

The Siren Song of Simple Models

*some cautionary observations on their
appropriate use*

Roger Fuller

The Nature
Conservancy. 

Protecting nature. Preserving life.

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Odysseus and the Sirens

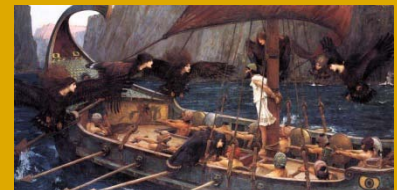


John William Waterhouse, 1891

Modeling and Management Decisions

Summary

1. Beware of beautiful maps
2. Use tools appropriately
3. Sailing past the sirens:
the Port Susan Bay case study



Modeling and Management Decisions





A
resilient
and
adaptable
estuary?

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Modeling and Management Decisions

The knowledge gap

Vulnerability?

Management actions?

The tool gap

Model of key drivers

Many scenarios

Cost effective

Flexibility



Filling the tool gap

Sea Level Affecting Marsh Model (SLAMM)

Modeling and Management Decisions

Model Selection

SLAMM 5.0

- 5 primary processes modeled

Inundation

Erosion

Overwash

Saturation

Salinity

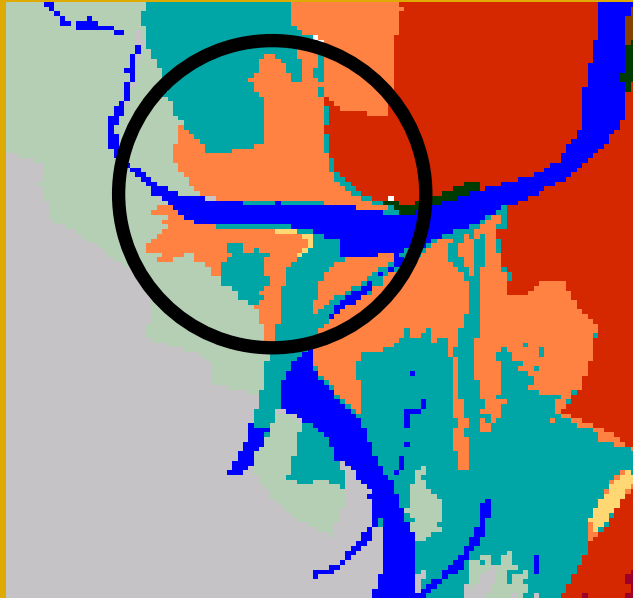
- Accretion: site characteristic

SLAMM 6.0

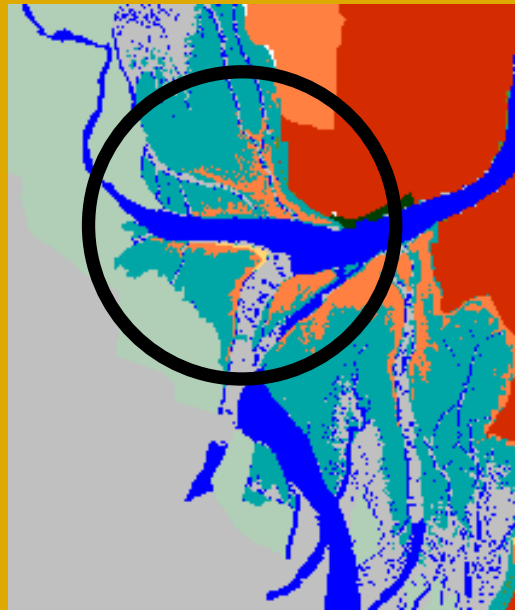
- 30mx30m data and grid

- Habitat switching algorithms

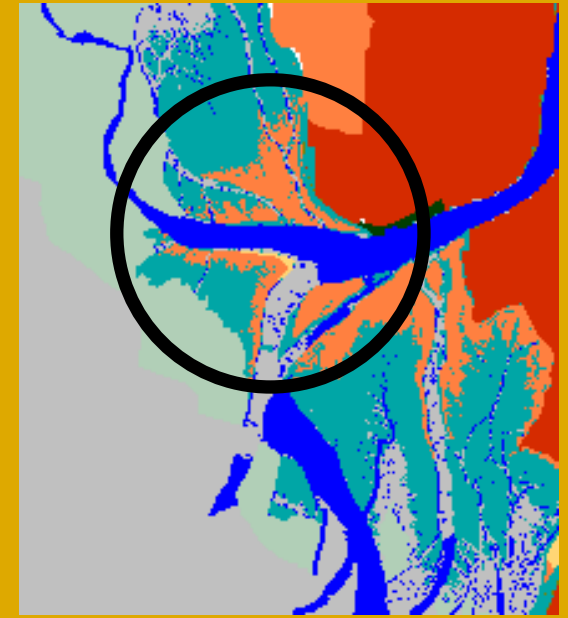
Modeling and Management Decisions



Initial conditions



Constant accretion
(e.g. SLAMM 5.0)



