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JUNE 28th-30th, PANAMA

Science and technology for sustainablebeaches in a climate change scenario

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Trends in Beach Width in Jamaica: Implications for Coastal Management

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Date: 28 June 2023

Jackson Bay, Clarendon: Source: NEPA, June 202

Brief History of Beach Erosion Monitoring in Jamaica

- Monitoring has been on going since 2000 on a quarterly basis
- The coastal erosion records range from 3 to 22 years
- Sites includes tourist beaches, underdeveloped beaches and those with high wave energy

Methodology

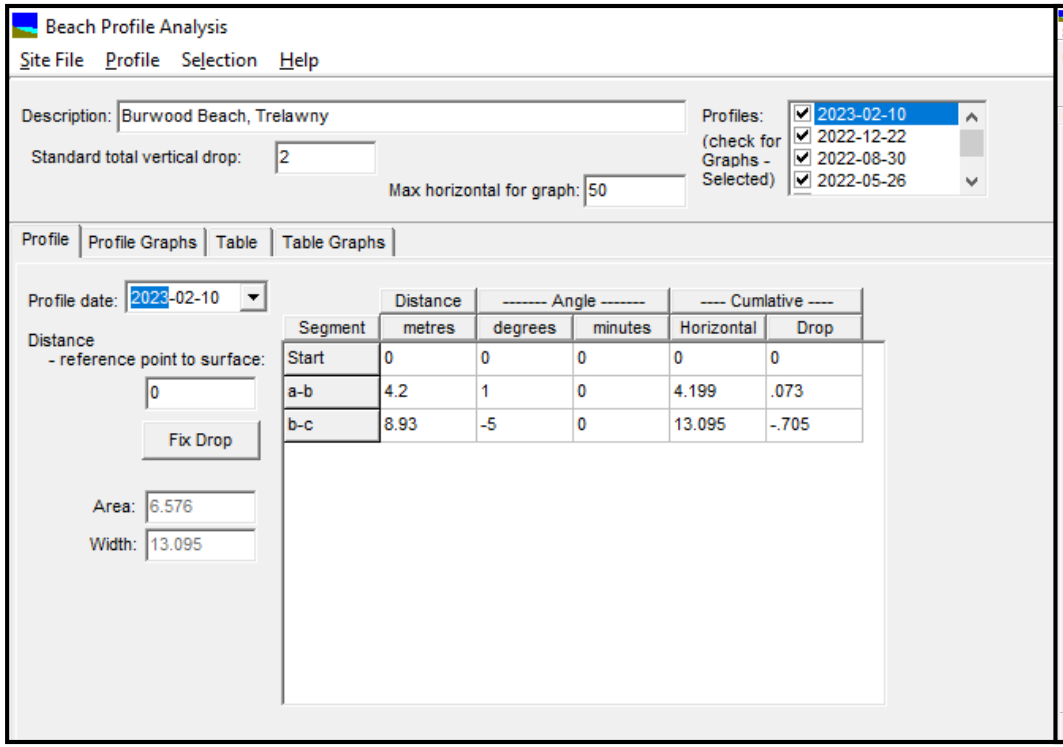
Emery Method

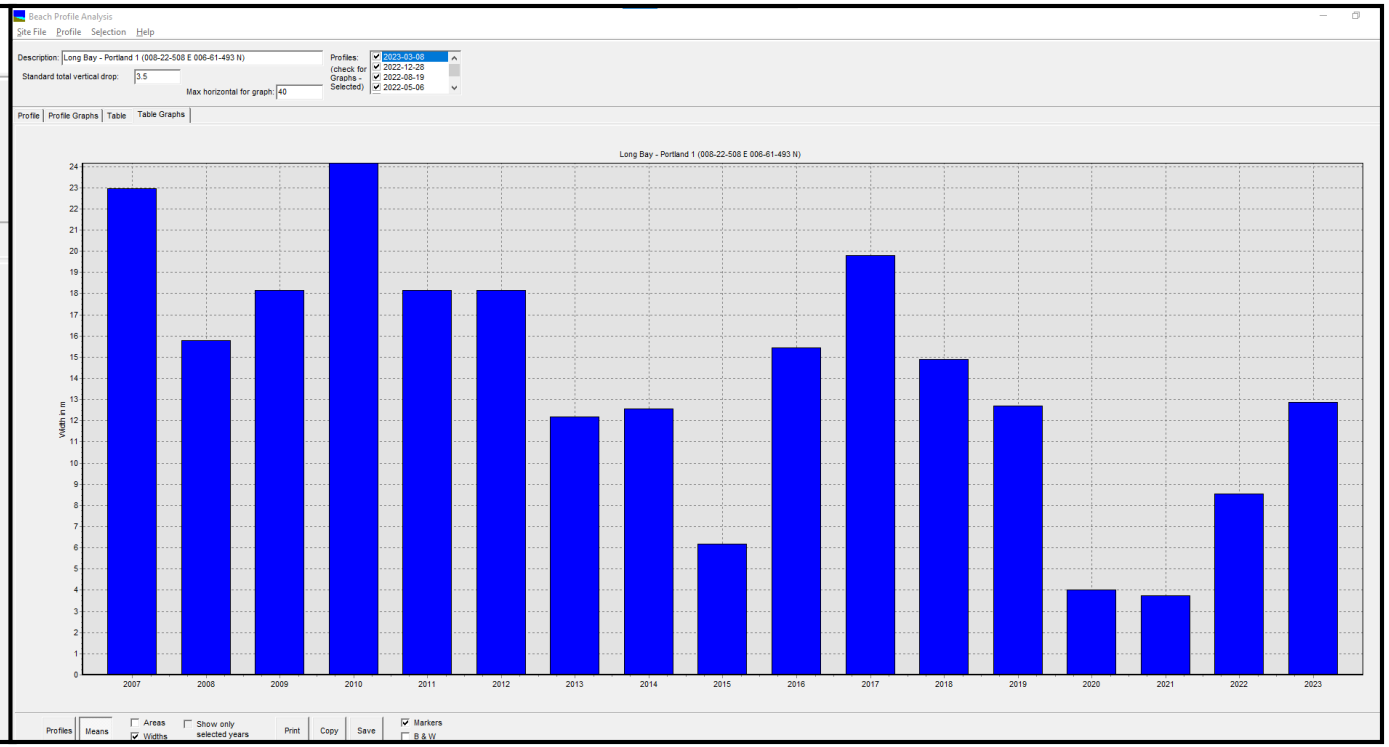
- The monitoring protocol utilizes the Emery Method (Emery, 1961)
  - two 5-foot calibrated rods
  - a surveying Abney level
  - a tape to measure distance
- The method uses the horizon to measure distances to, and changes in elevation between, two survey points (Birkemeier, 1981)

NEPA officers conducting beach erosion monitoring in Clarendon; Source: NEPA, 2023

