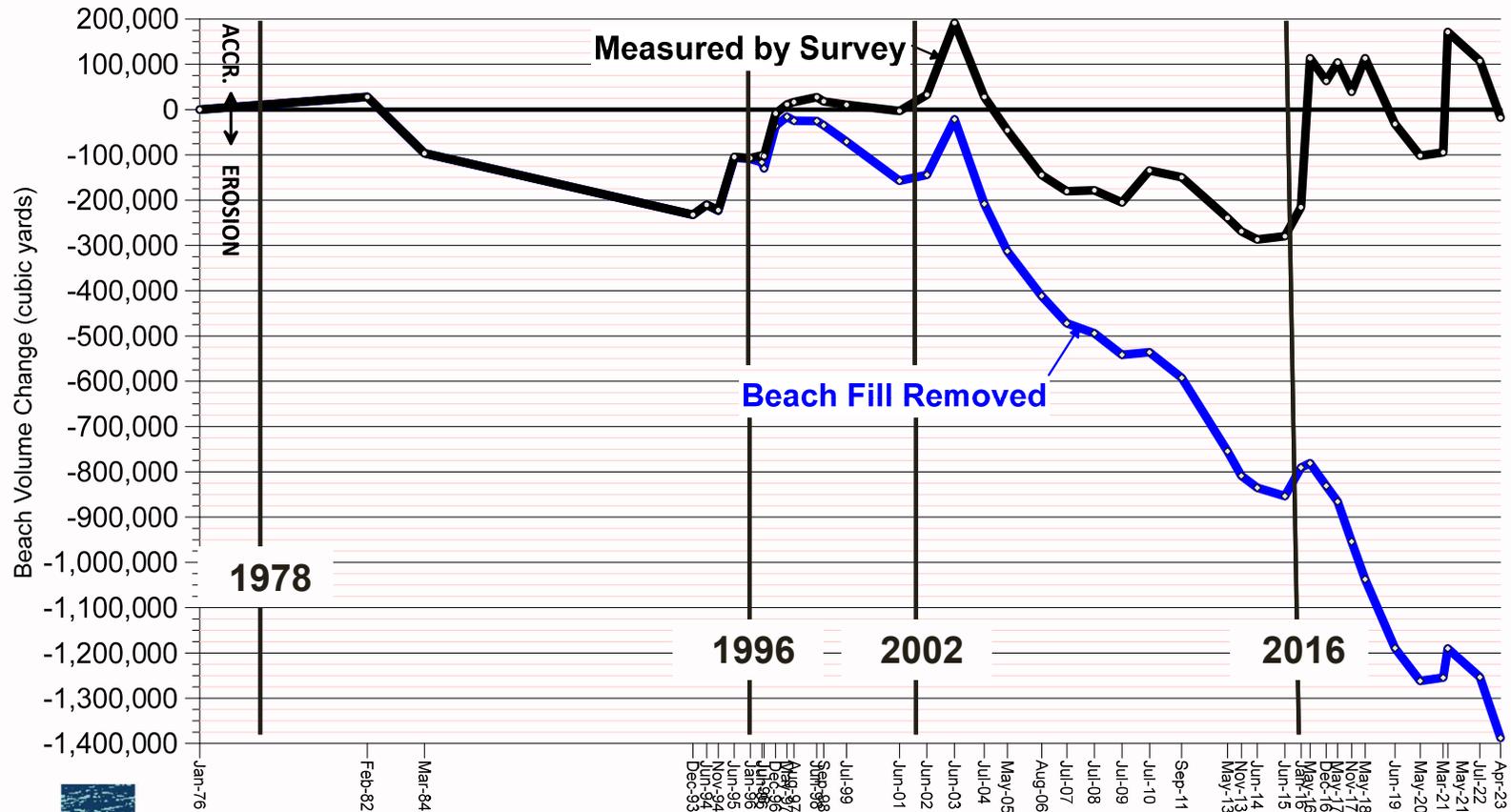
North Project Design, Parking Lot Bathtub Reef Beach: 2019 (Current Design)



