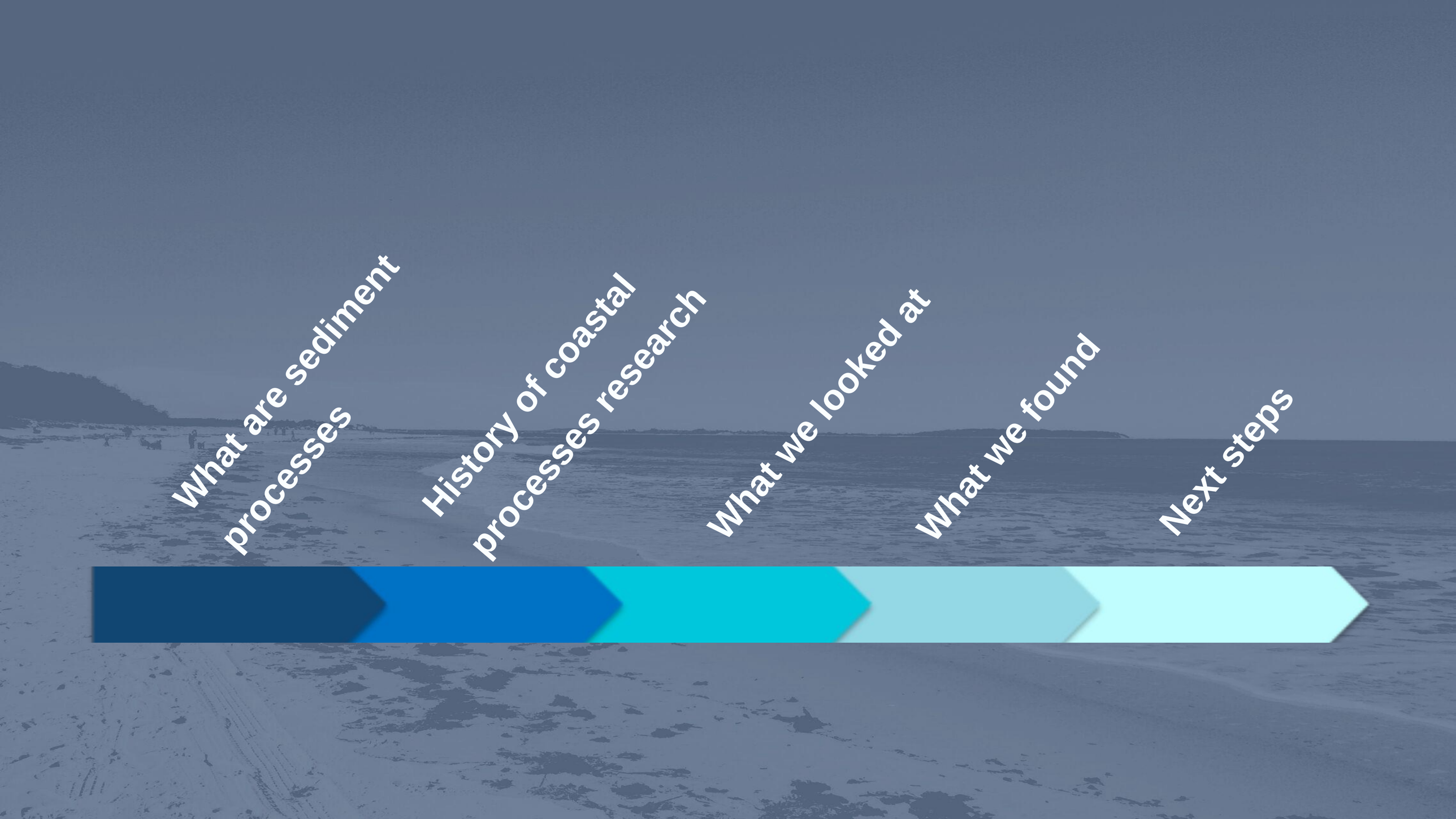
Are states paying attention to which way is the sand moving?