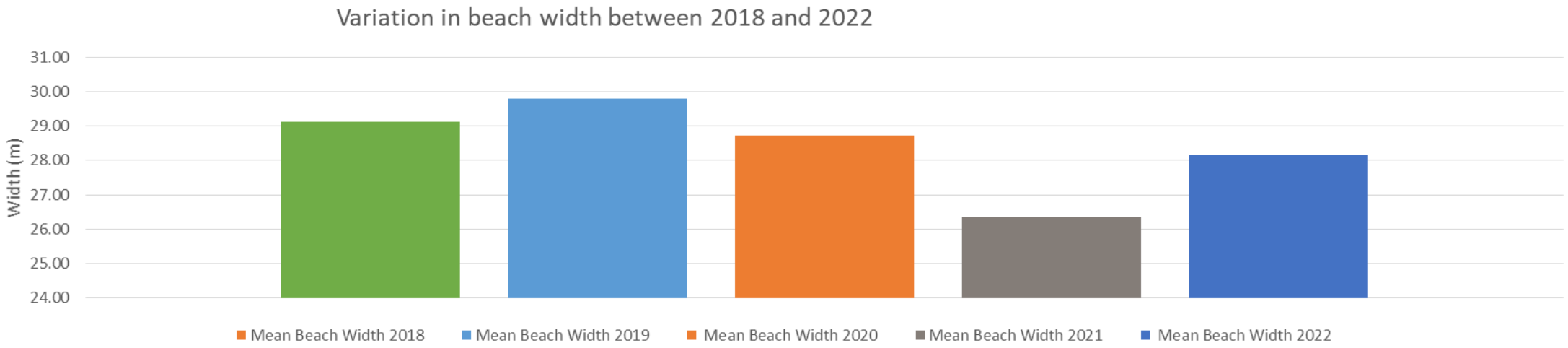
Data Analysis

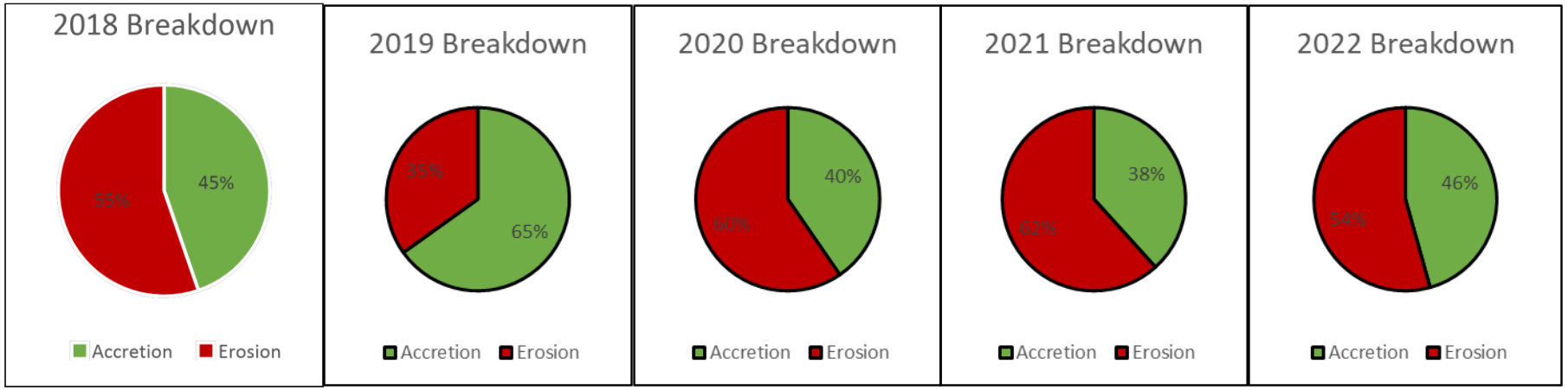
- Data is analyzed using the Beach Profile Analysis Version 3.2 software
- The software was developed for the Coast and Beach Stability in the Caribbean Project (COSALC) 1996-1997