Volume Change: Bathtub Reef to St. Lucie Inlet, 1976 to 2023

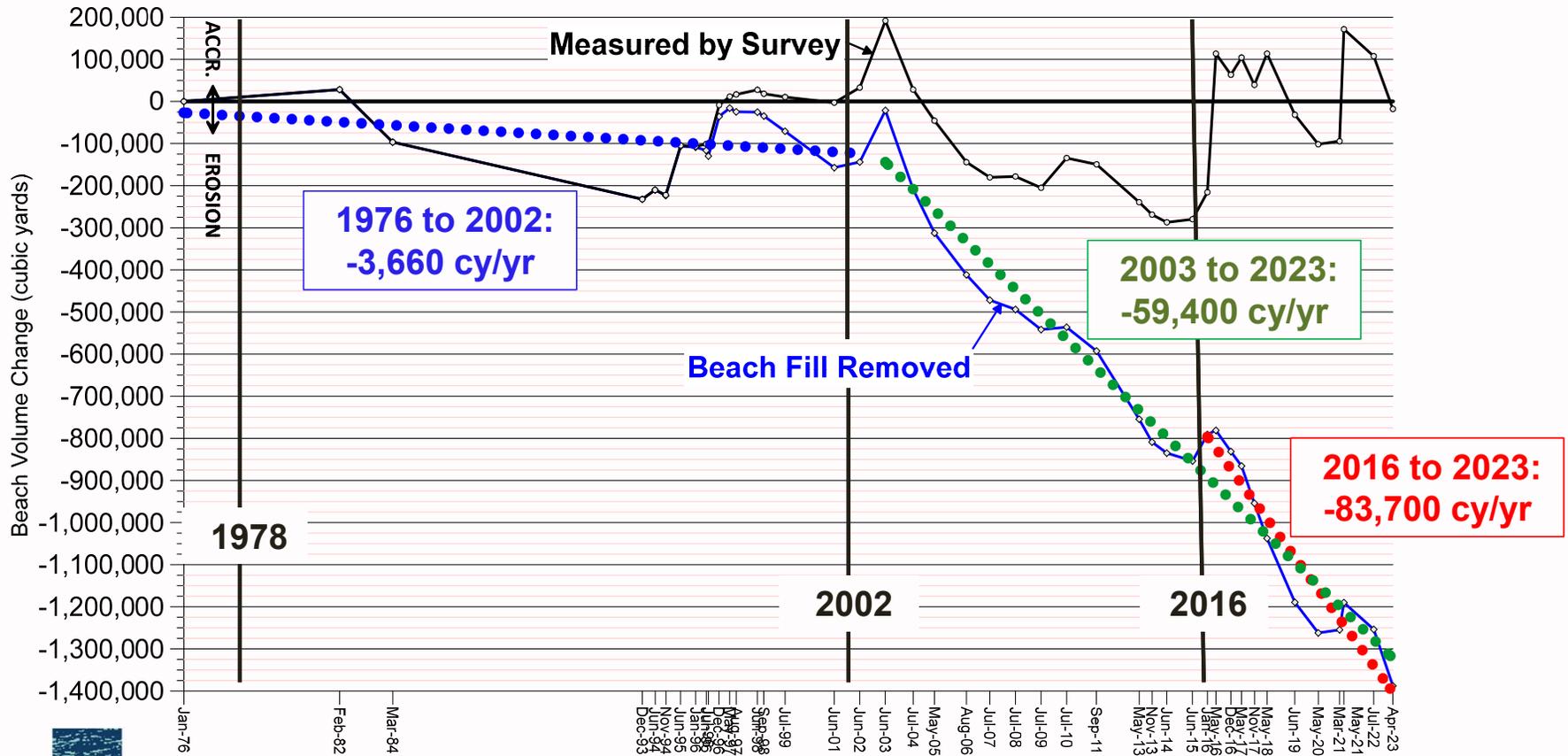


Volume Change: Bathtub Reef to St. Lucie Inlet, 1976 to 2023