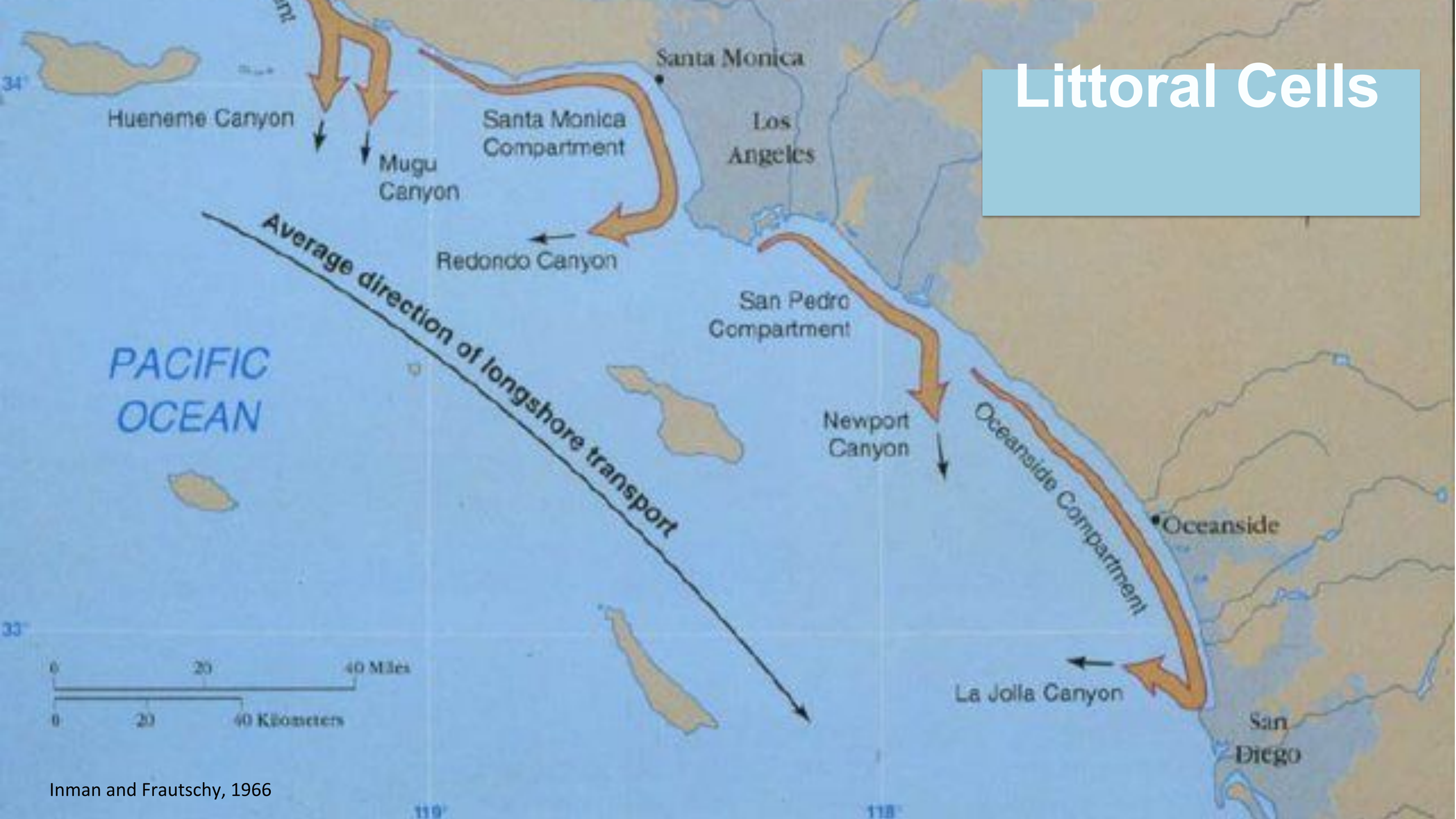
Emily K. Mitchell, J.D., M.S. Student
John Duff, J.D., LL.M.

School for the Environment

University of Massachusetts Boston


What are sediment processes
History of coastal processes research
What we looked at
What we found
Next steps

