

NATIONAL COASTAL ECOSYSTEM PREDICTION - MARSHES

An interagency collaboration is needed to deliver a nationally consistent marsh prediction and inform the protection of coastal communities and economies

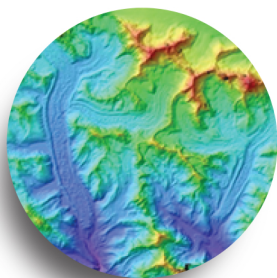
Science informing Coastal Ecosystems, Communities, and Infrastructure Protection and Resilience

PROGRAM AT A GLANCE

Looking to partner now

Initial NOAA investment: \$700K - 2023

Expected NOAA investment: \$2.1 M (FY23 - 26)



THREE
ACTIVITIES



REGIONAL
APPROACH



CO-PRODUCTION

To achieve these goals we need:

COMMUNITY OF PRACTICE (CoP)

Engaging with natural resource managers and other coastal decision makers will guide how marsh prediction is presented. Stakeholder feedback will also be implemented with the Model (CoP).



DATA LIBRARY

A library containing all data required to run a wide range of coastal marsh models is needed (~2005 to present)

THREE TEST BED SITES

Marsh predictions will initially be generated at select test bed sites representing a range of coastal ecosystems:

- Massachusetts: Plum Island Estuary
- New Hampshire: Great Bay NERR
- Mississippi: Grand Bay NERR
- California: San Francisco Bay NERR

MODEL PLATFORM

All models will be transitioned to a single automated system to predict future marsh presence nationally.



For more information or questions contact Christine Buckel:
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deliberative draft

- WARMER (USGS)
- SLAMM (Warren Pinnacle)
- Hydro-MEM (USGS)
- ICM (LA CPRA)
- MEM (Univ. So. Carolina)
- NOAA SLR (NOAA OCM)

Marsh Change Models

There are a number of models designed to predict marsh habitat change, but none of these meet all end user needs at a national scale.

Outcomes

A national marsh modeling framework and resulting marsh predictions will:

Expand the amount, quality, and accessibility of available information nationwide.

Improve future modeling capabilities (e.g., expansion to new habitat types and iterative model updates) to ensure that coastal decision makers continue to receive the best possible information.

Empower end users to make informed management decisions that maximize the value of existing marshes and support planning to ensure space for future marshes to migrate under sea level rise.

Establish the predominant marsh models in a single coded language, enabling the modeling field to move closer to operating its first complete performance analysis across all models.

Collaborators



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