Variable accretion

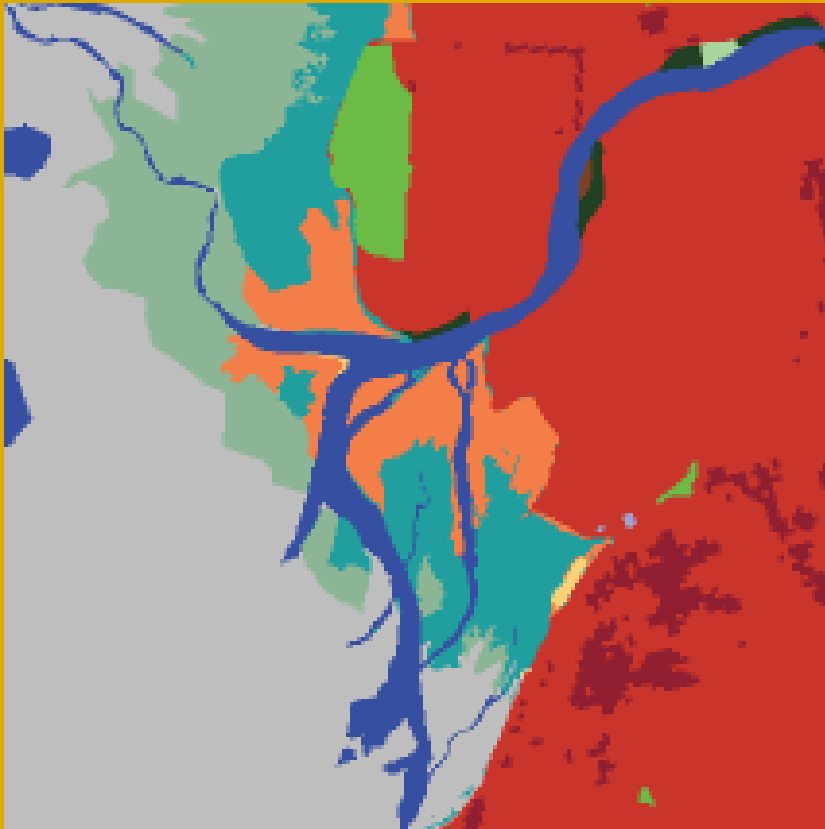
2100

1m SLR

Modeling and Management Decisions



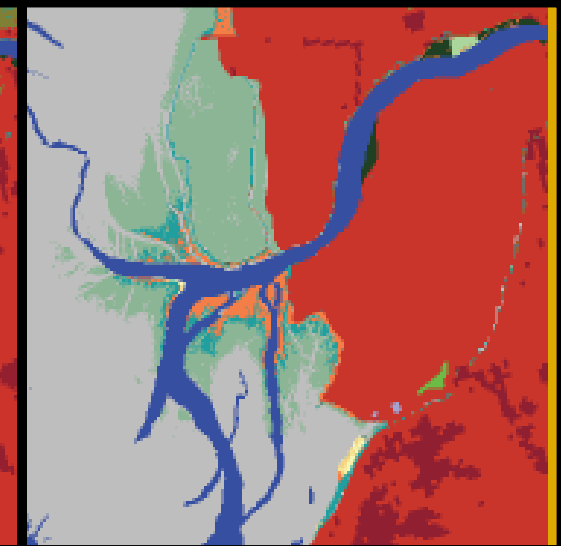
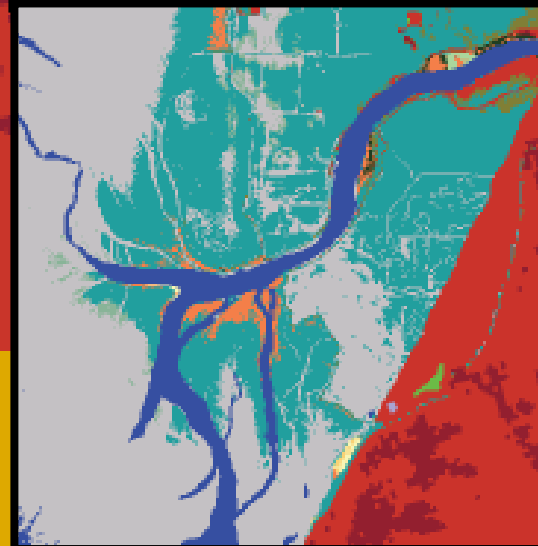
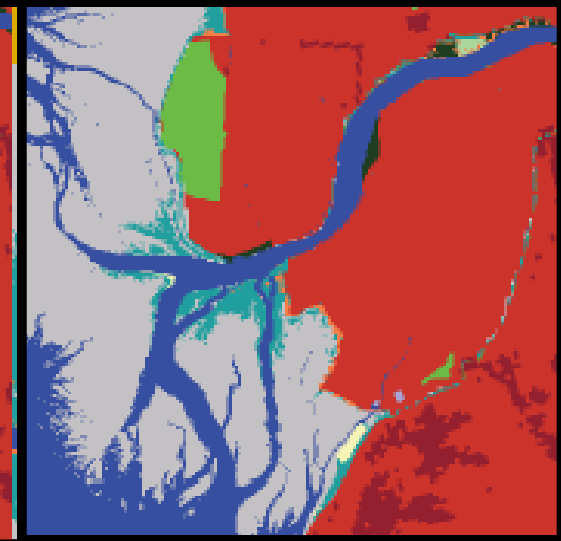
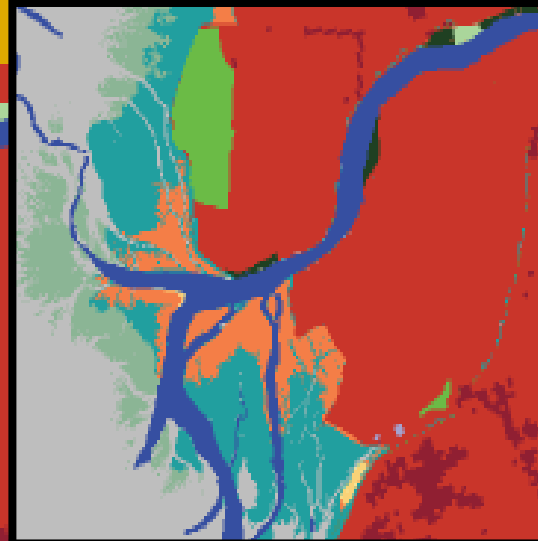