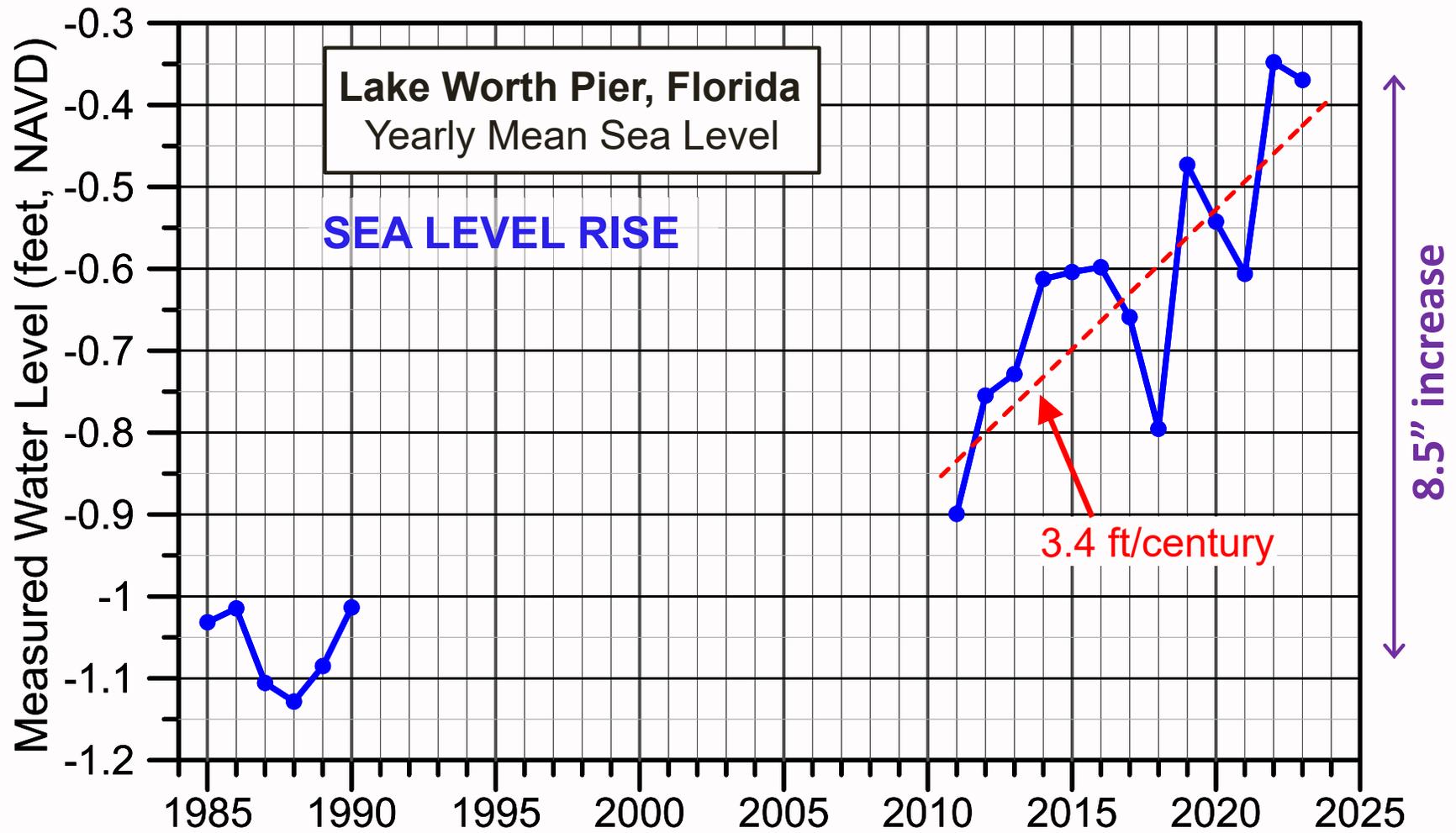
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Associates, Inc.
Coastal Engineering