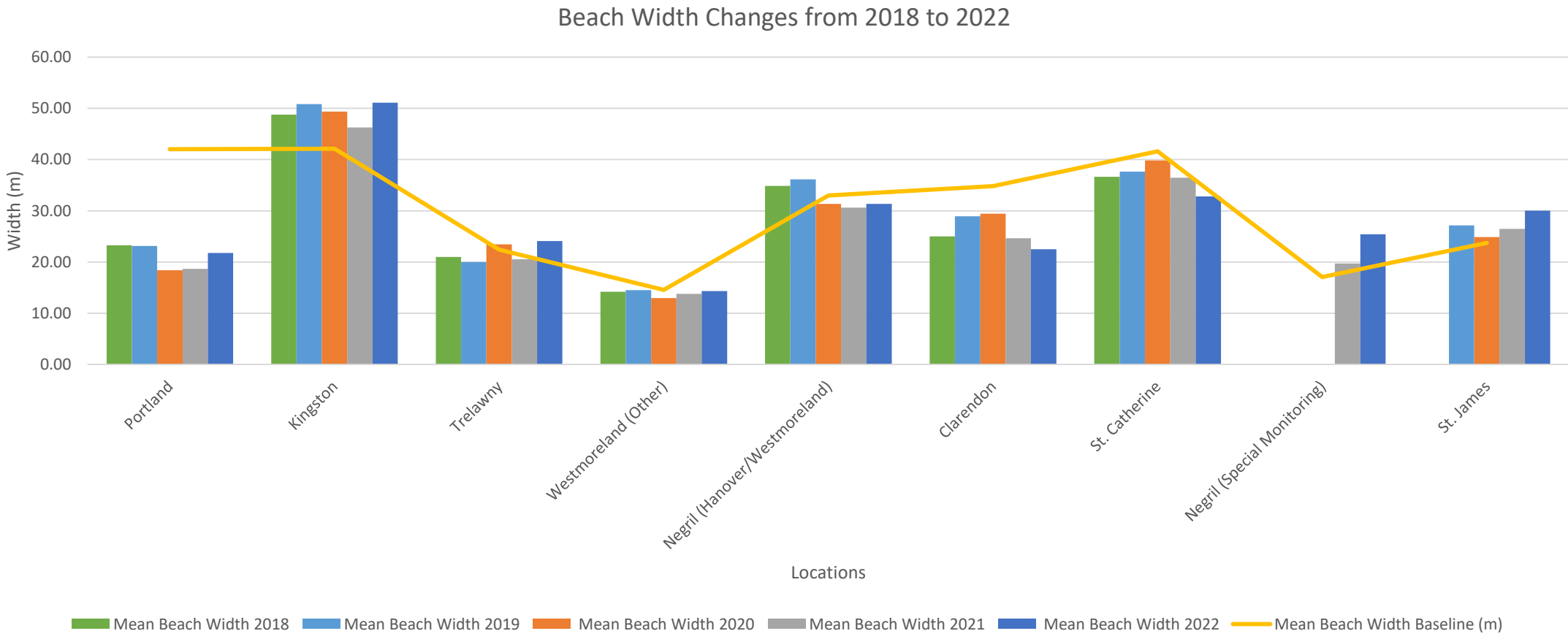


Results: Annual Trends





Results: Location Trends

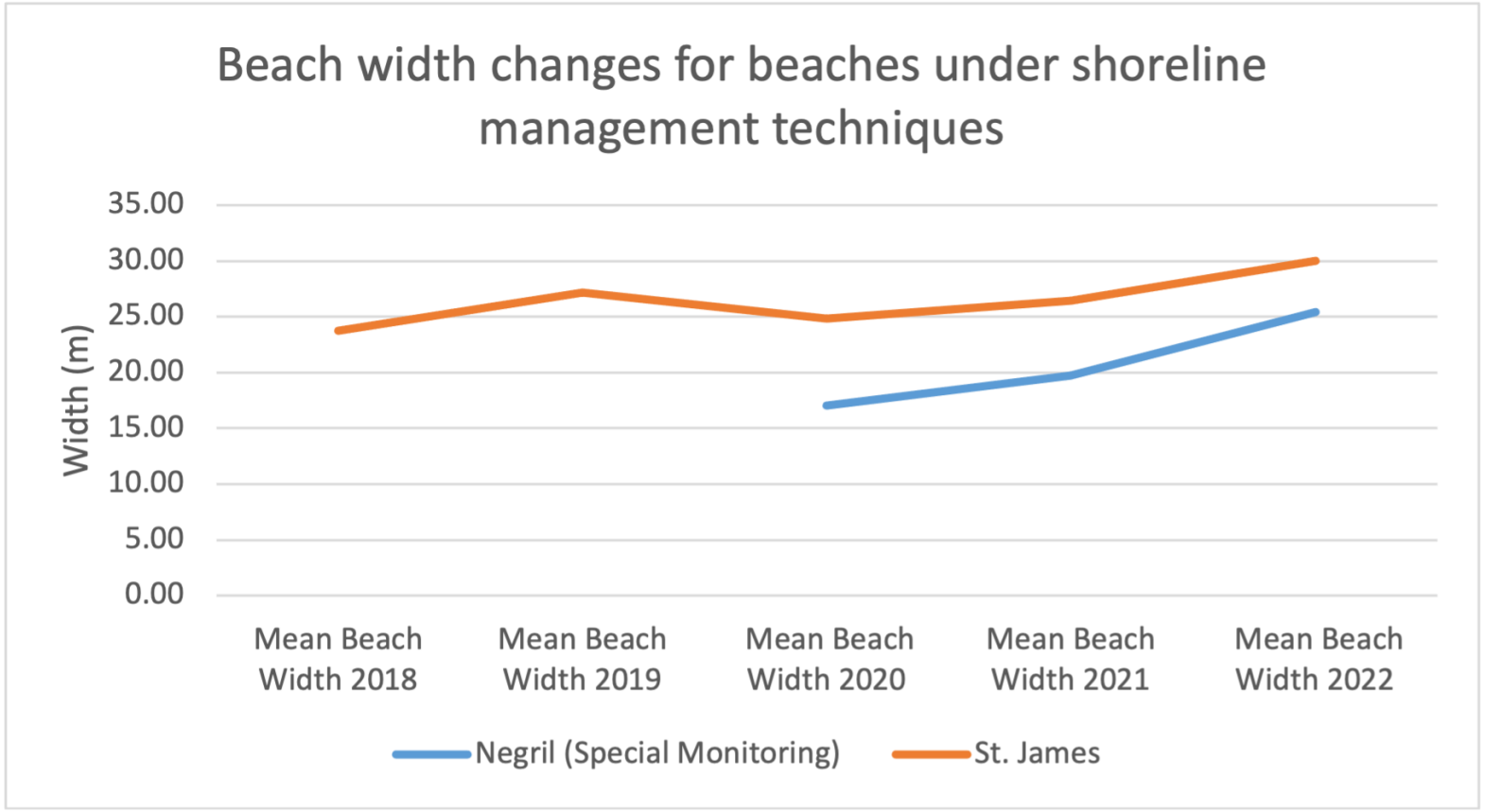


Results: Shoreline Management Techniques

Two sites monitored: St. James & Negril Special Monitoring

Available data shows annual means
higher than the base line – net accretion since baseline

Limited dataset



Next steps

- Improved data collection using technology
- Beach Access and Management Policy (Green Paper, 2020)
  - Use of data in decision making
  - Planning for climate change projections
  - Shoreline erosion management plans to protect lands, including public beaches

NEPA staff in drone training; Source: NEPA, April 2023


THANK YOU