The University of Michigan Water Center and partners are working with the National Oceanic and Atmospheric Administration (NOAA) to coordinate the National Estuarine Research Reserve System's (NERRS) Science Collaborative. Working closely with NOAA and NERRS, the Water Center’s central goal is to develop and support a program that connects researchers and managers to define, co-produce, and deliver relevant and usable research results to address critical coastal management issues and improve the long-term stewardship of the nation’s ecologically, socially, and economically valuable estuaries.

Science Collaborative Objectives:

1. **Identify and address key stressors of management concern** related to water quality degradation, habitat loss, and adverse impacts of climate change on estuarine resources, specifically those in the 28 National Estuarine Research Reserves.
2. **Foster co-production of science to improve decision making** by bringing together researchers and managers to iteratively develop and implement projects that address management needs and produce research that fits within management decision contexts.
3. **Transfer and disseminate key knowledge, processes, and lessons learned** to researchers, managers, decision makers, and educators beyond the scope of individual projects to extend benefits beyond individual reserves and beyond the NERRS.
4. **Deliver credible, relevant, and accessible data** by encouraging the use of data from the System-Wide Monitoring Program (SWMP) and Sentinel Sites, and by ensuring project data and metadata are high quality, archived, and discoverable by researchers and coastal managers.
5. **Iterate program priorities and processes adaptively**, informed by formal program and project-level evaluations and by input from NOAA, NERRS, and an expert Advisory Board.

Key Elements of the Science Collaborative:

- **Competitive grants supporting projects that fulfill key research needs:**
  - **Collaborative research projects** emphasize outputs that are developed *jointly* with end users who are decision makers, managers, or otherwise engaged in making decisions relevant to estuarine management. Proposals undergo expert panel reviews and require a key end-user presentation advocating for the project. Collaborative research projects will be awarded up to $250K per year for one to three years.
  - **Science transfer projects** help to strengthen the national network by increasing opportunities for cross-reserve collaboration and information sharing. Projects may work across reserves or be within a single reserve. They focus on transferring existing information to better support local decisions or education programs. Proposals undergo review by a multidisciplinary panel composed of collaboration, communications, and technical experts. Science transfer projects will be funded $20-45K for up to two years.
> **Integrated assessments** (IAs) actively engage subject matter experts, decision makers, and key stakeholders in outlining viable pathway options toward ecologically, socially, politically, and economically sound solutions to complex issues. Due to the unique and highly collaborative nature of IAs, the first year will be spent introducing and scoping the idea of IA projects before developing a formal process for soliciting proposals in year 2. It is anticipated that IA projects will be awarded up to $250K for up to two years.

- **Support for needs identification, collaborative research, and end user engagement at all project stages, including:**
  - Time and resources to support local gatherings of potential investigators and end users at reserve sites to enhance collaboration during problem definition and project development, and facilitate relationship building
  - Early webinars targeting potential collaborators to explain the program’s goals, priorities, and processes, followed by further discussions with and among reserve personnel to help identify cross-reserve needs, opportunities, and transfer project ideas
  - A dedicated project manager to work with each team to get to know the project well and provide support, including connecting similar projects and efforts, identifying areas for improvement and assisting in addressing challenges, and enhancing transfer of project outcomes
  - Regular and meaningful reporting to inform improvements early and throughout projects to ensure successful completion and maximize impact

- **Formal evaluations to support learning and program adjustment over time:**
  The best programs learn from past successes and failures, and the Science Collaborative has three formal evaluations that engage the NERRS, NOAA, and others to inform adaptation over time:
  - **Early:** What elements of the Science Collaborative have worked well in the past? Where are opportunities for improvement?
  - **Mid-cycle:** What early lessons have been learned? What new ideas for improvement have emerged?
  - **End-cycle:** How successful has the team been in supporting the Science Collaborative? What additional improvements can be made?

- **Opportunities to build collaborative skills and enhance science transfer:**
  - Formal convening of teams throughout the project period to foster partnerships and increase sharing of ideas, lessons learned, and results across projects and scales
  - Training sessions, developed in coordination with NERRS Coastal Training Program Coordinators, focused on building collaboration skills, science transfer, and other related topics
  - Science Collaborative sessions at national coastal management and science conferences
  - Regular webinars targeting decision makers and Congressional staff to showcase the program and share important research results
Guidelines for making data discoverable and accessible:

- All project data and metadata will be made discoverable and accessible through the NERRS Centralized Data Management Office.
- Data collected under the auspice of the Science Collaborative will establish, document, and adhere to a system of data quality assurance and quality control.
- Appropriate metadata will be developed and maintained for all data available via the CDMO data portal.

Special focus on climate change adaptation:
The NERRS network offers an ideal context within which to explore on a comparative basis (1) what adaptation success means in different locations, (2) what relevant dimensions need to be considered in moving toward success, and (3) how progress toward a common vision can be measured and tracked to guide estuarine reserve managers to succeed in protecting the nation's valuable coastal resources in the face of climate change. The NERRS network will be engaged to test and enhance a framework for assessing and analyzing successful reserve adaptive management under a changing climate.

Key Milestones of Year 1

January 2015
Initial RFP for Collaborative Research and Science Transfer grants released.

March 2015
Collaborative Research pre-proposals and Science Transfer proposals due

June 2015
Collaborative Research full proposals due
Science Transfer projects begin

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