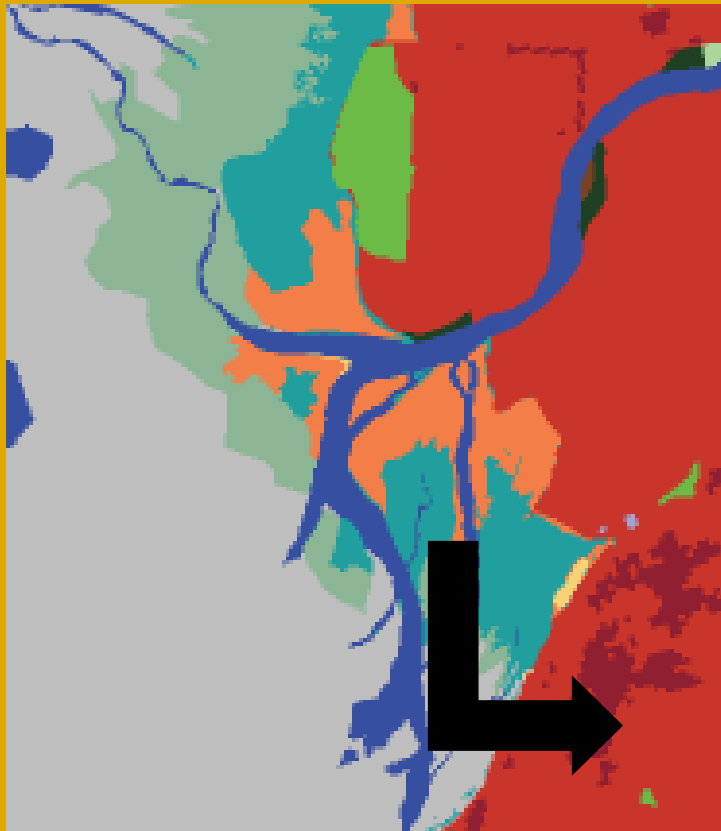
Beware of Beautiful Maps



Modeling and Management Decisions



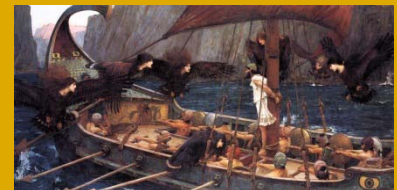
Use Tools Appropriately



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thank you