Marine Carbon Dioxide Removal (mCDR): Research and Development for Assessing Large Scale Carbon Removal and Local Scale Ocean Acidification Mitigation

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NOTICE OF FUNDING OPPORTUNITY

EXECUTIVE SUMMARY

Federal Agency Name(s): Oceanic and Atmospheric Research (OAR), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce

Funding Opportunity Title: Marine Carbon Dioxide Removal (mCDR): Research and Development for Assessing Large Scale Carbon Removal and Local Scale Ocean Acidification Mitigation

Announcement Type: Initial

Funding Opportunity Number: NOAA-OAR-OAP-2023-2007714

Federal Assistance Listings Number: 11.017, Ocean Acidification Program (OAP)

Dates: Full applications must be received and validated by Grants.gov by 11:59pm Eastern time February 28th. Submissions received after the deadline will not be considered.
Investigators are advised to submit full applications well in advance of the deadline as a precaution against unanticipated delays. Applicants must register with Grants.gov before submitting application materials. When developing your submission timeline, keep in mind the following information regarding application submission on Grants.gov:
1. Grants.gov requires applicants to complete a free annual registration process in the electronic System for Award Management (SAM), which may take between three and five business days or as long as several weeks to process.
2. If you submit a full application via Grants.gov, you will receive a series of email notifications for up to two business days before learning via validation or rejection whether NOAA has received your application.
If use of Grants.gov is not feasible, contact the NOAA OAP Program Manager (see Section VII for contact information) as soon as possible and no later than a week before the due date to assess whether alternative arrangements can be made.

Funding Opportunity Description: The purpose of this document is to advise the public that the NOAA Ocean Acidification Program on behalf of the National Oceanographic Partnership Program (NOPP) is soliciting proposals focused on expanding understanding of various aspects of marine Carbon Dioxide Removal (mCDR) to reduce uncertainty about the extent and durability of carbon removal, associated co-benefits/risks, and contribute to regulatory frameworks needed for both testing and implementation of approaches. This knowledge will assist in the verification or invalidation of hypotheses regarding mCDR, in order to make informed decisions regarding a potential scaled negative carbon ocean industry. The agencies and entities participating in this multi-agency request for proposals include: NOAA (Ocean

Acidification Program, Global Ocean Monitoring and Observing Program, US Integrated Ocean Observing System/US IOOS), the Department of Energy (Fossil Energy and Carbon Management, Water Power Technologies Office), Department of Navy (Office of Naval Research), the National Science Foundation (Chemical Oceanography Program) and philanthropies including ClimateWorks. Other agencies, sub-entities and philanthropies may also join after the NOFO release.

This NOFO is focused on various aspects of mCDR implementation and the research required to successfully execute and understand the impacts of mCDR. A separate and complimentary Funding Opportunity Announcement (FOA) focused on Measurement, Reporting and Verification (MRV) technology development will be issued by ARPA-E in the near future. Applicants are encouraged to consider how responses to this NOFO could dovetail with a more focused program on transformative MRV technology development that may run in parallel with research toward mCDR implementation. More information on the ARPA-E MRV program will be available on the ARPA-E opportunities website, https://arpa-e-foa.energy.gov.

Electronic Access: Proposals should be submitted through Grants.gov. Sign up to receive any potential amendments to this Announcement via www.grants.gov.

FULL ANNOUNCEMENT TEXT

I. Funding Opportunity Description

A. Program Objective

1. Rationale for marine Carbon Dioxide Removal research

Marine Carbon Dioxide Removal (mCDR) strategies augment the ocean's natural carbon cycle to complement mitigation efforts and reduce atmospheric CO2 concentrations at gigaton levels of carbon removal. According to the Intergovernmental Panel on Climate Change's Sixth Assessment Report (https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report_smaller.pdf), carbon dioxide removal (CDR) techniques are now essential components of almost all pathways that achieve 1.5-2 °C warming goals. If emissions rates continue to rise, meeting these goals will require increasing reliance on negative emissions technologies, or CDR.

The broad approaches for mCDR include technologically-enhanced natural processes and human-assisted technological approaches for carbon dioxide removal from the atmosphere and oceans. While negative emissions technologies and carbon removal techniques are still in the early stages of development in most cases, the body of research around these techniques is growing fast (e.g., National Academies of Sciences, Engineering, and Medicine 2018, 2021), as is private and public interest in the development of carbon sequestration infrastructure, in verification of carbon sequestered and in purchase of carbon credits. Still, there is a clear gap between the knowledge needed to successfully demonstrate and implement these technologies and the current pace of innovation.

2. Legislative Mandates and Justification:

The NOAA Ocean Acidification Program (OAP) was established by the Federal Ocean Acidification Research and Monitoring (FOARAM) Act of 2009. The OAP coordinates OA research, monitoring, and other activities to improve our understanding of how the chemistry of the ocean is changing, how variable that change is by region, and what impacts these changes are having on marine organisms, people, and the local, regional, and national economies that depend on the ocean. NOAA's mission is to understand and predict changes in the world's oceans, share that knowledge, and conserve coastal and marine ecosystems. FOARAM also requests that NOAA investigate OA mitigation options of which marine CDR is a potential tool. The foundation in ocean biogeochemical observing and impacts research led by NOAA will provide a firm footing for marine CDR research.

The mission of the Global Ocean Monitoring and Observing Program (GOMO) is to provide and support high quality global ocean observations and research to improve our scientific understanding and inform society about the ocean's role in environmental change. As such, GOMO is responsive to multiple existing authorities including the Coordinated Ocean Observations and Research Act of 2020 (S-914), which follows the Integrated Coastal and Ocean Observation System Act of 2009, the Global Change Research Act of 1990, and the Federal Ocean Acidification Research and Monitoring (FOARAM) Act of 2009.

The US Integrated Ocean Observing System (IOOS) was created under the Integrated Coastal and Ocean Observation System Act of 2009 (Pub. L. 111-11) ("ICOOS Act" or "Act"), as amended by the Coordinated Ocean Observation and Research Act of 2020 (Pub. L. 116-271, Title I) ("COORA"). The mission of IOOS is to produce, integrate, and communicate high quality ocean, coastal and Great Lakes information that meets the safety, economic, and stewardship needs of the Nation.

The National Science Foundation Chemical Oceanography Program funded under NSF Geosciences 47.050. https://www.nsf.gov/pubs/gpg/nsf04_23/foreword.jsp.

Inflation Reduction Act of 2022 sec 40001

Marine CDR is either directly or indirectly referenced in the following US government strategic documents:
1 - NOAA Strategic Research Plan - Climate Ready Nation principles: https://www.noaa.gov/sites/default/files/2022-06/NOAA_FY2226_Strategic_Plan.pdf
2 - NOAA Weather Water Climate Board Strategy (societal outcome 24: carbon sequestration): https://drive.google.com/file/d/1DX8Nm6AeUF-GFtsbujDLVQELoZy-k8DN/view
3 - NOAA Ocean Acidification Research Plan: https://oceanacidification.noaa.gov/ResearchPlan2020.aspx
4 - Federal Ocean Acidification Research Plan (draft): https://oceanacidification.noaa.gov/FederalStrategicPlan.aspx
5 - NOAA Global Ocean Monitoring and Observing Program Strategic Plan for FY 2021-2025 https://globalocean.noaa.gov/wp-content/uploads/2022/07/GOMO-Strategic-Plan-2021-2025.pdf
6 - Fossil Energy and Carbon Management (FECM)'s Strategic Vision: Achieving Net-Zero Greenhouse Gas Emissions | Department of Energy: https://www.energy.gov/fecm/articles/fecms-strategic-vision-achieving-net-zero-greenhouse-gas-emissions
7 - Water Power Technologies Office (WPTO) Powering the Blue Economy Report: https://www.energy.gov/eere/water/articles/powering-blue-economy-report
8 - WPTO Multi Year Program Plan: https://www.energy.gov/eere/water/multi-year-program-plan