Littoral Cells



Inman and Frautschy, 1966

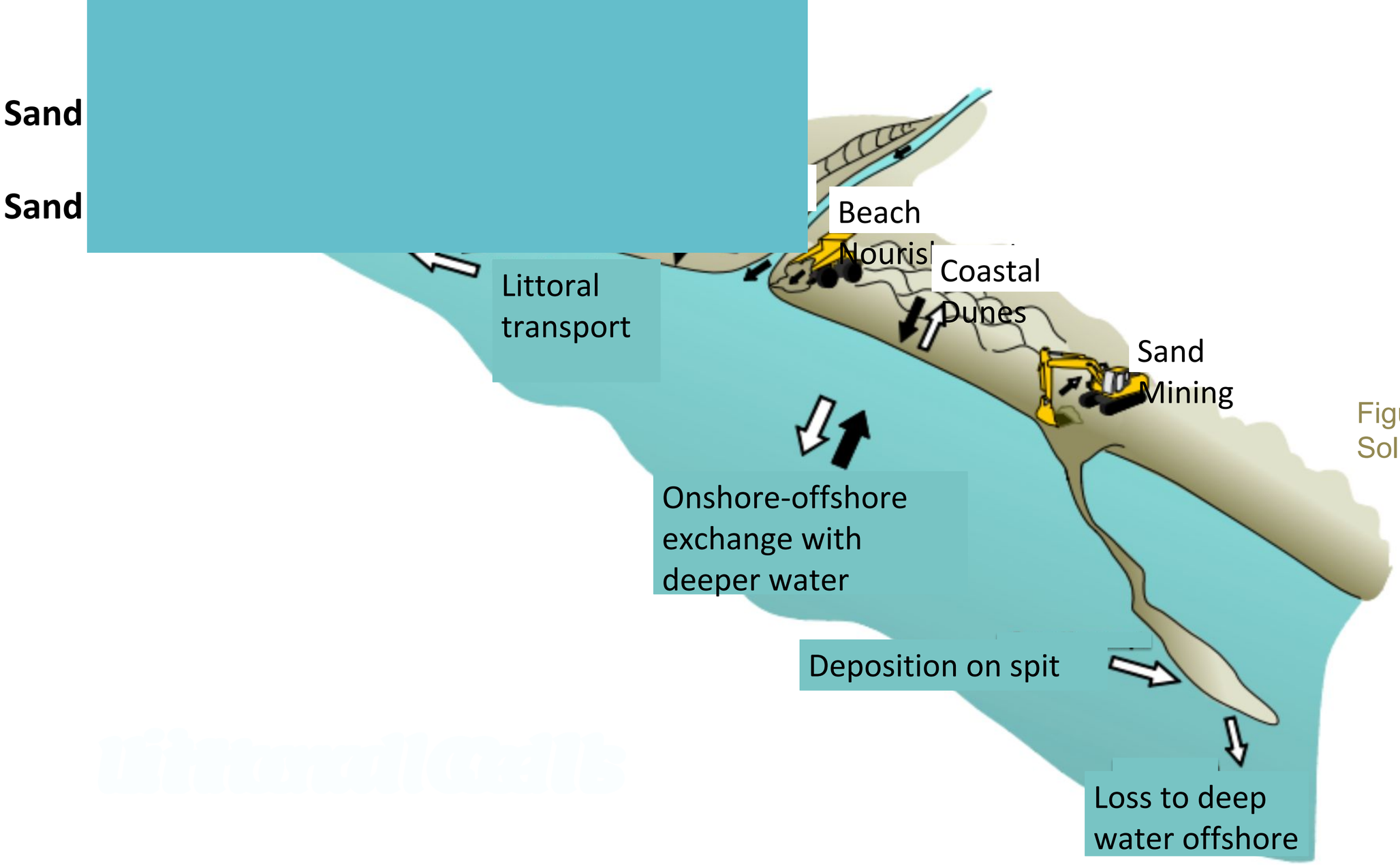
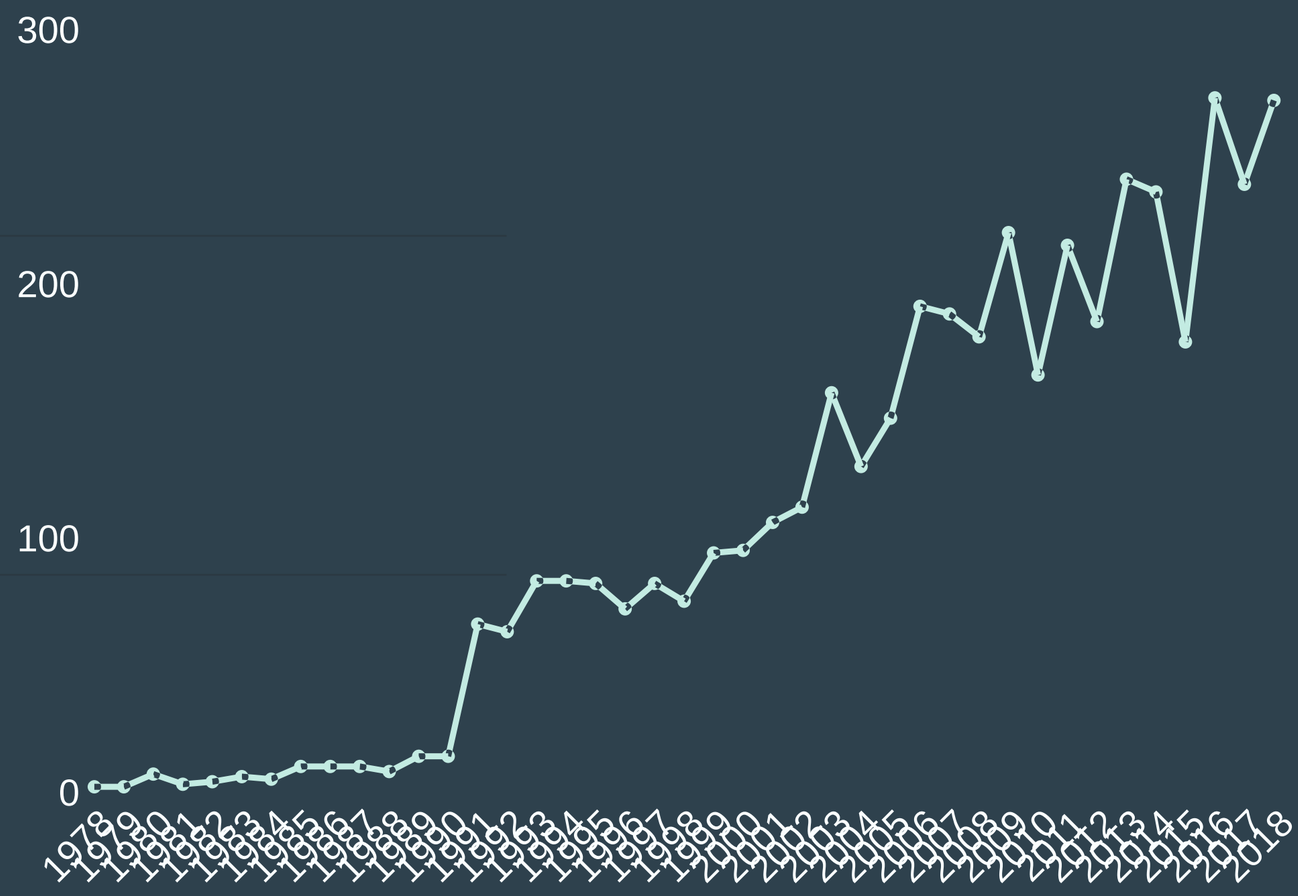


