Partnership-Building and Identification of Collaborative Marsh Adaptation Projects

February, 21 2023

Wetland Workgroup Meeting

CRWG Staff Lead: Julie Reichert-Nguyen (NOAA)
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Contractor: Skeo
CBP GIS Team: John Wolf and Coral Howe (USGS)
Steering Committee Wetland WG members: Pam Mason (VIMS) and Rachael Peabody (VMRC)

2014 Chesapeake Bay Watershed Agreement

Climate Adaptation Outcome: Pursue, design, and construct restoration and protection projects to enhance resiliency of the Bay and aquatic ecosystems from the impacts of coastal erosion, coastal flooding, more intense and frequent storms, and sea level rise.

Wetlands Outcome: Create or re-establish 85,000 acres tidal & non-tidal wetlands & enhance function of an additional 150,000 acres of degraded wetlands by 2025.

Photo Credit: Chesapeake Bay Foundation
David Nyweide

Marsh Adaptation

Working Definition:

Incorporating climate change information and resilience strategies when planning, designing, implementing, and managing marsh restoration and conservation projects to enhance longevity of marsh area and health

Climate Change Factors	Resilience Strategies
Sea Level Rise	- Identify and conserve marsh migration corridors - Restore/preserve healthy marsh sediment dynamics and vegetation - Ensure habitat connectivity
Increase in storm events & precipitation	

# Why we need collaborative marsh adaptation projects

- Manage marshes to be resilient to sea level rise and other climate change impacts to preserve ecosystem services.

- Implement strategic large-scale restoration strategies with cross-goal benefits instead of opportunistic, disconnected projects.

- Align geographical and organizational priorities to build partnerships to support large-scale implementation.

- Align marsh resilience research opportunities with implementation to increase data and information on the success of strategies.

Project Outcomes

- Identify **common criteria** for targeting tidal marsh projects by compiling resilience, conservation, and social vulnerability metrics, geographic priorities, and organizational goals across stakeholder groups.

- Identify **partners and projects** within two focus areas (MD, VA, or tribal lands) that could support large-scale tidal marsh restoration using criteria as a guide.

- Identify **data gaps and research needs** to inform on-the-ground tidal marsh management and adaptation at regional scales.

- Identify potential **research opportunities** that could coincide with tidal marsh restoration efforts to increase understanding of the success of climate resilience strategies.

- Identify **short and long-term funding opportunities** for proposed collaborative tidal marsh restoration and research projects.