9 - Biden Administration commitment to Ocean Climate Solutions: https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/08/fact-sheet-biden-harris-administration-celebrates-world-ocean-day-with-actions-to-conserve-americas-deepest-atlantic-canyon-cut-plastic-pollution-and-create-americas-first-ever-o/
10 - NOAA Carbon Dioxide Removal (CDR) strategy https://sciencecouncil.noaa.gov/Draft-CDR-Strategy

US Non-government strategic documents:
10 - National Academies of Sciences, Engineering, and Medicine Negative Emissions Technologies and Reliable Sequestration: https://nap.nationalacademies.org/read/25259/chapter/1
11 - National Academies of Sciences, Engineering, and Medicine A Research Strategy for Ocean-based Carbon Dioxide Removal and Sequestration: National Academies of Sciences, Engineering, and Medicine: https://nap.nationalacademies.org/read/26278/chapter/1
12 - Energy Future Initiatives: Unchartered Waters: https://energyfuturesinitiative.org/reports/uncharted-waters/
13 - Blueprint for Ocean Climate Action: https://oceanconservancy.org/wp-content/uploads/2022/06/Blueprint_for_Ocean_Climate_Action.pdf
14 - Guidance for Ocean based Carbon Dioxide Projects Report (Aspen Institute): https://www.aspeninstitute.org/publications/ocean-carbon-dioxide-removal/
15 - Macroalgae Cultivation & Sinking for Carbon Sequestration (Ocean Visions) https://oceanvisions.org/our-programs/macroalgaeresearchframework/

B. Program Priorities

1. Priority Research Areas

NOAA, on behalf of NOPP, is soliciting proposals focused on expanding understanding of various aspects of mCDR to reduce uncertainty about effectiveness and durability of carbon removal mechanisms, associated co-benefits/risks and contribute to permitting and regulatory frameworks needed for both testing and scaling up of approaches.

Proposals that cover one or more of the following research priorities are requested:

(1) develop and pilot methods for mCDR strategies (identified or novel approaches) that result in a local, beneficial increase in carbonate mineral saturation states that might be applied for localized acidification mitigation to conserve marine ecosystems and/or for in situ conversion to new energy sources or metals or other materials recovery,
(2) systems analysis of the validity and feasibility of scaled up, detectable mCDR approaches,

(3) develop and apply high resolution Earth System and/or regional ocean models to i) better resolve how and where natural ocean carbon cycle processes and reservoirs could be leveraged for long term carbon storage, ii) evaluate ecosystem relevant changes and impacts and/or iii) predict and verify local scale pertinent ocean carbon / carbonate chemistry changes and ocean acidification mitigation from mCDR pilot projects,
(4) develop and deploy/test in situ ocean observing methods and technologies to enable high-precision detection of carbonate chemistry dynamics and evaluation of the efficacy of mCDR strategies during targeted field deployments,
(5) apply, evaluate and optimize the use of marine energy technology that converts ocean waves, tides, currents, and/or gradients (salinity, thermal, or pressure) into usable energy to power any aspects of an mCDR approach. Proposed projects can include marine energy generation for the operation of mCDR directly, associated supporting systems, existing technologies adapted for Monitoring, Reporting and Verification (MRV), and/or a project proposed to meet other priorities outlined in this section,
(6) address the foundational and/or approach-specific research priorities outlined in the National Academies of Sciences, Engineering, and Medicine A Research Strategy for Ocean-based Carbon Dioxide Removal and Sequestration study and/or
(7) convene workshops or other community building activities to enhance societal engagement, understand community priorities for and concerns about mCDR and/or develop governance aspects and permitting pathways of marine CDR field deployments.

Field deployments must submit a feasible permitting plan as part of the proposal (more information in Section I.B.2 below).

2. Required Elements

This NOFO is conceived under the auspices of the National Oceanographic Partnership Program and seeks proposals that contribute to improved understanding of mCDR approaches including environmental impacts (co-benefits or negative ecosystem impacts), scaling up potential and/or community engagement around mCDR. For more information on sectors (government, academic, private) that must be represented through PI affiliation on each proposal to qualify see Section III, Eligibility Information. This sector information is a requirement of the NOPP process.

In particular, research and development projects of different scales and integrative approaches alongside modeling efforts are encouraged. Field projects must include a detailed Monitoring, Reporting and Verification (MRV) strategy that could potentially assess, with redundancy the additionality, leakage, and carbon removal durability of the deployed mCDR techniques. In this case, additionality refers to the increase in carbon dioxide removal above

the natural sink, leakage is defined by carbon escaping the removal process, and durability is defined as length of time carbon is stored. In addition, the sponsors encourage each project to use multiple analytical MRV methods. This redundancy should serve as a means to cross-calibrate techniques for MRV and provide low-cost alternatives to otherwise financially and geographically prohibitive approaches to MRV.

Projects are encouraged to consider and quantify what technical barriers remain in order to adequately constrain uncertainties regarding MRV to enable sufficient carbon credit value. It is anticipated that this program will work in partnership with an upcoming program specific to the development of new MRV technology issued by ARPA-E. Financially independent but scientifically collaborative partnership would involve implementation of new sensor systems to assess mCDR approaches in development in addition to deployments of existing technology. These new sensor systems could more comprehensively quantify additionality, leakage and removal durability (thus leading to higher quality carbon credits, once approaches are matured to market), but would benefit from ground-truthing via conventional systems already deployed.

The sponsors acknowledge a lack of clarity around the permitting process for mCDR work. For projects that include field deployed mCDR strategies, the proposers are required to include a detailed permitting plan. In some cases, state and/or federal permits available for related activities may be applicable depending on the mCDR approach proposed. In this case, the proposers should include secured permits OR a plan for securing permits during the course of the project. It is possible that a stepwise approach may be proposed whereby permits are obtained for field deployments during the first year of support. To assist with this process, the sponsors have collated helpful information below in Section I.B.3.

In addition, proposals targeted for research and development of a specific technology through field and/or laboratory trials must outline how ecosystem effects and other risks will be assessed in a plan to monitor the environmental and ecosystem impacts of the deployment. mCDR strategies may have positive co-benefits on marine ecosystems, including ocean acidification mitigation, however, they may also present ecosystem harm by means of nutrient robbing and ecotoxicity. Ecosystem effects (co-benefits or negative impacts) are currently not well understood, yet are a critical aspect of responsible scaling of mCDR strategies. Monitoring for the effects of mCDR strategies at this early stage of development is therefore critical to the success of a submitted proposal. This monitoring will also likely be required by the permitting process.

Recent studies indicate that biological response data vary as approaches scale up from laboratory / mesocosm experiments to field deployments. Therefore, methods used to

monitor environmental impact that can scale to monitoring ecosystem impacts in the field and are economically feasible for diverse ocean partners will be viewed favorably. The sponsors also encourage cross-calibration of state of the art technologies with lower-cost more accessible technologies, and the development of cost-effective strategies for mitigating sensor drift.

The federal partners of this call are committed to the Justice40 Initiative (https://www.whitehouse.gov/environmentaljustice/justice40/), which is a whole of government effort focused on environmental justice. We strongly encourage proposals that incorporate robust community engagement into work plans starting from the beginning of the project. Social science and/or community engagement proposals should outline strategies for inclusion of diverse perspectives and consideration of environmental justice principles as well as considering how economic benefits from these investments flow to historically disadvantaged communities.