Figure: Geomorphic Solutions (edited)

Coastal processes research

PAPER MENTIONS BY YEAR



Includes papers that references: littoral cell, sediment processes, longshore, alongshore, circulation cell, or coastal compartment

1900s

Isolated Processes

1960s

Sum of processes in littoral zone

1980s

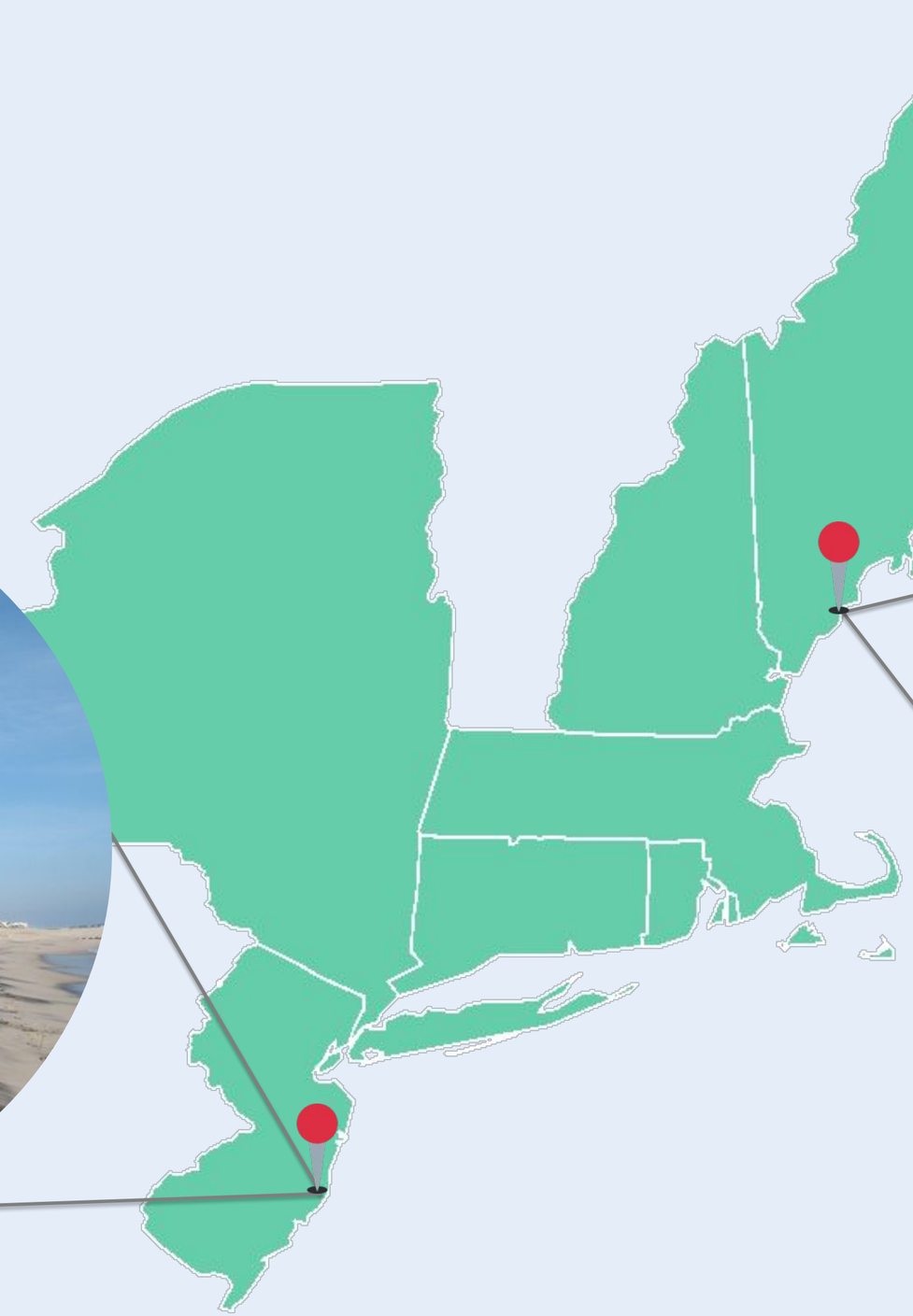
Relating littoral knowledge to human communities