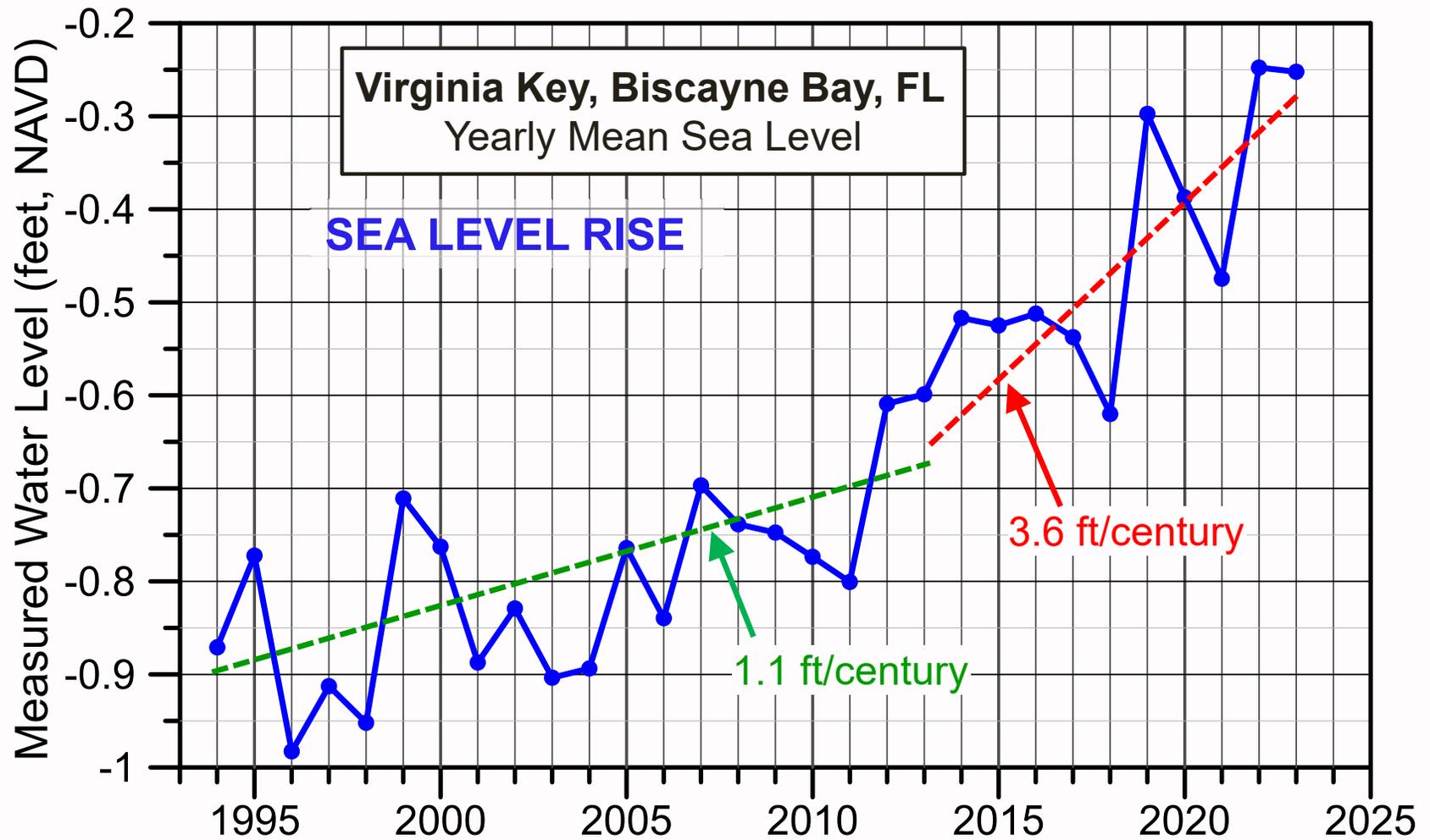
Volume Change: Bathtub Reef to St. Lucie Inlet, 1976 to 2023