A Data Management Plan is required. Data management plans must include a plan for providing public access to all data collected as part of the funded project, including the MRV data and methodology. More information on data management can be found later in this section. Data accessibility and strong data management based on standards, best practices and following the FAIR Guiding Principles (findable, accessible, interoperable, and reusable) are the foundation for success of any multi-disciplinary research effort. Please see Section IV.B.(4)d for more detailed information.

The applicant will be expected to work with the funding agencies' Program Managers and relevant staff to develop outreach and education materials (e.g., materials for websites, handouts, and social media; incorporating research into the classroom; and highlighting research findings/discoveries as they emerge).

Proposers are encouraged to incorporate partnerships with existing UN Ocean Decade (https://www.oceandecade.org/) Programmes and actions. In addition, applicants should consider partnering with the US IOOS Regional Association(s) (https://ioos.noaa.gov/ioos-region-map/) in their geographic area of interest to leverage and expand regional observing infrastructure and collection of baseline observations that support mCDR; to access IOOS expertise in data management, analysis and dissemination; and to engage IOOS regional experience in convening local and regional communities and stakeholders.

PIs need to incorporate travel funding to attend two all PI, in person workshops (across all projects funded through this NOFO) during the first and third years of the projects. PIs and co-PIs must attend. These workshops will last three full days.

3. Permitting information

Each proposal must include permitting information or a detailed permitting plan (permits to be acquired and timeline for securing them) if engaging in field / pilot studies. The funders also strongly encourage that the permitting plan include a contingency plan to adapt the research objects if field permits are not secured. All field based trials will need to obtain environmental permits, and mCDR research is subject to several different statutes depending on the nature and location of the proposed activities including the Clean Water Act, Marine, Protection, Research and Sanctuaries Act, and the Rivers and Harbors Act. Additional information about permitting under the MPRSA is provided below.

Permitting of marine CDR (mCDR) pursuant to the Marine Protection, Research, and Sanctuaries Act (MPRSA)

Marine CDR research activities that involve the transportation and disposition of material into the ocean environment may require an MPRSA permit issued by the Environmental Protection Agency (EPA). The MPRSA regulates the transportation and disposition of any material into ocean waters, unless expressly excluded. For example, the disposition of effluent from an outfall structure permitted under the Clean Water Act for certain electrochemical CDR approaches would not require an MPRSA permit. Note that “ocean waters” includes the open seas lying seaward of the “baseline” from which the “territorial seas” are measured. Generally speaking, the baseline is the mean lower low water line (MLLW or ordinary low water mark) along the coast, including the beach, or “closing lines” that are drawn on maps across rivers mouths and openings of bays and that are depicted on official United States Nautical Charts.

The MPRSA permit categories, which are most relevant for mCDR research, are research permits and general permits. Research permits may be issued for up to 18 months and general permits for up to 7 years, both with the possibility for renewal thereafter. An MPRSA permit would authorize the transportation and disposition of the materials for the research activities; additional monitoring or sampling could be conducted before or after the permit time period so long as there is no disposition of material outside of the permitted time period. The proposed location(s) for the mCDR research would be evaluated by EPA and specified in the permit. Existing designated ocean disposal sites are not suitable locations for mCDR research.

EPA encourages potential permit applicants to familiarize themselves with the requirements for MPRSA permits as described in the Ocean Dumping Regulations (40 CFR Part 220-229)

and particularly the permit application sections (40 CFR Parts 221 and 222). The Ocean Dumping Regulations can be found here: https://www.ecfr.gov/current/title-40/chapter-I/subchapter-H.

As described in the regulations, the permit application should include at a minimum:

(1) a description of the proposed research activities,
(2) methods used to transport and release the material in the marine environment,
(3) description of the proposed environmental monitoring program designed to characterize environmental impacts of the proposed activities,
(4) a characterization of the material(s) to be released into the ocean environment (e.g., physical and chemical properties, amounts, etc),
(5) a description of the proposed location(s) for conducting the research,
(6) a justification that the scientific merit of the proposed project outweighs any potential environmental or other damage that may result from the research activities,
(7) Other information required by the regulations and any additional information that will assist in the permit application evaluation process.

Once a complete application is received by EPA, the process described in the regulations begins. This process includes consultation with other relevant entities (states, tribes, federal agencies including those that administer federal statutes such as the Endangered Species Act, etc.) as well as a public review and comment period.

EPA urges potential permit applicants to contact the Ocean Dumping Management Program at EPA Headquarters before submitting any permit application materials to discuss the specifics of their proposed activities. The Primary Contact for EPA Headquarters Ocean Dumping Management Program can be found here: https://www.epa.gov/ocean-dumping/forms/regional-contacts-ocean-dumping-management-program. Applications may be filed with the Director of the Ocean, Wetlands, and Communities Division (OWCD) within EPA’s Office of Water for action on the application.

Additional Permitting Considerations

Army Corps of Engineers (ACOE) are involved in permitting for beach nourishment (https://www.iwr.usace.army.mil/Missions/Coasts/Tales-of-the-Coast/Corps-and-the-Coast/Shore-Protection/Beach-Nourishment/) projects and permitting involving the protection of navigable waters (https://www.fisheries.noaa.gov/inport/item/59646). More information on obtaining ACOE permits can be found online: https://www.usace.army.mil/missions/civil-works/Regulatory-Program-and-permits/Obtain-a-Permit/.

The Magnuson–Stevens Fishery Conservation and Management Act (https://www.fisheries.noaa.gov/resource/document/magnuson-stevens-fishery-conservation-and-management-act) might also require further consultation by NOAA for the permitting processes.

In addition to the mentioned permitting considerations, projects are subject to the National Environmental Policy Act (NEPA). For more information on NEPA requirements, refer to Section VI.B.

C. Program Authority

Public Law 102-567, §201(c), Coastal Ocean Program; 33 U.S.C. Chapter 50, Sec. 3701-3708, Federal Ocean Acidification Research and Monitoring Act (FOARAM).

Public Law 116-283, §1055, Reauthorization of National Oceanographic Partnership Program

Inflation Reduction Act of 2022 sec 40001

II. Award Information

A. Funding Availability

The federal agencies participating in this NOPP solicitation anticipate, collectively, making multiple awards, subject to the availability of funds, in amounts up to $2,000,000 per project. If a project proposes only community engagement activities (see priority 7), funding agencies will award amounts up to $100,000 per project. Total estimated funding for all awards is up to $30M million. The number of awards is anticipated to range from approximately ten (10) to twenty (20) and will be adjusted based on availability of funds. Proposals not funded in the current fiscal period may be considered for funding in the next fiscal period without NOAA or NOPP repeating the competitive process outlined in this announcement.

There is no guarantee that funds will be available to make awards for this Notice of Funding Opportunity or that any proposal will be selected for funding. If an applicant incurs any costs prior to receiving an award agreement signed by a NOAA or other federal agency grants officer, the applicant does so at the applicant’s own risk. In no event will any of the federal agencies be responsible for any proposal preparation costs. Recipients and subawards are subject to all Federal laws and agency policies, regulations, and procedures applicable to Federal financial assistance awards. Applicants must be in good standing with respect to all existing NOAA awards in order to receive funds.

B. Project/Award Period

Applicants may propose projects that span 1 - 4 years. Funding is contingent upon availability of funds and the satisfactory performance of the recipient, and is at the sole discretion of NOAA and its NOPP partner agencies.