DRAFT Framework for Targeting Projects
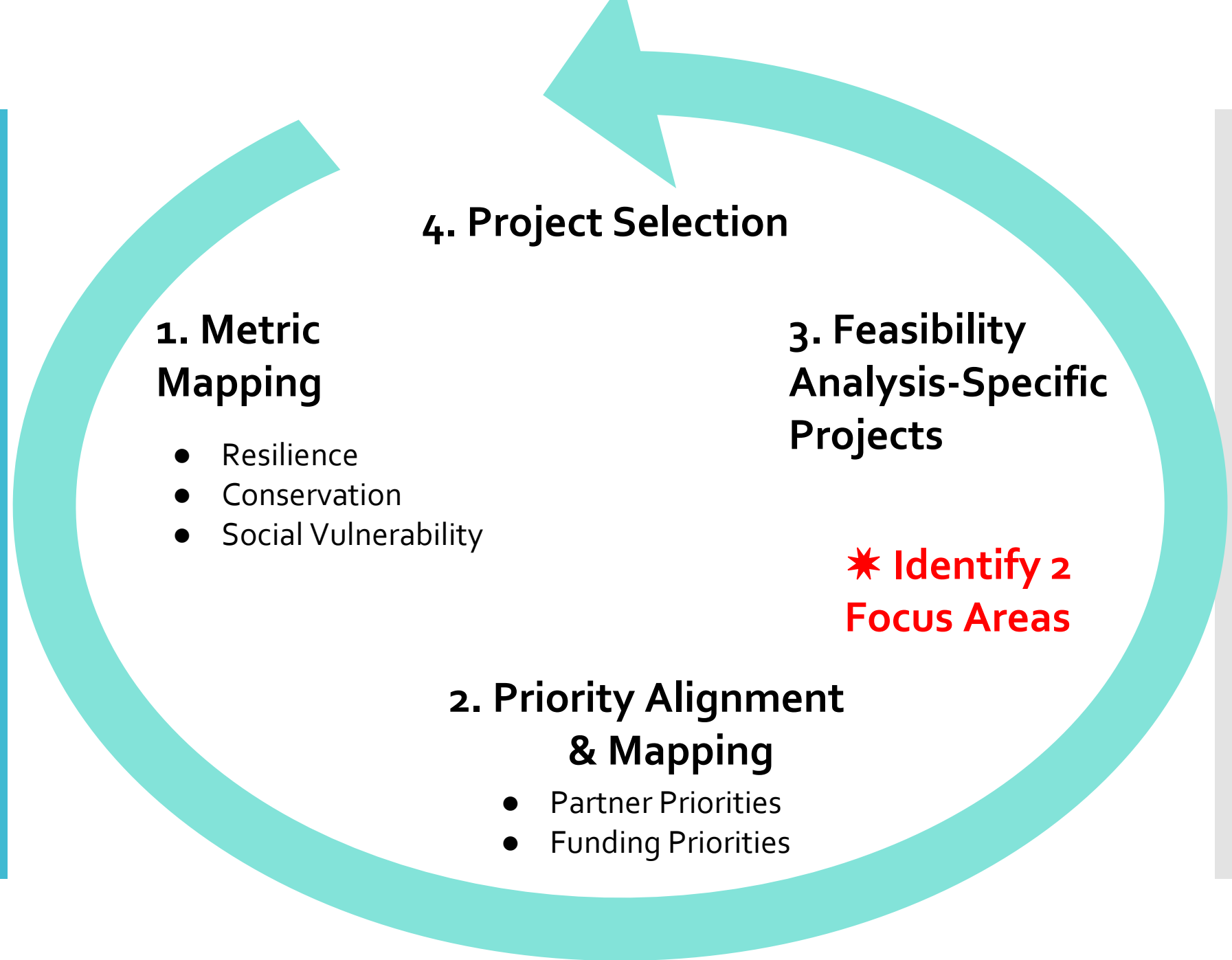
4. Project Selection

1. Metric Mapping

- Resilience
- Conservation
- Social Vulnerability

3. Feasibility Analysis-Specific Projects

✴ **Identify 2 Focus Areas**

2. Priority Alignment & Mapping

- Partner Priorities
- Funding Priorities

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Previous Workshops:

- Marsh Resilience Summit, 2019
- EPA Resilient Coastal Wetlands and Communities Workshop, May 2022
- CBP Habitat GIT Wetland Outcome Attainability Workshop, August 2022
- MD Sea Grant Marsh Persistence and Restoration in the Chesapeake Bay Workshop, October 2022

Potential Resilience Metrics

Suite of Marsh Migration Models

- NOAA SLR Viewer (National)
- SLAMM 5.0 (Chesapeake Bay)
- InVEST (Mid Atlantic)