2000s

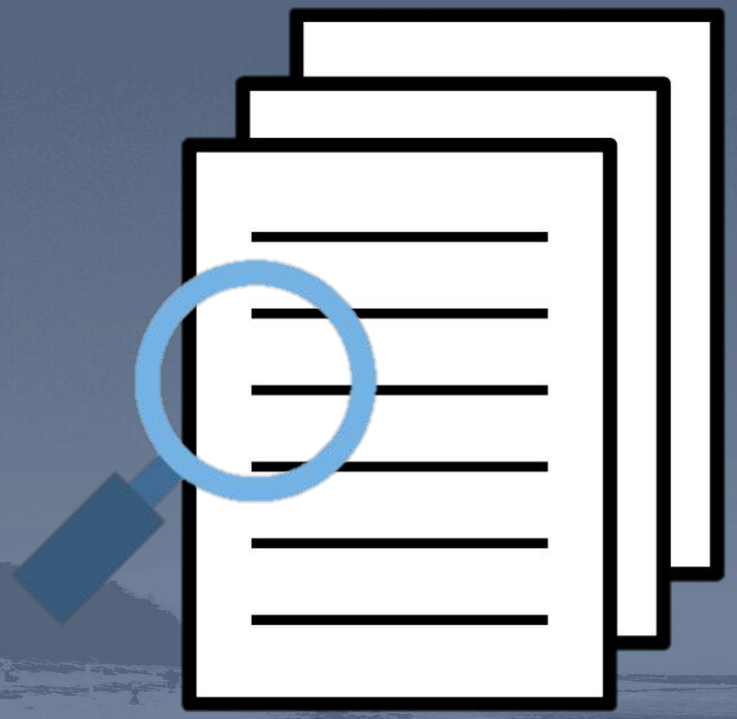
Scientists and managers agree on need for science informed management

WHY DO WE CARE?

Source: Nantucket Chronicle



Photos:
Robert Bukaty (ME)
Jim Phillips (NJ)



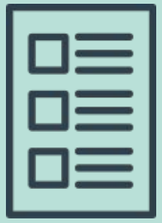
OUR RESEARCH

- Littoral Cell
- Sediment
- Sediment Transport/System
- Geological Compartment
- Circulation Cell
- Longshore/ alongshore