C. Type of Funding Instrument

For NOAA funded projects, NOAA will issue a cooperative agreement, therefore, the Federal government will be substantially involved by, for example, coordinating partners and teams to accomplish the work; assisting with technical aspects of the project; and/or coordinating access to Federal operational entities, data or facilities needed to support the work. Partner agencies reserve the right to award grants, cooperative agreements or contracts and other transactions as they deem appropriate.

If the non-Federal applicant is at an institution that has a NOAA approved Cooperative Ecosystem Studies Unit (CESU), http://www.cesu.psu.edu/, and meets the criteria described below for using that status, they may include a cover letter with their application stating their desire to have the application associated with that CESU. This letter should specify the name of the CESU. Of the 17 CESUs across the nation, NOAA is a member of 10: North and West Alaska, California, Hawaii-Pacific Islands, South Florida-Caribbean, Gulf Coast, Piedmont-South Atlantic Coast, Chesapeake Watershed, North Atlantic Coast, Pacific Northwest, and Great Plains. The following criteria must be met for NOAA to use the established partnerships with CESUs:

1. The proposed project must fit within the objectives of the National CESU Network Program, which are to provide research, technical assistance, and education to Federal land management, environmental, and research agencies and their partners in biological, physical, social, cultural, or engineering disciplines needed to address natural and cultural resource management issues at multiple scales and in an ecosystem context.

2. The proposed project must fit the intent of the CESU's existing cooperative and joint agreement, which means (1) the research partnership will carry out or stimulate an activity (e.g., data, products, or services) for a public purpose, and (2) NOAA will be significantly involved in the work.

The funding instrument for a selected application from an eligible NOAA Federal applicant will be an intra-agency transfer of funds.

The funding instrument for a selected application from a non-NOAA Federal applicant will be through an inter-agency transfer of funds, provided legal authority exists for the Federal applicant to receive funds from another agency. Non-NOAA Federal applicants that intend

to be the lead institution should contact the OAP Program Manager (refer to Section VII) to discuss how to structure budgets and prepare required documentation.

PLEASE NOTE: Before non-NOAA Federal applicants may be funded, they must demonstrate that they have applicable legal authority for an inter-agency transfer of funds. Because the nature of the funding under this competition is assistance, the Economy Act (33 USC 1535) would not be applicable.

Support may be solely through NOAA or partnered with other Federal offices and agencies.

The intra- and inter-agency transfers of funds are not Federal assistance (grants or cooperative agreements), and the policies described in this Announcement applicable to Federal assistance awards do not apply to Federal entities receiving intra- and inter-agency transfers of funds. In the agreements implemented in these situations, NOAA will be substantially involved in the projects in a manner similar to the cooperative agreements with non-Federal parties. Contact the OAP Program Manager for more information (refer to Section VII).

III. Eligibility Information

A. Eligible Applicants

To be eligible under this NOPP funding opportunity, each proposing team must be comprised of participants from at least two of the following three sectors: academia, private sector (including Non-Governmental Organizations, or NGOs), or government (including federal, tribal, state, and local).

Eligible applicants for this competition are institutions of higher education, nonprofit and for-profit organizations, and federal, state, local, and tribal governments. Foreign institutions may not be the primary recipient of awards under this announcement, but they are encouraged to partner for funding with applicants, when appropriate.

If an applicant has a partner(s) who would receive funds, the lead grantee will be expected to use subcontracts or other appropriate mechanisms to provide funds to the partner(s). If a partner is a US Government agency, office, or laboratory, the US Government may transfer funds internally.

The federal and philanthropic funding entities involved support cultural and gender diversity and encourage women and minority individuals and groups to submit applications. In addition, the funding entities are strongly committed to broadening the participation of

Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), tribal colleges and universities, and institutions that work in underserved areas and strongly encourages applications involving any of the above institutions to apply.

B. Cost Sharing or Matching Requirement

There is no requirement for cost sharing.

NOPP appreciates that applicants may seek additional support (in-kind or cash) for development of mCDR projects. While a cost share of funding is not required, applicants are requested to provide a description of complementary funding and in-kind contributions from project partners.

C. Other Criteria that Affect Eligibility

None

IV. Application and Submission Information

A. Address to Request Application Package

Application packages are available online as part of the NOFO announcement on grants.gov and applications will only be accepted via submission through www.grants.gov.

B. Content and Form of Application

Full Proposal Required Elements

Each application must substantially comply with the following 15 elements to be forwarded for merit review. The Summary Title Page, Abstract, Project Description, References, Biographical Sketch, and Budget Narrative must be single spaced in 12-point font with one-inch margins. The Collaborators List must be an Excel spreadsheet.

The 15 elements are as follows:

(1) Standard Form 424. The applicant must submit the Standard Form, SF-424, “Application for Federal Assistance,” to indicate the total amount of funding proposed for the whole project period. This form is to be the cover page for the original application and is the first required form in the grants.gov application package.

(2) Summary Title Page. One-page maximum. The Summary Title Page identifies the project's title (starting with the acronym mCDR 2023) and the lead PI’s name, affiliation,

complete address, phone, and email information. Each co-PI's name, affiliation and email information should be listed in this section. The requested funding amounts for each fiscal year should also be included on the Summary Title Page.

(3) One-page Abstract/Project Summary. The summary (abstract) should appear on a separate single page, headed with the proposal title, institution(s), investigator(s), total proposed cost, and budget period. It should be written in the third person. The project summary should include an introduction of the problem, rationale, scientific objectives and hypotheses to be tested, and a brief summary of work to be completed. The summary is used to help compare proposals quickly and allows the respondents to summarize their key points in their own words. Project summaries of applications that receive funding may be posted on program-related websites.

(4) Project Description (no more than 20 pgs). The description of the proposed project must include three narrative sections: the Proposed Research (plus MRV and Environmental Monitoring Plans if applicable), a Data Management Plan, and a Statement of Diversity and Inclusion. The proposal shall not exceed 17 pages for the description of the Proposed Research plus the MRV and Environmental Monitoring Plans (if applicable); two pages for the Data Management Plan; and one page for the Statement of Diversity and Inclusion. These three sections must include the information as described below.

a. Proposed Research - The Proposed Research narrative section should be thorough and explicitly indicate its relevance to the program goals and scientific priorities by:

i. Identifying the priorities that are being addressed by the proposal;

ii. Describing the proposed scientific objectives, research activities, and/or technology development in relation to the present state of knowledge in the field and in relation to previous and current work by the proposing PI(s). If a permitting plan is included in item IV.B (9) of this proposal, please include a description of contingency plans in the event relevant permits for field deployments cannot be secured;

iii. Discussing how the proposed project lends value to the program goals; and

iv. Identifying the function of each PI. The Lead PI will be responsible for communicating with the Federal Program Managers on all pertinent verbal or written information.

b. Monitoring Reporting and Verification (MRV) Plan (if applicable)

Laboratory and field projects to test/deploy mCDR strategies must include a detailed Monitoring, Reporting and Verification (MRV) Plan that can assess, with redundancy, the additionality, leakage, and durability of these deployed mCDR techniques. For definitions of additionality, leakage, and durability, see Section I.B.2. The redundancy in the MRV Plan should be explicitly highlighted. Finally, MRV plans must reference a plan for providing public access to all data collected for MRV in the Data Management Plan.

c. Environmental Monitoring Plans (if applicable)