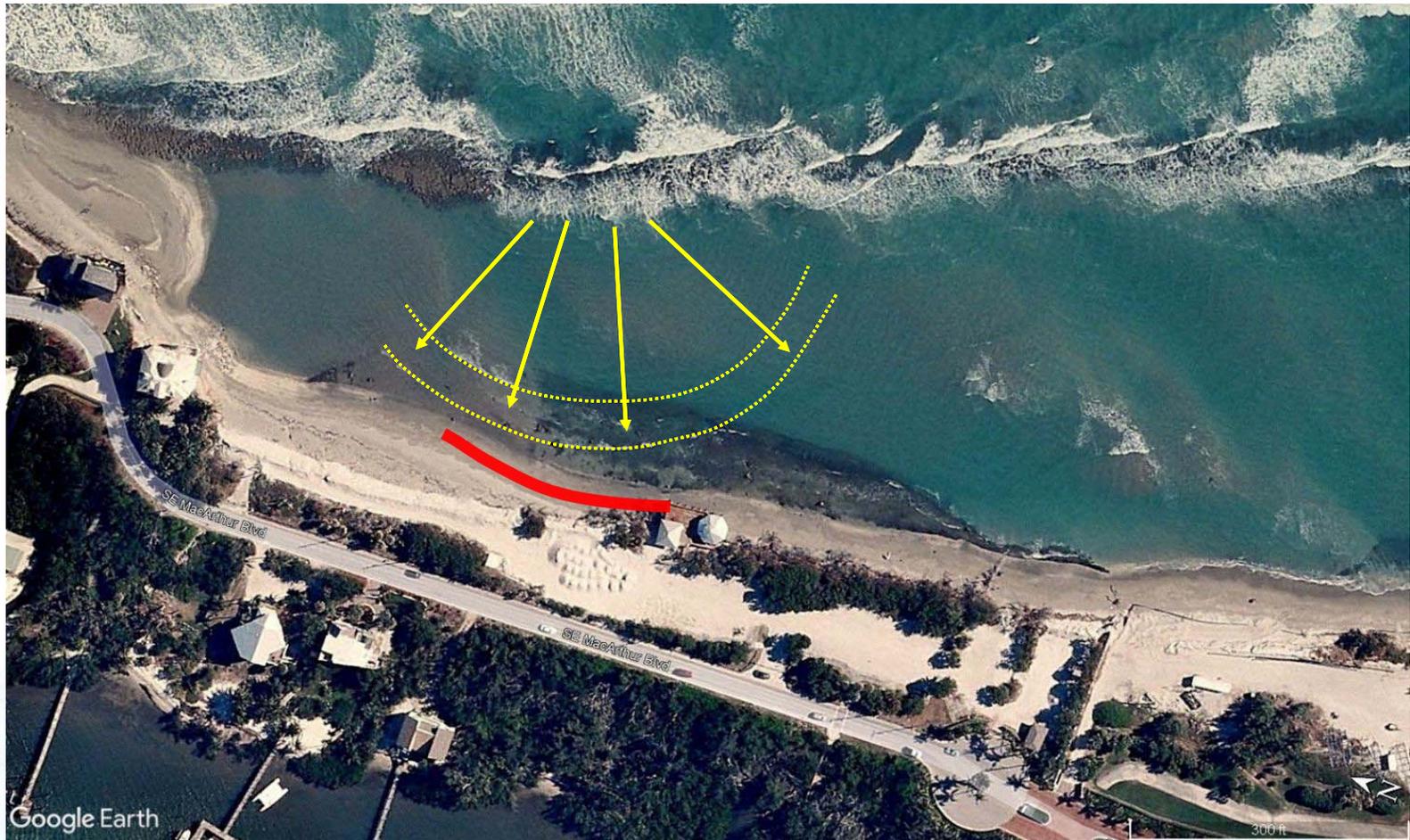
So...what explains some erosional processes along this beach?



