PROJECT ANNOUNCEMENT

US Army Corps of Engineers (USACE)
Engineer Research and Development Center (ERDC)

Title: Assessing Water Quality Trends and Suspended Sediment Surrogates Above and Below Reservoirs Using High-Frequency Sensors in New Mexico and Southern Colorado

Announcement Type: Initial Announcement

Funding Opportunity Number: W81EWF-25-SOI-0014

Assistance Listing Number: 12.630

Date Issued: 26 June 2025

Key Dates: Phase I announcement will be open to receive statements of interest continuously until 12:00 noon Central Time (CT), 26 July 2025, at which point all statements of interest must be received.

If invited to Phase II, full proposal applications will be due at 12:00 noon Central Time (CT), 11 August 2025.

Estimated Award Ceiling: $150,00

Estimated Total Program Funding: $950,000: Year 1 = $150,000 ; Year 2 = $200,000 Year 3 = $200,000; Year 3 = $200,000 Year 5 = $200,000

Agency Contact: Kisha M. Craig, Kisha.M.Craig@usace.army.mil

I. Program Description

A. Short Description of Funding Opportunity

ERDC seeks applications for: Water quality monitoring including maintenance of environmental sensors (YSI Sonde) above and below SPA reservoirs, data management and distribution, writing of reports, including publication in peer reviewed journals.

B. Background

Dams and reservoirs support the development and growth of human populations by providing protection from flood events (Green et al. 2000, Schultz 2002), a dependable source of municipal and agricultural irrigation water (Altinbilek 2002, Chen et al. 2016), low-cost renewable hydroelectric power (Naranjo Silva and Álvarez del Castillo 2021, Schmitt and Rosa 2024), navigation (Carse 2012), and recreation (Ketchem and Lyons 2016). While there are tens of thousands of impoundments in the United States, these resources have a definitive life-span due to structural and operational factors. When rivers carrying sediments are constrained by reservoirs, water velocities decrease, and the suspended loads are deposited. The cumulative effect of this deposition has been a reduction in total sediment delivery to marine systems (Walling and Fang 2003), and an annual loss of global reservoir capacity of 0.8-1% (Basson 2009, Annandale et al. 2018, Madadi 2022), with rates of sedimentation varying considerably by region over time (Graf et al. 2010, Madadi 2022). In the United States, the per-capita reservoir storage capacity of the ~90,000 large impoundments have decreased by approximately 35% since 1970 due to population growth and sedimentation (Randle et al. 2021). This loss of capacity degrades reservoir functions including flood control, hydroelectric power generation, and the capacity to store water for downstream users (Podolak and Doyle 2015). Determining the extent of capacity loss due to sedimentation is the first step in developing mitigation strategies (Morris et al. 2023). However, over the past half century the frequency of reservoir bathymetric surveys, which are costly, time consuming, and labor intensive, have declined precipitously, and thus a current understanding of the state of sedimentation is lacking for many impoundments (Podolak and Doyle 2015). Alternative cost-effective methods of estimating reservoir sedimentation exist, including developing turbidity to suspended sediment relationships that can be applied to relatively inexpensive continuous measurements of the turbidity of incoming stream water (Lee and Foster 2013, Morris et al. 2023). This approach is effective in the Southwestern U.S., as the results from a recent study suggest turbidity values accurately predict suspended sediment concentrations over a wide range of values (Van Horn and McGibbon 2024). Thus, continuous and cumulative sediment loading and flushing can be relatively inexpensively estimated for reservoirs. These data can be used by USACE reservoir managers to determine the necessary frequency of bathymetry surveys, which are typically conducted at ~10-year intervals, to annually update area-capacity tables, and to determine the impacts of variation in precipitation patterns and watershed disturbances on reservoir capacity. Additionally, the turbidity/sediment relationships at downstream sites can be used by reservoir managers to plan sedimentation mitigation strategies which include discharging and/or sluicing or flushing sediments as a preferred method of reducing impacts to reservoirs. This approach is less expensive and labor intensive than dredging (Madadi 2022), however, a limitation of this technique is that it often requires permitting from local, state, and federal agencies (Shelley et al. 2022) to ensure sediment discharge does not exceed total maximum daily loads often based on upstream values from the streams entering the reservoir. This often necessitates monitoring of up and downstream sediment loads.

C. Program Description/Objective: (brief description of the anticipated work)

Brief Description of Anticipated Work:

The Vendor and SPA will maintain eleven (11) real-time, long-term, and high-frequency water quality monitoring stations above and below SPA-managed reservoirs (Table 1) to achieve **Objective 1**. At each station, five water quality parameters (i.e., temperature, conductivity, dissolved oxygen, pH and turbidity) will be collected using multi-parameter sensors (YSI Sonde). Sensor maintenance will occur at 4–6-week intervals following current USGS operating procedures (Wagner et al. 2006). All time-series records collected will be analyzed and approved following USGS procedures (Wagner et al. 2006) using Aquarius Time-Series (Aquatic Informatics, Vancouver, Canada) which the Vender will purchase and maintain, providing SPA with remote access. The Vendor and SPA will maintain real-time data acquisition and photovoltaic power systems (where installed) at each site. The Vendor will maintain the communication and retrieval between all deployed sensors, dataloggers, computers, and servers where data will be stored. Continuous water quality datasets will be made publicly available through CUAHSI HydroShare, a collaborative platform for sharing hydrologic data, models, and code (**Objective 1**). It supports findability, accessibility, interoperability, and reusability (FAIR) data principles. Each dataset will include comprehensive metadata and documentation, detailing the source, collection methods, and any processing steps.