All projects related to testing or piloting an mCDR strategy in the field must include a plan to monitor the environmental and ecosystem impacts of the deployment. The environmental monitoring plan should outline how these effects will be monitored and a measure of feasibility of approaches (economically and logistically) to scale up from laboratory / mesocosm experiments to field deployments, even if the experiments are only proposed in a laboratory setting. Planned redundancies in the approach, for cross-calibration of state of the art technologies with lower-cost more accessible technologies, should be explicitly highlighted in this section. Environmental Monitoring will also be critical for permitting. For information about required permits, please see Section 1.B.3 and IV B (9) below.

d. Data Management Plan – 2 pages

Proposals must provide a detailed Data Management Plan that describes how metadata and data collected as part of the project will be disseminated to the broader community, and plans for longer term archiving of these data. PIs that propose to collaborate with data centers or networks, except the National Center for Environmental Information (NCEI), are advised to obtain letters of commitment that affirm the collaboration. Where possible, all PIs are strongly encouraged to use existing data centers and data portals to archive and disseminate their data. All ocean acidification data must be archived and accessible through NCEI (http://www.nodc.noaa.gov/oads/index.html). All data relevant to marine energy device deployments should be uploaded to the relevant WPTO-funded PRIMRE Knowledge Hubs (MHKDR, Tethys, Tethys Engineering, and MRE Software). Costs associated with use of data centers, or data archiving, should be included in the application budget. See the section on the NOAA Data Reporting requirements in Section VI.B.

Data should be archived at the National Centers for Environmental Information (NCEI) or a comparable long term data archive. The costs for data management, archiving, and access should be clearly articulated in the budget and reflected in the total project cost. If applicable, applicants are encouraged to address how historical or legacy data will be integrated into the project.

Applicants will provide the widest practical access to data collected and must include a Data Management Plan describing how these requirements will be satisfied. The Data Management Plan should be submitted as a separate section of up to two pages describing the types of data and information to be generated during the course of the project (environmental and biological); the target date by which data will be shared, and archived at NCEI (or other appropriate national data center), policies addressing data stewardship and preservation; procedures for providing data access and security; prior experience in publishing such data; and an indication of the project member/level of funding dedicated for

the data management components of the project. The data management plan should include an inventory of all datasets collected (or planned to be collected),which will be updated yearly. Proposals should identify one or more members of the team to document and archive data in accordance with the plan and to ensure that the data products and visualization tools co-developed with the end-user resource manager participants in the project are made available via open access portals and data platforms.

NOAA Data Sharing Policy: Environmental (including biological) data and information collected or created under NOAA grants or cooperative agreements should adhere to the 2016 revision of the NOAA Data Sharing Directive (https://nosc.noaa.gov/EDMC/PD.DSP.php).

e. Statement of Diversity, Equity and Inclusion – 1 page

NOAA recognizes that it has a particular and unique opportunity to support NOAA's commitment to diversity and inclusion by taking an intentional step that encourages program applicants to consider diversity and inclusion as part of their scientific projects. This action has the potential to make an impact on not only the diversity and inclusion in science at NOAA, but also beyond the agency. In this section, describe how the proposed activity broadens the participation of underrepresented groups in science, technology, engineering, and mathematics (STEM).

The following is a non-exhaustive list of actions that can serve as examples of ways the proposed project could incorporate diversity, equity, and inclusion elements. These examples should not be considered either comprehensive or prescriptive. Applicants may include appropriate actions not covered by these examples.

- Include persons from groups underrepresented in STEM as PI, co-PI, and/or other senior personnel;
- Include persons from groups underrepresented in STEM as student researchers or post-doctoral researchers;
- Include faculty or students from Minority Serving Institutions as PI/co-PI, senior personnel, and/or student researchers, as applicable;
- Enhance or collaborate with existing diversity programs at your home organization and/or nearby organizations;
- Collaborate with students, researchers, and staff in Minority Serving Institutions;
- Disseminate results of research and development in Minority Serving Institutions or other appropriate institutions serving underserved communities;
- Implement evidence-based, diversity-focused education programs (such as implicit bias training for staff) in your organization;
- Identify Minority Business Enterprises, Minority Owned Businesses, Woman Owned

Businesses and Veteran Owned Businesses to solicit as vendors and sub-contractors for bids on supplies, services and equipment.

(5) References cited. Reference information is required. Each reference should include the names of all authors in the same sequence they appear in the publications, the article title, the journal or book title, volume number, page numbers, and year of publications. While there is no established page limitation, this section should include bibliographic citations only and should not be used to provide parenthetical information outside of the Project Description.

(6) Milestone chart. Provide timelines of major tasks covering the duration of the proposed project including the permitting timeline (if applicable).

(7) Biographical sketch. All PIs and co-PIs must provide summaries of up to two pages that include the following:

a. A listing of professional and academic credentials and mailing address; and

b. A list of up to five publications most closely related to the proposed project and five other significant publications.

(8) Current and Pending Support. Describe all current and pending Federal financial/funding support for all PIs and co-PIs. Continuing grants must also be included. A current and pending support form is available for your use: https://coastalscience.noaa.gov/about/application-forms. You should respond to this element if you do not have any current and/or pending support by indicating “not applicable.”

(9) Required Environmental Compliance materials. This includes all of the information referenced in Section VI.B (NEPA) below as well as existing permits (actual copies of the permits) or a plan for securing permits for field work. If permits have not yet been secured, please provide a clear timeline for securing these permits.The timeline should clearly indicate: 1) relevant permitting authorities, 2) information required to secure a permit, 3) when permit applications will be submitted and 4) how long permitting generally takes (estimate only). Answers to the NOAA NEPA questionnaire are not required for this solicitation.

(10) Accomplishments from Prior Federal Support. If any PI or co-PI identified on the project has received Federal funding in the past five years for relevant research information on the award(s), this section is required. Each PI and co- PI who has received more than one award (excluding amendments) must report on the ONE award most closely related to the proposal. This section should not exceed two pages (in total, NOT per investigator) in addition to the Project Description.

The following information on accomplishments should be provided:

a. the award number, amount, and period of support;
b. the title of the project;
c. a summary of the results of the completed work;
d. publications resulting from the award;
e. a brief description of outputs and outcomes; and
f. as appropriate, a description of the relation of the completed work to the proposed work.

When applicable, this information will be considered by reviewers in the evaluation of overall qualifications of applicants. You should respond to this element even if the applicant has no accomplishments from prior Federal support on relevant research by stating “no prior Federal research on mCDR or other fields relevant to this funding opportunity.”

(11) Budget Narrative. In order to allow reviewers to fully evaluate the appropriateness of costs, all applications must include a detailed budget narrative to support all proposed budget categories for each fiscal year. For additional budget guidance, see https://coast.noaa.gov/data/coasthome/funding/_pdf/forms/budget-narrative-guidance-for-NOAA-grants.pdf.

Personnel costs should be broken out by named PI, number of months, and percentage of time requested per year per PI. Support for each PI should be commensurate with their stated involvement each year in the milestone chart (see Required Elements: (6) Milestone Chart). Any unnamed personnel (graduate students, post-doctoral researchers, technicians) should be identified by their job title and their personnel costs explained similar to PI personnel costs. The contribution of any personnel to the project goals should be explained.

Travel costs should be broken out by number of people traveling, destination and purpose of travel, and projected costs per person (i.e., hotel rate, meals and incidentals, and transportation). Registration fees belong in the “h. Other” category in the SF424A and budget justification. Note in the Requirements Considerations section that proposers must include travel to attend 2 (two) in- person workshops for all PIs for all proposals funded under this NOFO. (see Section 1.B.2 above). Equipment costs should describe the equipment to be purchased, and its contribution to the achievement of the project goals.