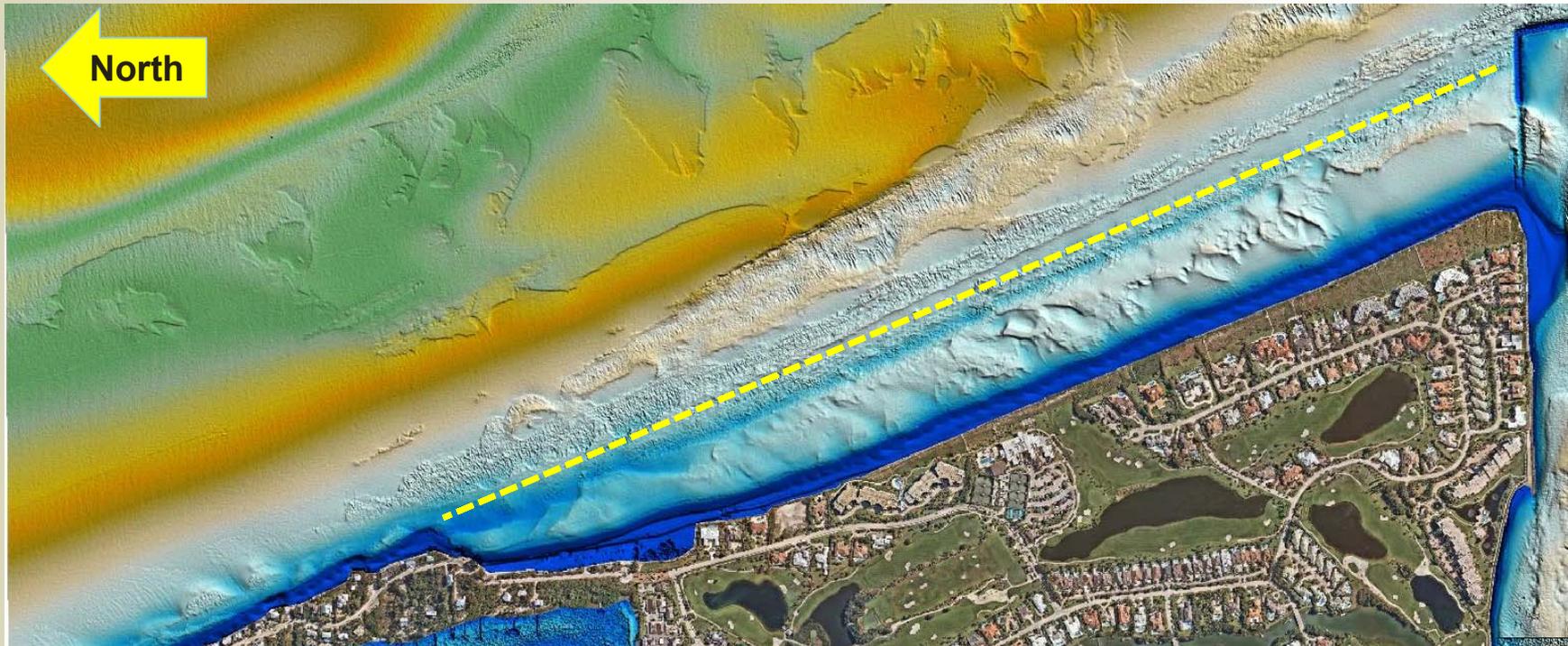




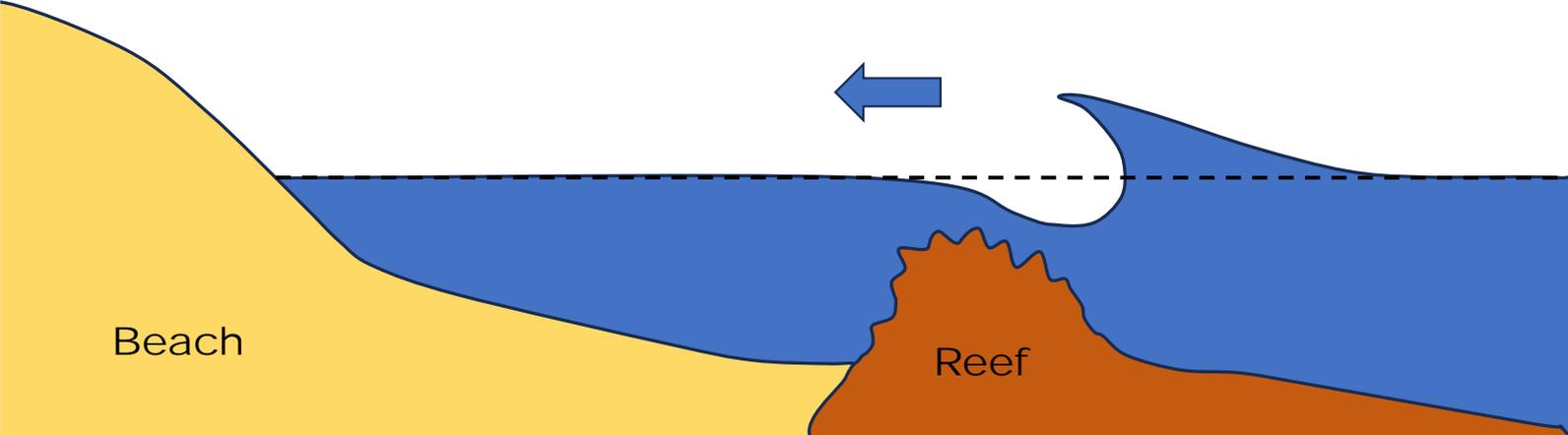
Waves reach through reef gaps (2009 photo)