FIGURE 4 DIAGRAM SHOWING HOW THE SUMMED RASTER (MULTI-MODEL LAYER) VALUES ARE COMPUTED FROM THE INDIVIDUAL MODEL RASTERS.
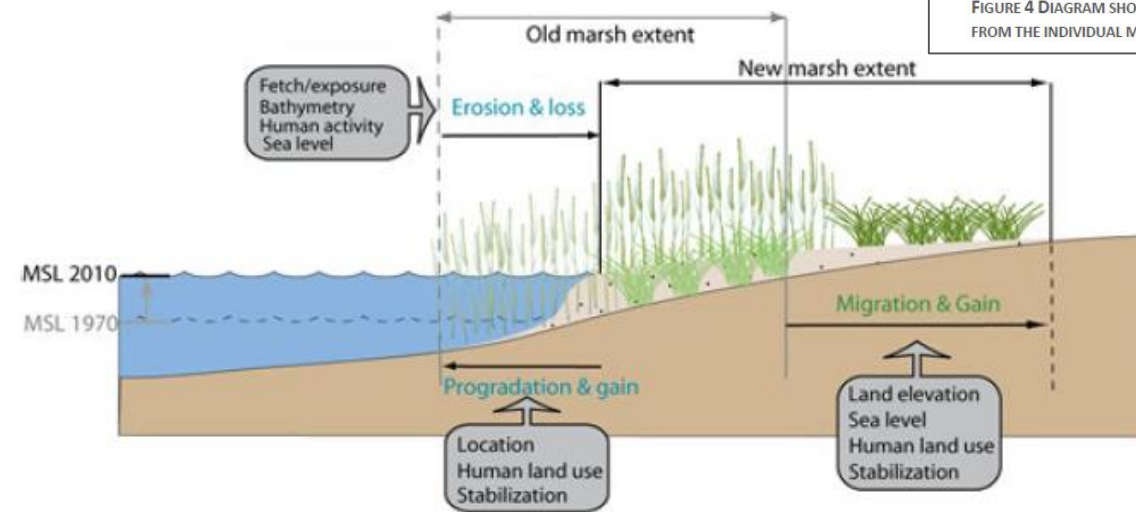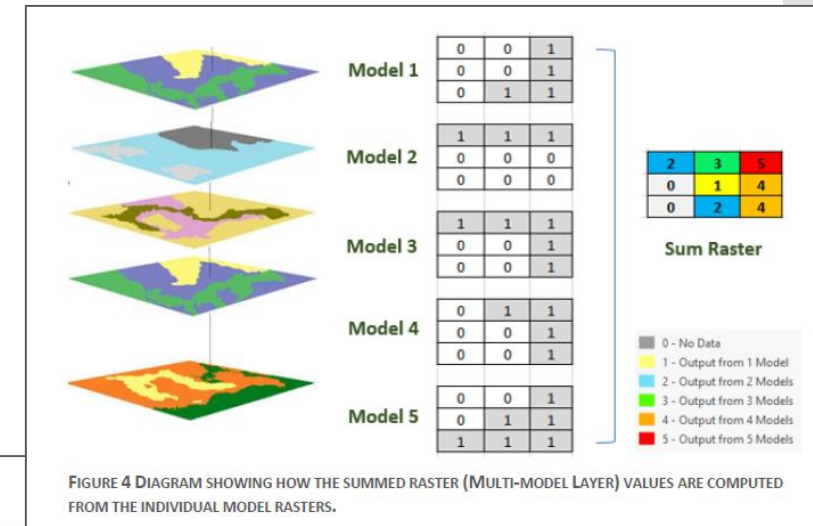

FIGURE 11. MECHANISTIC DRIVERS OF MARSH CHANGE. MECHANISMS IN GREY BOXES EXACERBATE OR MITIGATE THE EFFECTS OF MARSH CHANGE DRIVERS. FROM MITCHELL 2018.

Utilizing method from Mitchell et al. 2022, Synthesis of Shoreline, Sea Level Rise, and Marsh Migration Data for Wetland Restoration Targeting (GIT-funded project)

Project components

July 2022-Apr 2023

Phase 1
- Review existing partner resilience, conservation, and social vulnerability metrics (GIS mapping)
- Perform partner outreach to identify priorities
- Overlay partner metric and priority maps to select two regional focus areas for workshop conversations

Apr-Jun 2023

Phase 2
- Design 2-day workshop for MD, VA, and/or tribal stakeholders
- Identify large-scale marsh restoration and research projects and supporting partnerships

Jun-Sep 2023

Phase 3
- Prepare project report and stand-alone communication documents on metrics, identified projects, and supporting partner networks
- Link prioritized projects with list of potential funding opportunities
- Identify challenges to collaborations

Next Steps

- Targeting framework test with Middle Peninsula York River Roundtable Habitat Restoration Steering Committee
- Partner Outreach
- Identification of 2 Focus Areas (MD, VA)
- Workshop Development & Participant Identification
- Hybrid Workshop

How You Can Help

- Review Partnership List - Are we missing any key partners?
- Review Partner Questions - Are we asking the right questions to align partner interests and priorities?
- Coordinate within your organization to share geographic priorities
- Review Targeting Framework and Data Methodology

Nicole Carlozo will be presenting more information on the resilience, conservation, and social vulnerability metrics being considered during the February 23rd Climate Resiliency Workgroup meeting (~ 3:00 PM)

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