Any ship time needs must be clearly identified in the proposed budget. The applicant is responsible for requesting ship time through appropriate channels and for meeting all requirements to ensure the availability of requested ship time. If any NOAA personnel will

be present during ship operations, vessel safety clearances must be obtained through the NOAA Office of Marine and Aviation Operations (OMAO) in advance of the cruise. Required information and procedures are detailed in a Charter Vessel Acquisition and Safety NOAA Administrative Order which can be accessed via the OMAO website at https://www.omao.noaa.gov/learn/headquarters/safety-environmental-compliance/vessel-chartering-info.

If more than one institution is collaborating in a project awarded funds, the lead institution will be the only institution to directly receive funds from NOAA unless a Federal agency is a funded collaborator. Federal agencies may be funded directly by NOAA as long as NOAA has the legal authority to issue the funds and the other agency has the legal authority to receive those funds. The lead institution is responsible for sending funds to the other subaward institutions. A separate budget narrative is required for each subaward (including Federal collaborators) and must be provided to the lead institution for submission. Signed approval from each identified subaward institution is required. For acquisition contracts, the purpose and cost or price must be fully justified and the contract must fully comply with 2 C.F.R. 200.317-.327.

Applications are permitted to include the costs of project-level data management, including: coordinating, organizing, documenting, formatting, or otherwise preparing datasets for submission to NOAA or non-NOAA data facilities; establishing and maintaining data access tools and services and related metadata; managing non-digital data that are not required to be made publicly accessible, including laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as laboratory specimens.

An applicant requesting funds for indirect costs in its proposal budget that has a current Federally approved rate should submit documentation of the indirect cost rate agreement as an attachment to its application submission. An applicant without a Federally approved rate should refer to Section IV.B. of this Announcement regarding options.

(12) CD-511. Certification Regarding Lobbying. Lead institutions can submit these forms through the grants.gov CD-511 document placeholder without a hard signature because electronic signatures are allowed on documents from the submitting institution.

(13) Standard Form (SF) 424B. Assurances - Non-Construction Programs. Lead institutions can submit these forms through the grants.gov SF-424B document placeholder without a hard signature because electronic signatures are allowed on documents from the submitting institutions.

(14) Standard Form 424A. All applicants are required to provide a SF-424A Budget Form that identifies the budget for each fiscal year of the proposal. Place each fiscal year in separate columns in Section B of page one on the SF-424A by filling in the fiscal years 1-5 in Section A Budget Summary - Grant Program Function or Activity column. (Note that this revised SF-424A Section B format is a NOAA requirement that is not reflected in the Instructions for the SF-424A). The budget figures must correspond with the descriptions contained in the Budget Narrative. Each subaward should provide a SF-424A listing each year of funding being requested. List total subaward costs under line item 6.h. Other category and contractor costs under line item 6.f. Contractual category on the SF-424A. Signed approval from the institution of each identified subaward and contractor should be provided. All ship costs belong in the “other” category and are not subject to indirect costs.

(15) List of Collaborators. Provide one list that includes all (U.S. and Foreign) collaborators, advisors, and advisees for each investigator (PI, co-PIs, post-docs, and subawardees), complete with corresponding institutions. This list must include the names of each PI and co-PI. Submit only one, combined and alphabetized list per application in an Excel spreadsheet using First Name, Last Name, and Institution for the column headings.

Collaborators are individuals who have participated in a project or publication within the last 48 months with any investigator, including co-authors on publications in the resumes. Collaborators also include those persons with which the investigators may have ongoing collaboration negotiations. Advisees and Advisors do not have a time limit. Advisees are persons with whom the individual investigator has had an association as thesis advisor or postdoctoral sponsor. Advisors include an individual’s own graduate and postgraduate advisors. Unfunded participants in the proposed study should also be listed (but not their collaborators). This information is critical for identifying potential conflicts of interests and avoiding bias in the selection of reviewers. Applicants are advised to revise this list annually to minimize false conflicts of interest that may adversely affect review of proposals (i.e., cannot find sufficient reviewers with relevant expertise).

C. Unique Entity Identifier and System for Award Management (SAM)

Excerpt 2 CFR 200 Appendix I.D.3: Each applicant (unless the applicant is an individual or Federal awarding agency that is excepted from those requirements under 2 CFR 25.110(b) or (c), or has an exception approved by the Federal awarding agency under 2 CFR 25.110(d)) is required to: (i) Be registered in SAM before submitting its application; (ii) Provide a valid unique entity identifier (UEI) in its application; and (iii) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding

agency. NOAA may not make a Federal award to an applicant until the applicant has complied with all applicable UEI and SAM requirements and, if an applicant has not fully complied with the requirements by the time NOAA is ready to make a Federal award, NOAA may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

In order to submit an application through Grants.gov, an applicant must register for a Grants.gov user ID and password. Note that this process can take between three to five business days or as long as four weeks if all steps are not completed correctly. To avoid delays, applicants are strongly encouraged to start early and not wait until the approaching application deadline before registering, logging in, reviewing the application instructions, and applying. Information about the Grants.gov registration process for organizations can be found at http://grants.gov/applicants/organization_registration.jsp.

Please note that organizations already registered with Grants.gov do not need to re-register; however, all registered organizations must keep their Grants.gov password and SAM database (which now incorporates CCR) registration up-to-date or their applications will not be accepted by Grants.gov. Note that your CCR username will not work in SAM. You must create a new SAM user account to renew or update your registration. Registration on SAM is a requirement. To obtain additional information and to verify that all required registrations are current, please visit www.sam.gov/portal/public/SAM.

If you experience a Grants.gov systems issue (technical problems or glitches with the Grants.gov website) that you believe threatens your ability to complete a submission before the application deadline, please do all of the following:
*Print any error message received
*Call the Grants.gov Contact Center at 1-800-518-4726 for immediate assistance
*Contact NOAA using the contact information in section VIII. of this NOFO prior to the close of the competition
*Ensure that you obtain a case number regarding your communications with Grants.gov
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In the event of a confirmed systems issue, NOAA reserves the right to accept an application in an alternate format prior to the application deadline. Problems with an applicant organization’s computer system or equipment are not considered systems issues. Similarly, an applicant’s failure to do the following are not considered systems issues:
*Complete the required registration
*Ensure that a registered Authorized Organization Representative (AOR) submits the application

*Read an email message with guidance from Grants.gov

D. Submission Dates and Times

Full applications must be received by 11:59 PM Eastern on February 28th, 2023. Applications received after this deadline will not be considered for funding. For applications submitted through Grants.gov a date and time receipt indication is included and will be the basis of determining timeliness. Hard copy, faxed or emailed copies of applications will not be accepted.

E. Intergovernmental Review

Applications under this program are not subject to Executive Order 12372, "Intergovernmental Review of Federal Programs." It has been determined that this notice is not significant for purposes of Executive Order 12866. Pursuant to 5 U.S.C. 553(a) (2), an opportunity for public notice and comment is not required for this notice relating to grants, benefits and contracts. Because this notice is exempt from the notice and comment provisions of the Administrative Procedure Act, a Regulatory Flexibility Analysis is not required, and none has been prepared. It has been determined that this notice does not contain policies with Federalism implications as that term is defined in Executive Order 13132.

F. Funding Restrictions

G. Other Submission Requirements

Application packages must be submitted through Grants.gov/apply. No email or fax copies will be accepted.

The NOPP is a partnership of sponsor agencies each with their own unique award processes. Once proposal recommendations are made, those proposals which will be funded by agencies other than by NOAA (e.g., NSF, DOE, ONR, ClimateWorks), will require proposal resubmission directly to that agency using their guidelines and requirements. This will be communicated to the proposer in their award letter with an agency POC identified. For instance, proposals that will be funded by NSF require entry into FASTLANE, NSF’s award management system. The PI will coordinate submission with the assigned NSF Program Director. Please note, the ability of agencies to cover federal salary will vary.