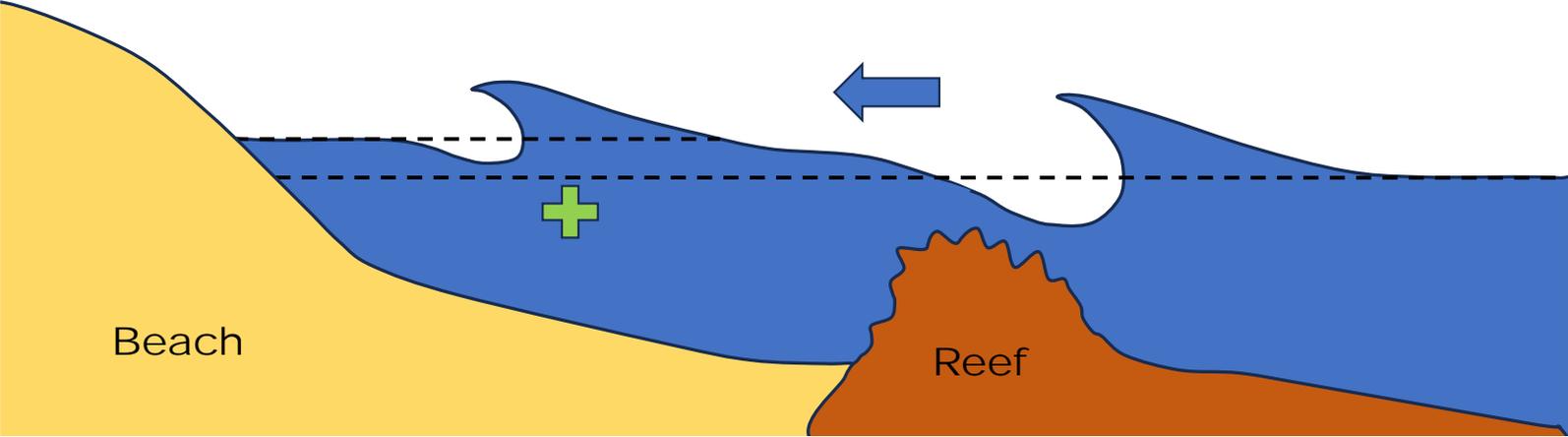
2016 Bathymetric Survey



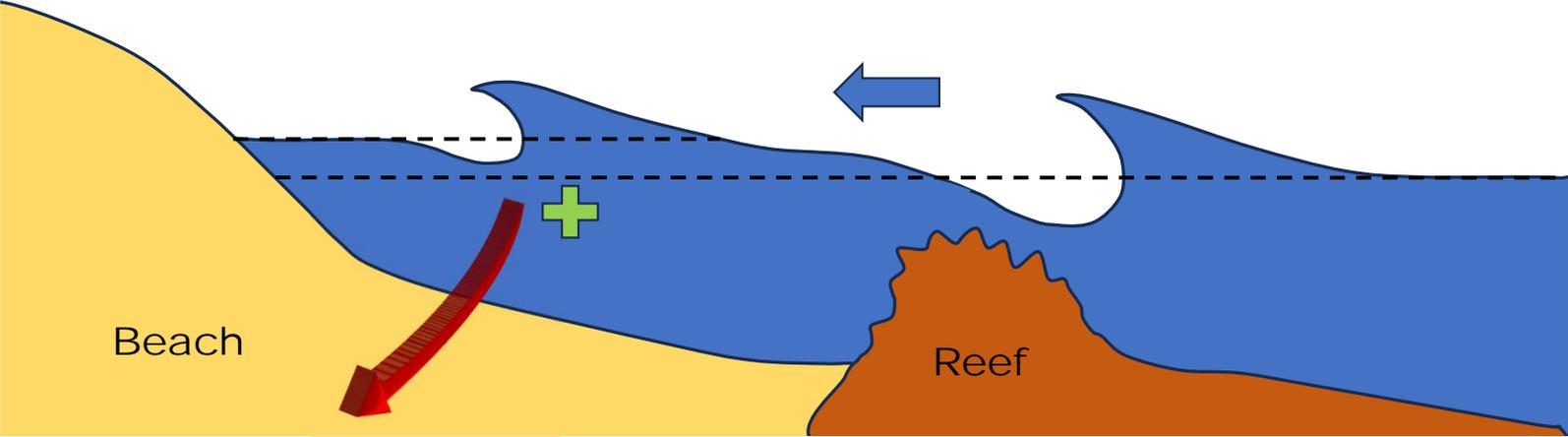
Waves passing over Reef..



Waves passing over Reef.... increase water level (and energy) between Beach & Reef.

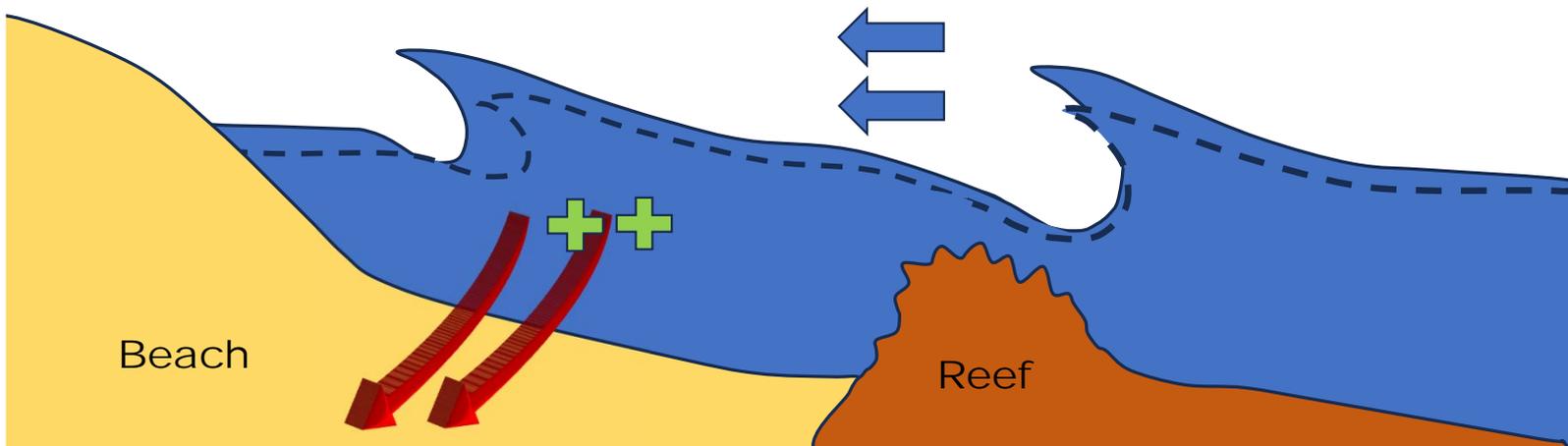


Waves passing over Reef.... increase water level (and energy) between Beach & Reef.