Results

Laws & Regulations

Geospatial Data

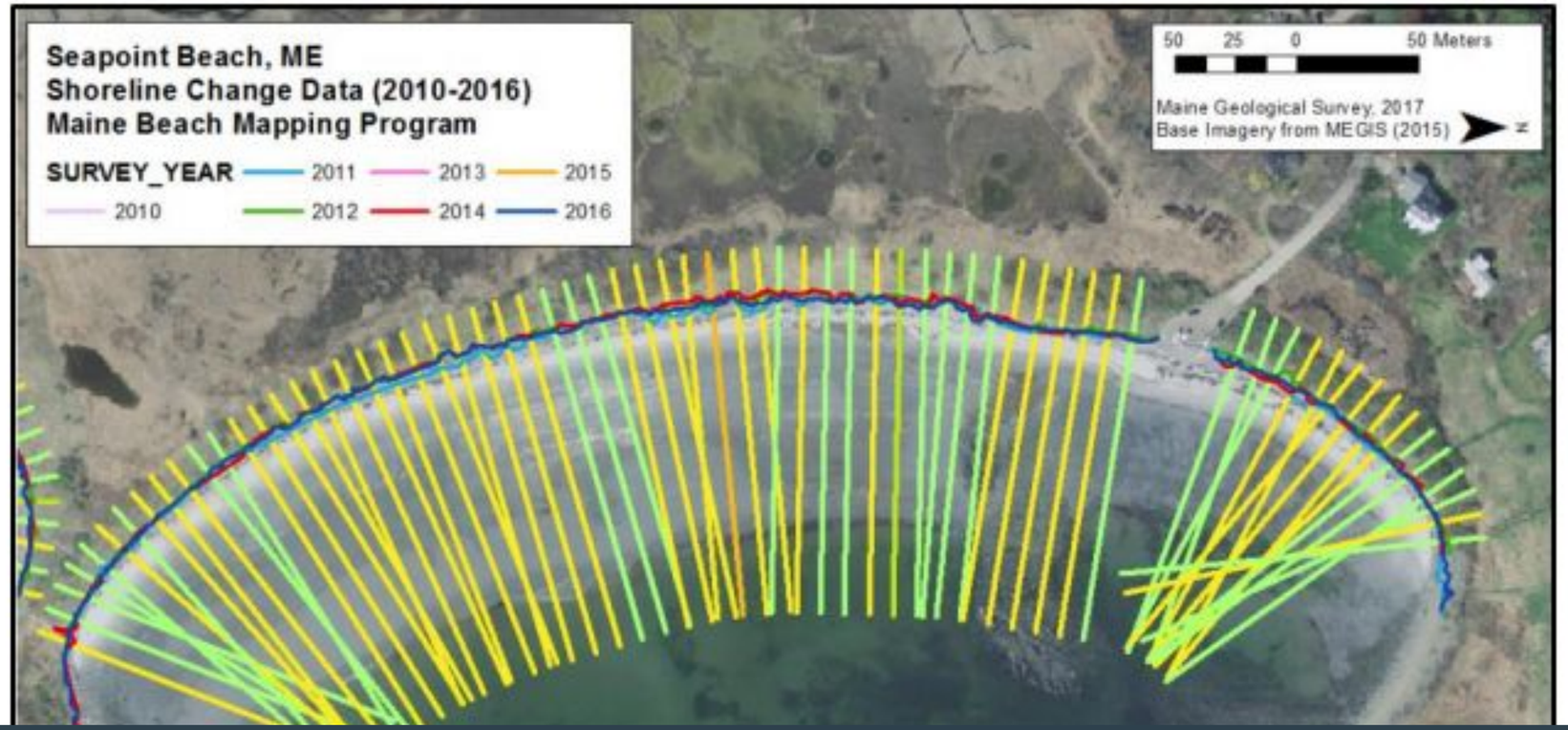


Non-legislative policies

Frank Cataldo