Applicants using Grants.gov must locate the downloadable application package for this solicitation by the Funding Opportunity Number or the ALN number (11.017). Applicants will be able to download a copy of the application package, complete it off line, and then

upload and submit the application through Grants.gov.

Grants.gov will provide information about submitting a proposal through the site as well as the hours of operation. After electronic submission of the application, the person submitting the application will receive within the next 24 to 48 hours two email messages from Grants.gov updating him or her on the progress of the application. The first email will confirm receipt of the application by Grants.gov, and the second will indicate that the application has been either successfully validated by the system prior to transmission to the grantor agency, or rejected due to errors. After the application has been validated, this same person will receive another email when the application has been downloaded by the Federal agency.

To use Grants.gov, applicants must have a Dun and Bradstreet Data Universal Numbering System (DUNS) number and be registered in the Central Contractor Registry (CCR). Allow a minimum of five days to complete the CCR registration. (Note: Your organization's Employer Identification Number (EIN) will be needed on the application form.)

Please refer to important information in "Submission Dates and Times" above to help ensure your application is received on time. Please be advised that potential funding applicants must register with Grants.gov before any application materials can be submitted. An organization's one-time registration process may take up to three weeks to complete, so please allow sufficient time to ensure applications are submitted before the closing date. Grants.gov contains directions for submitting an application, the application package (forms), and is also where the completed application is submitted.

V. Application Review Information

A. Evaluation Criteria

1. Importance/relevance and Applicability (25 percent): This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to federal agencies, or other federal, regional, state, tribal, or local activities. This includes importance and relevance to the program priorities listed above. The PIs’ record of making data accessible to and usable by the scientific and resource management communities in the past will be considered when evaluating the importance and relevance of the application.

2. Technical and Scientific Merit (40 percent): This assesses whether the approach is technically sound, if the methods are appropriate, whether there are clear project goals and objectives and the effectiveness of the MRV, Environmental Monitoring, permitting and data management Plans.

3. Overall qualifications of applicants (15 percent): This ascertains whether the applicants possess the necessary education, experience, training, facilities, and administrative resources to accomplish the project. This includes the capability of the investigator and collaborators to complete the proposed work as evidenced by past research accomplishments, previous cooperative work, timely communication, the sharing of findings, data, and other research products (as described in the Accomplishments from Prior Federal Support) for 10 percentage points, and the Statement of Diversity and Inclusion (described in Section IV.B.(c)4e) for 5 percentage points.

4. Project Costs (10 percent): This assesses whether the budget is realistic and commensurate with the needs and timeframe of the proposed work.

5. Strength of Partnership (10 percent): For purposes of this competition, reviewers will evaluate proposals based on (1) whether roles and responsibilities of team members are clearly defined, (2) whether the proposed project is designed to have appropriate participation or support from at least two of the following public (federal, state or tribal partners), academic, commercial, and/or private entities (including NGOs), and (3) whether the contributions by the individual partners are substantial and meaningful.

B. Review and Selection Process

The merit review process will then be conducted under the auspices of the National Oceanographic Partnership Program (NOPP) federal sponsors. Once a full application has been received, an administrative review will first be conducted to determine compliance with requirements and completeness of the application. The selection reviews will take place in two stages. In Stage 1, independent peer mail reviewers and/or independent peer panel reviewers consisting of both Federal and/or non- Federal experts will rate applications (Excellent (5), Very Good (4), Good (3), Fair (2), Poor (1)) according to four of the criteria (all criteria except Importance and Relevance). If a mail review and a panel review are both conducted for Stage 1, the mail reviews will be provided to the Stage 1 panel review for use in its deliberations prior to providing its ratings, but the Program Manager will use only the numerical rank order of the peer review panel to determine the average score for each proposal. Importance and Relevance will be assessed separately in Stage 2. The panel will not give consensus advice. We protect the identities of reviewers to the extent permitted by law.

The scores from the reviewers for each application will be averaged to produce a single numerical score for Stage 1. Applications that score a 3.0 or higher (out of a possible high score of 5) in Stage 1 will proceed to Stage 2. The applications and their associated scores

from Stage 1 will be provided to the Stage 2 panel to consider in their ratings.

In Stage 2, scores for Importance/Relevance will be determined by a second panel composed of cognizant Federal Program Officers and scientific staff from the funding agencies. Each panel reviewer will provide a relevance score (Excellent (5), Very Good (4), Good (3), Fair (2), Poor (1)) for each application that moved forward from Stage 1.

To determine the final score, the scores from Stage 1 and Stage 2 will be combined, with a weighting of 75% for the Stage 1 score and 25% for the Stage 2 score. The final score for each application will be used to determine the numerical rank order of proposals.

The Program Manager will recommend applications to the Selecting Official in numerical rank order unless a recommendation out of rank order is justified based upon any of the factors listed in the following section. Should applications receive a tie score, and funding is not available for every tied application, the Program Manager may preferentially recommend applications for funding also according to any of the factors listed in the following section. The Program Manager will review the amounts requested for each selected application (including costs for computing and networking services) and recommend the total duration and the amount of funding, which may be less than the application and budget requested.

C. Selection Factors

1. Availability of funding
2. Balance/distribution of funds:
    a. Geographically
    b. By type of partners
    c. By project types
    d. By research areas
    e. By type of institutions
3. Duplication with other projects funded or considered for funding by NOAA/federal agencies
4. Program priorities and policy factors
5. Applicant's prior award performance
6. Partnerships with and participation of targeted groups
7. Adequacy of information necessary for NOAA staff to make a NEPA determination and draft necessary documentation before recommendations for funding are made.
8. Alignment with funding agency missions

D. Anticipated Announcement and Award Dates

The start date on proposals should be September 1, 2023 and preliminary selection notification will be announced by June 30th 2023.

VI. Award Administration Information

A. Award Notices

Applications recommended for funding by the selecting official(s) will be forwarded to the appropriate agency grants management or procurement offices. The applicant will be notified by e-mail that their application was recommended for funding. The applicant must be aware that the email notification is NOT the official award notice. Official notification happens only when the applicant receives an award notice from a federal grants or procurement officer (NOAA funding awardees will be notified by a grants officer), electronically.

B. Administrative and National Policy Requirements

DEPARTMENT OF COMMERCE PRE-AWARD NOTIFICATION REQUIREMENTS FOR GRANTS AND COOPERATIVE AGREEMENTS.

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of December 30, 2014 (79 FR 78390) are applicable to this solicitation and may be accessed online at http://www.gpo.gov/fdsys/pkg/FR-2014-12-30/pdf/2014-30297.pdf.

UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS.

Through 2 C.F.R. § 1327.101, the Department of Commerce adopted Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 C.F.R. Part 200, which apply to awards in this program. Refer to http://go.usa.gov/SBYh
and http://go.usa.gov/SBg4.

DOC TERMS AND CONDITIONS

Successful applicants who accept a NOAA award under this solicitation will be bound by Department of Commerce Financial Assistance Standard Terms and Conditions. This document will be provided in the award package in NOAA’s Grants Online

system at http://www.ago.noaa.gov.