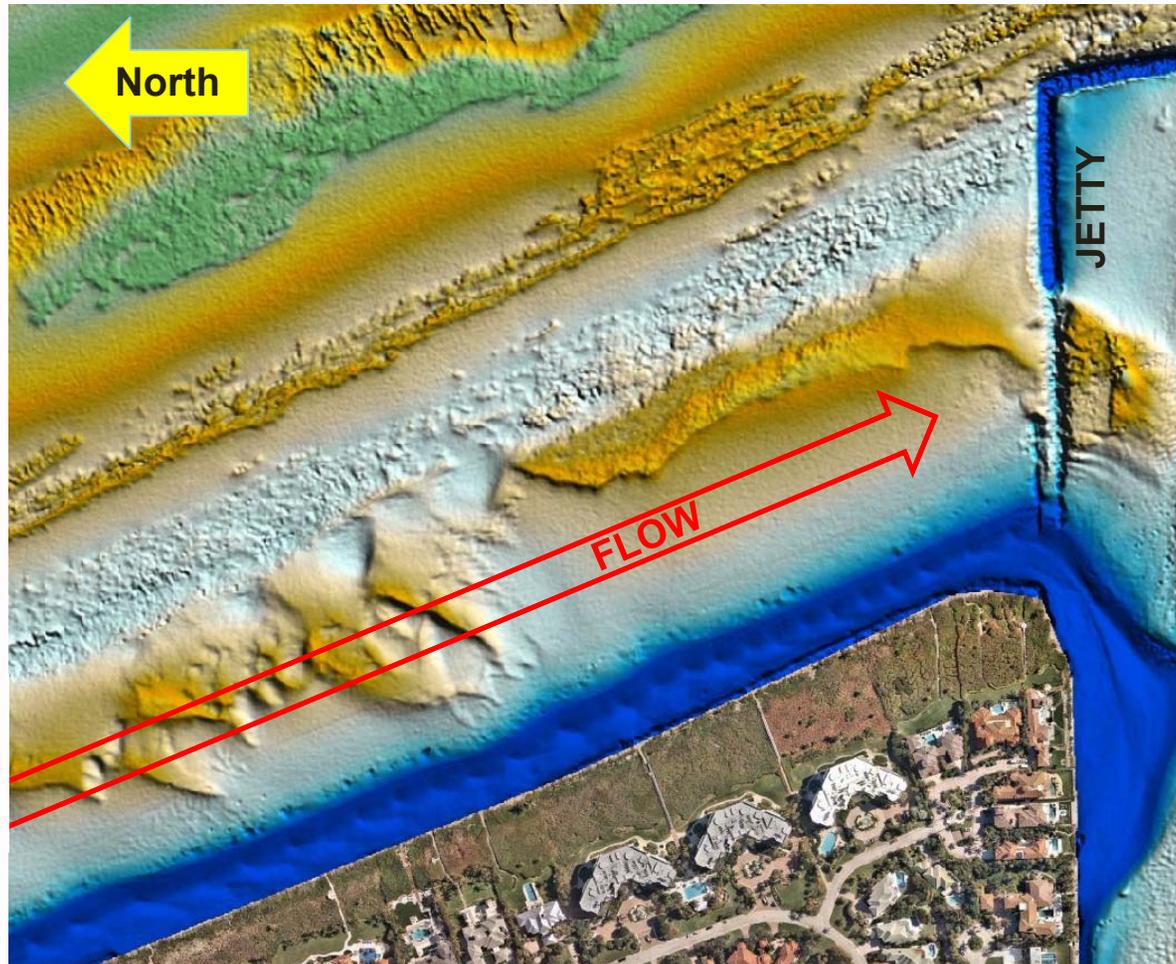
**Surf water can't flow out,
it can only flow *south*.**

Increased sea level:
More water & waves pass over Reef =
More water & energy trapped between Beach & Reef



**South flow of excess
water *increases***

2016 SURVEY (at St. Lucie Inlet)



Dec 2020 (at St. Lucie Inlet)



Jan 2009 (at St. Lucie Inlet)



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