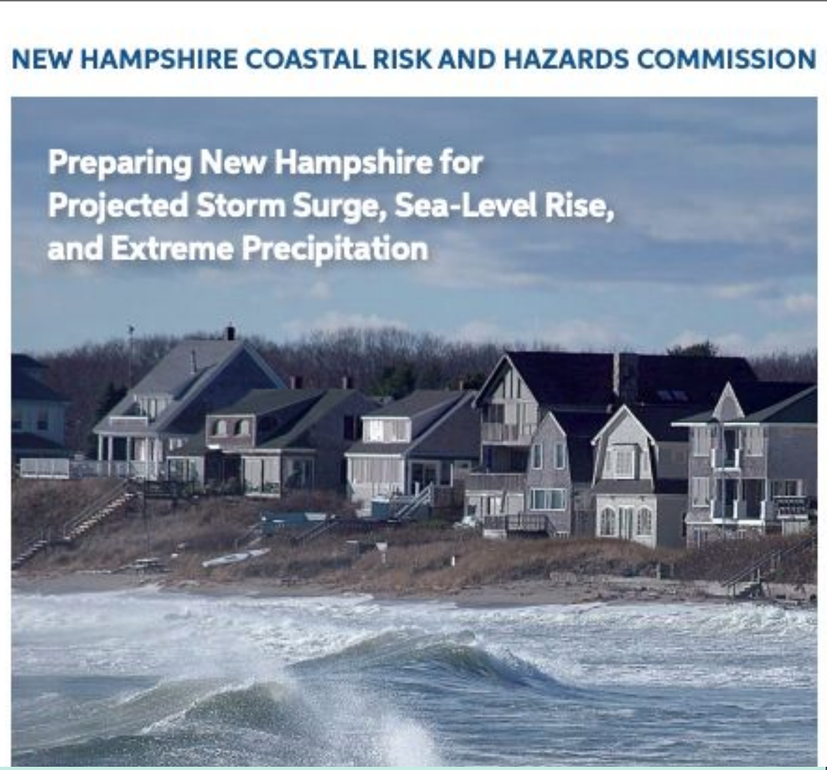
LAWS & REGULATIONS

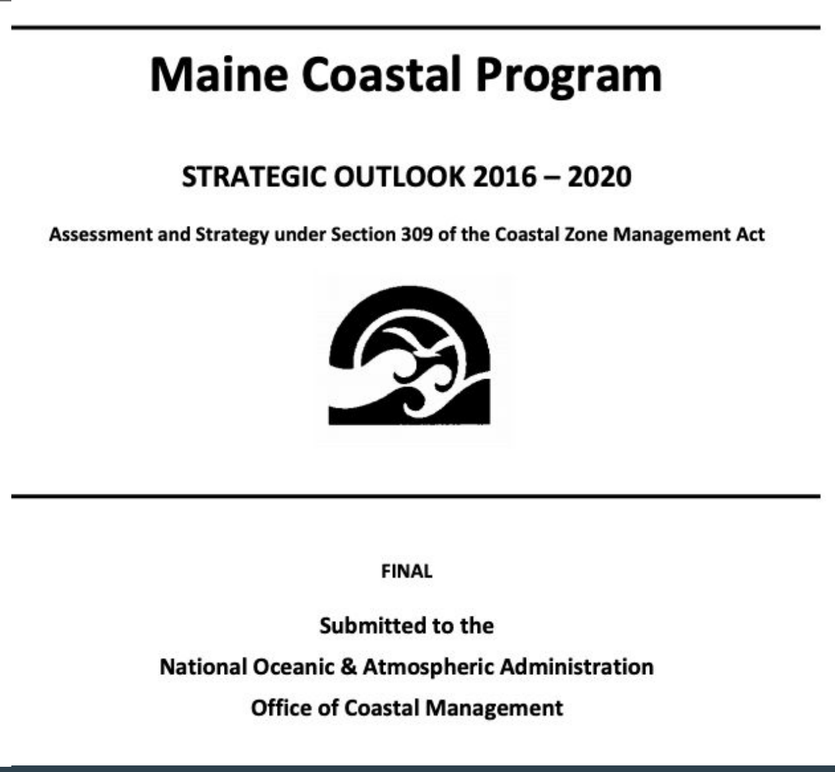
Inclusions of sediment processes in state legislation are limited