LIMITATION OF LIABILITY

Funding for programs listed in this notice is contingent upon the availability of appropriations. Applicants are hereby given notice that funds may not have been appropriated yet for the programs listed in this notice. In no event will NOAA or the Department of Commerce be responsible for proposal preparation costs. Publication of this announcement does not oblige NOAA to award any specific project or to obligate any available funds.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) AND OTHER PERMITTING REQUIREMENTS

All federal agencies must analyze the potential environmental impacts, as required by the National Environmental Policy Act (NEPA), for applicant projects or proposals which are seeking federal funding opportunities. Detailed information on NOAA compliance with NEPA, for example, can be found at the following NOAA NEPA website: http://www.nepa.noaa.gov/, including the NOAA Administrative Order 216-6 for NEPA, http://www.nepa.noaa.gov/NAO216_6.pdf, and the Council on Environmental Quality implementation regulations, http://energy.gov/sites/prod/files/NEPA-40CFR1500_1508.pdf. Consequently, as part of an applicant's package, and under their description of their program activities, applicants are required to provide detailed information on the activities to be conducted, locations, sites, species and habitat to be affected, possible construction activities, and any environmental concerns that may exist (e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, aquaculture projects, and impacts to coral reef systems). In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist federal agencies in drafting an environmental assessment, if deemed necessary. Applicants will also be required to cooperate in identifying feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal. Failure to do so shall be grounds for not selecting an application. In some cases if additional information is required after an application is selected, funds can be withheld by the Grants Officer under a special award condition requiring the recipient to submit additional environmental compliance information sufficient to enable agencies to make an assessment on any impacts that a project may have on the environment. Selected funds can be withheld by the Grants Officer under a special award condition requiring the recipient to submit additional environmental compliance information sufficient to enable agencies to make an assessment

on any impacts that a project may have on the environment.

See the Required Elements section for information about permitting.

REVIEW OF RISK

After applications are proposed for funding by the Selecting Official, the Grants Office will perform administrative reviews, including an assessment of risk posed by the applicant under 2 C.F.R. 200.205. These may include assessments of the financial stability of an applicant and the quality of the applicant's management systems, history of performance, and the applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-Federal entities. Special conditions that address any risks determined to exist may be applied. Applicants may submit comments to the Federal Awardee Performance and Integrity Information System (FAPIIS) about any information included in the system about their organization for consideration by the awarding agency.

DATA SHARING POLICY

Environmental data and information collected or created under NOAA and other federal agency grants or cooperative agreements must be made discoverable by and accessible to the general public, in a timely fashion (typically within two years), free of charge or at no more than the cost of reproduction, unless an exemption is granted by the NOAA Program. Data should be available in at least one machine-readable format, preferably a widely-used or open-standard format, and should also be accompanied by machine-readable documentation (metadata), preferably based on widely used or international standards.

Proposals submitted in response to this Announcement must include a Data Management Plan of up to two pages describing how these requirements will be satisfied. The Data Management Plan should be aligned with the Data Management Guidance provided by NOAA in the Announcement. The contents of the Data Management Plan (or absence thereof), and past performance regarding such plans, will be considered as part of proposal review. A typical plan should include descriptions of the types of environmental data and information expected to be created during the course of the project; the tentative date by which data will be shared; the standards to be used for data/metadata format and content; methods for providing data access; approximate total volume of data to be collected; and prior experience in making such data accessible. The costs of data preparation, accessibility, or archiving may be included in the proposal budget unless otherwise stated in the Guidance. Accepted submission of data to the NOAA National Centers for Environmental Information (NCEI) is one way to satisfy data sharing requirements; however, NCEI is not obligated to

accept all submissions and may charge a fee, particularly for large or unusual datasets.

NOAA or other participating federal agencies may, at their own discretion, make publicly visible the Data Management Plan from funded proposals, or use information from the Data Management Plan to produce a formal metadata record and include that metadata in a Catalog to indicate the pending availability of new data.

Proposal submitters are hereby advised that the final pre-publication manuscripts of scholarly articles produced entirely or primarily with federal funding will be required to be submitted to federal Institutional Repository after acceptance, and no later than upon publication. Such manuscripts shall be made publicly available by the relevant funding agency one year after publication by the journal.

INDIRECT COST RATE

An applicant with a current Federally-approved indirect cost rate that is proposing indirect costs in its budget should include a copy of the approved rate with its application. If an applicant has not previously established an indirect cost rate with a Federal agency they may choose to negotiate a rate with the Department of Commerce or use the de minimis indirect cost rate of 10% of Modified Total Direct Costs (as allowable under 2 C.F.R. §200.414). The negotiation and approval of a rate is subject to the procedures required by NOAA and the Department of Commerce Standard Terms and Conditions. The NOAA contact for indirect or facilities and administrative costs is: Lamar Revis, Grants Officer, NOAA Grants Management Division, 1325 East West Highway, 9th Floor, Silver Spring, MD 20910, or lamar.revis@noaa.gov.

MINORITY SERVING INSTITUTIONS

The Department of Commerce/National Oceanic and Atmospheric Administration (DOC/NOAA) is strongly committed to increasing the participation of Minority Serving Institutions (MSIs), i.e., Historically Black Colleges and Universities, Hispanic-serving institutions, Tribal colleges and universities, Alaskan Native and Native Hawaiian institutions, and institutions that work in underserved communities. FREEDOM OF INFORMATION ACT (FOIA)
In the event that an application contains information or data that you do not want disclosed prior to award for purposes other than the evaluation of the application, mark each page containing such information or data with the words "Privileged, Confidential, Commercial, or Financial Information - Limited Use" at the top of the page to assist NOAA in making disclosure determinations. DOC regulations implementing the Freedom of Information Act

(FOIA), 5 U.S.C 552, are found at 15
C.F.R. Part 4, which sets forth rules for DOC to make requested materials, information, and records publicly available under FOIA. The contents of funded applications may be subject to requests for release under the FOIA. Based on the information provided by the applicant, the confidentiality of the content of funded applications will be maintained to the maximum extent permitted by law.

INTELLECTUAL PROPERTY

The rights to any work or other intangible property produced or acquired under a Federal award are determined by 2 C.F.R. § 200.315 (Intangible property). The non-Federal entity owns any work produced or purchased under a Federal award subject to the DOC's royalty-free, nonexclusive, and irrevocable right to obtain, reproduce, publish, or otherwise use the work or authorize others to receive, reproduce, publish, or otherwise use the work for Government purposes.

For more details on Intellectual Property please see section .03 of the Department of Commerce's Standard Terms and Conditions (https://www.commerce.gov/sites/default/files/2020-11/DOC%20Standard%20Terms%20and%20Conditions%20-%2012%20November%202020%20PDF_0.pdf).

C. Reporting

Award recipients are subject to NOPP and partner agency requirements for periodic reporting.

NOAA awardees will be required to submit financial and performance (technical) progress reports electronically through Grants Online. Instructions for submitting financial and progress reports will be provided by the NOAA Grants Management Division as part of the award terms and conditions.

VII. Agency Contacts

For questions regarding this announcement, contact erica.h.ombres@noaa.gov

For questions of a technical nature, contact: jessica.cross@noaa.gov

VIII. Other Information

Here is a link to the recording of an informational webinar hosted on 12/7/22:
https://www.youtube.com/@user-gb5cn1rx2l/videos

To facilitate cross sectoral collaborations for the mCDR program we have created a publicly accessible spreadsheet where those interested can share information and look for potential partners. Please see the links below:

Voluntary Intent to Submit Form:
https://forms.gle/vAY6SkouvzZjjWeHA

Submission Form:
https://forms.gle/xZocBbitnMD2tbNf7

Publicly Accessible Response Spreadsheet:
https://docs.google.com/spreadsheets/
d/1upSnBOhc5rYoxjUX9HNksOhlFnHZ3LLIsGU8r_ERZss/edit#gid=1558882210