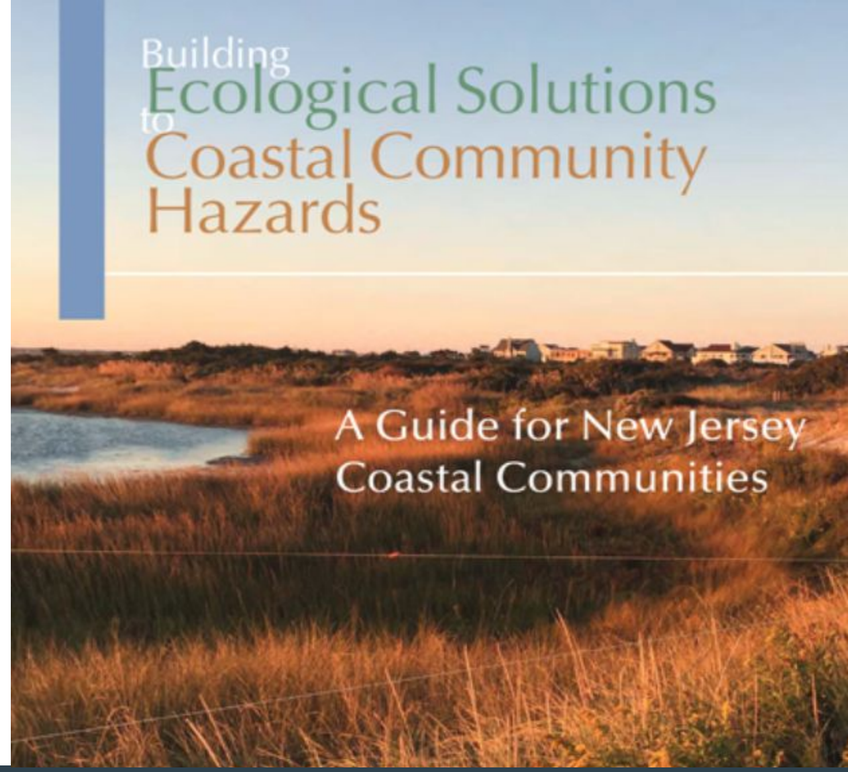


GEOSPATIAL DATA

All northeast states have shoreline process mapping occurring to some degree







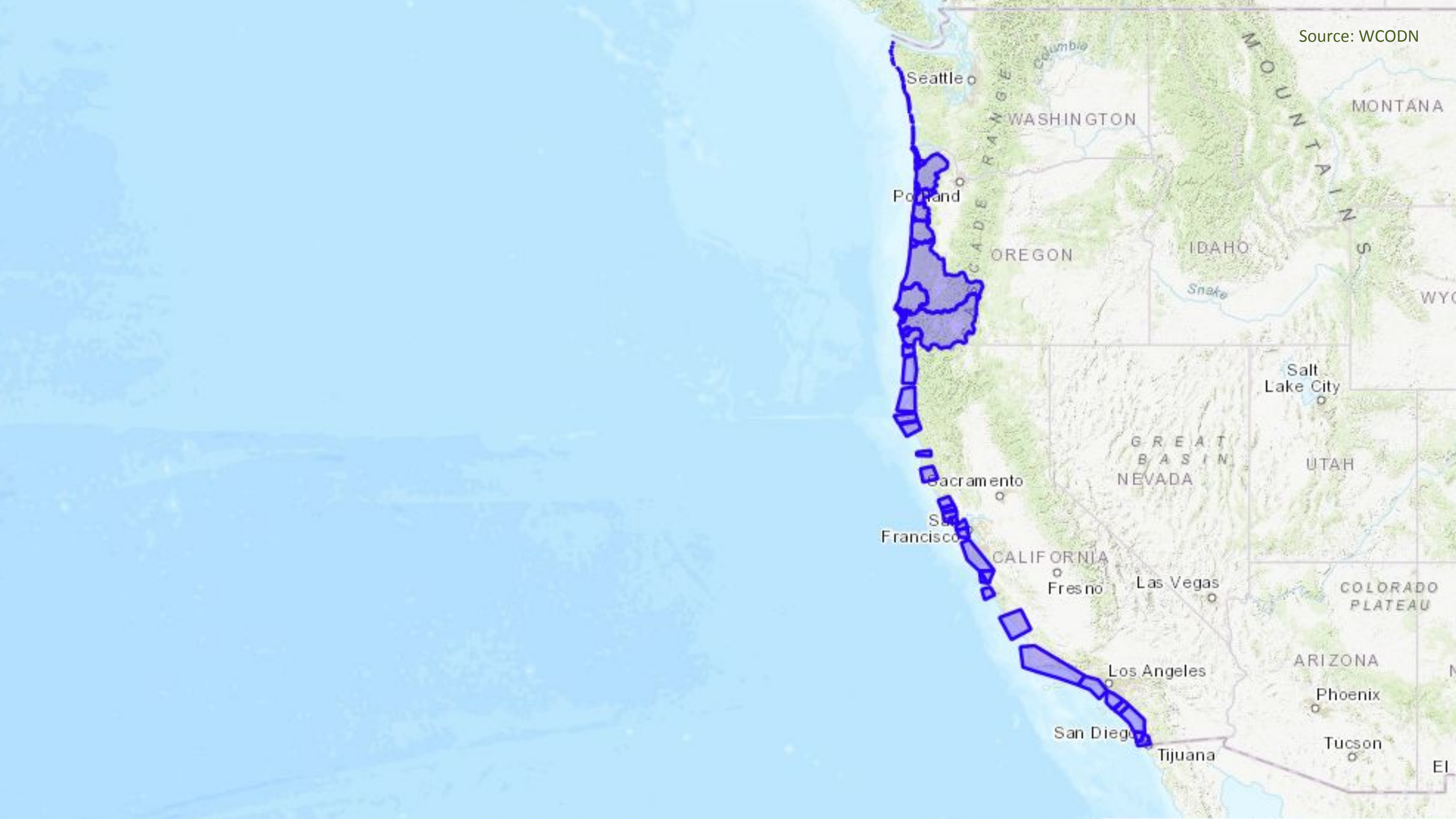
NON-LEGISLATIVE POLICIES

Most of the mentions of sediment processes within state materials are found in non-binding policy documents

Findings:

- All states are engaging in some for of coastal processes *mapping*
- Each state is pursuing a more *enhanced understanding* of how sand is moving
- *No state is fully integrating* coastal processes into their coastal management
- Each state has differing management priorities, they include:
  - **ME** – Enhancing data, continuing to integrate data into management
  - **NH** – Establish beach monitoring program, and better understanding sediment characteristics and processes
  - **MA** – Expanding mapping and modeling, predicting erosion hazards
  - **RI** – Use new technology to enhance data, limiting erosion hazards, set backs
  - **CT** – Preserve natural sediment dynamics, analyze shoreline change
  - **NY** – Develop coastal sediment budgets, quantify sources, sinks, and pathways of sediment transports
  - **NJ** – Dune protection and reconstruction, limiting erosion hazards, continued monitoring

Next steps:


Source: WCODN
Seattle
WASHINGTON
MONTANA
Columbia
CASCADE RANGE
MOUNTAINS
Portland
OREGON
IDAHO
Snake
WYO
Salt Lake City
GREAT BASIN
NEVADA
UTAH
Sacramento
San Francisco
CALIFORNIA
Fresno
Las Vegas
COLORADO PLATEAU
ARIZONA
Los Angeles
Phoenix
San Diego
Tijuana
Tucson
El

Questions?
Answers?

Emily.Mitchell001@umb.edu

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