Findings from this project should demonstrate the importance of continued high-frequency sampling to further elucidate how reservoirs are impacted by riverine water and sediment deposition and how these impacts are affected by climatic and hydrologic variability and the impacts of watershed-scale disturbances (e.g., drought, flood, wildfire), point-source and non-point-source pollution, and alteration of the natural flow regime (**Objective 2)**. The Vendor will propose specific research topics that incorporate sonde data collected under this project, in addition to other readily available data sets, to address these objectives and that are also of interest to the greater scientific community.

While collecting accurate and reliable suspended sediment data is critical to water resources planning, reservoir management, and research, the cost of installing, operating and maintaining the suspended sediment gages has caused a decline in the existing network. The use of in-stream turbidity and streamflow data to compute time-series suspended sediment concentrations and loads reduces the cost of continuous suspended sediment monitoring compared to current methods (Rasmussen et al. 2009). The Vendor and SPA will use turbidity and suspended sediment data to quantify sediment loading to, and transport from, SPA-managed reservoirs (**Objective 3**). To support this investigation, discrete samples will be collected quarterly and during high flow events to capture the hydrological variability and extremes and analyzed by the Vendor for total suspended sediments during each site visit following standard methods (Edwards et al. 1999, Davis 2005, Groten and Johnson 2018).

Collecting turbidity data has become less expensive and more reliable, however, technological limitations exist that impact the ability to compute suspended sediment concentration and loads and turbidity measurements are more expensive and less reliable to operate than other water quality parameters. Turbidity is measured by emitting a light and measuring the amount scattered in the water using a photodetector. The deployment of an onboard brush reduces fouling of the photodetector, but is prone to splaying, malfunction, or sediment laden high flow events. In addition, as technology changes, new turbidity sensors can report different values from old sensors in the same waterbody, even from sensors produced by the same manufacturer that report the same units. This difference in reporting is due to the number, wavelength, and angle of light sources and photodetectors can cause different readings in the same media and operating range (Rasmussen et al. 2009, Snazelle 2020, Foster et al. 2021). Additionally, conditions can exceed the range of the sensor, which is common following monsoon precipitation events within the study area (Reale et al. 2015, Van Horn and McGibbon 2024). Finally, the properties of the transported particles can result

in errors including, for example, post-fire black carbon events, which have been documented upstream and downstream of multiple SPA reservoirs (Reale et al. 2015, Nichols et al. 2024, Van Horn and McGibbon 2024). During these events entrained ash and charcoal absorb transmitted light from the turbidity sensor, simulating conditions of no light scattering or 0 FNU rather than the actual value (Dahm et al. 2015). In contrast to the turbidity sensor, the conductivity, dissolved oxygen, and pH sensors use an electrode cell, optical luminesce, and ion selective electrode, respectively. These sensors have captured the range in observed values upstream and downstream of the reservoirs (Van Horn and McGibbon 2024), including post-fire pulses (Reale et al. 2015, Nichols et al. 2024). Van Horn and McGibbon (2024) developed a machine learning model to estimate sediment delivery to Conchas Reservoir using high-frequency streamflow, turbidity, and conductivity to simulate turbidity values prior to and following the Hermits Peak – Calf Canyon wildfire. Thus, collecting multiple continuous water quality variables provides vital information to model sediment transport in streams and rivers and loading to reservoirs. The Vendor will utilize machine learning techniques to continue to explore the patterns in high-frequency streamflow, turbidity, and other water quality parameters to evaluate surrogate signals for turbidity at additional SPA reservoirs (**Objective 4**).

The major research findings will be documented in technical reports drafted by the Vendor and SPA for publication in peer reviewed journals (**Objective 5**). The Vendor will be responsible for all associated publishing fees. Annual reports using internally and externally collected water quality and quantity data throughout the year above, within, and below each SPA-managed reservoir, will be authored by the Vendor and SPA.

There are five main objectives:

1. Collect, review, and disseminate real-time and high-frequency water quality data upstream and downstream of SPA reservoirs.

2. Assess episodic, seasonal, and interannual trends in water quality and the influence on SPA reservoirs.

3. Leverage turbidity and streamflow records to calculate high-frequency suspended sediment concentrations and loads into and out of SPA reservoirs.

4. Utilize machine learning techniques to explore the patterns in high-frequency water quality data to understand the drivers of sediment loading for each reservoir.

5. Prepare scientific professional and technical reports for publication in peer reviewed journals.

Supplies and Materials:

SPA will provide equipment and materials for water quality data collection in Appendix A. The Vender is responsible for acquiring all remaining supplies and material to successfully complete the project.

Site Locations:

- Arkansas River above and below John Martin Reservoir, CO
- Purgatoire River above and below Trinidad Reservoir, CO
- Canadian River above Conchas Reservoir, NM
- Pecos River above and below Santa Rosa Reservoir, NM
- Rio Chama above and below Abiquiu Reservoir, NM

- Rio Grande above Cochiti Lake, NM
- Rio Grande downstream of confluence with Rio Jemez, NM

Applicants should have expert knowledge and work experience in selecting, installing, operating, maintaining, and overseeing multi-year and continuously deployed (e.g., year-round) high-frequency water quality sensor (i.e., temperature, conductivity, DO, pH, and turbidity) networks in large rivers, preferably in systems with high suspended sediment loads within the southwestern U.S. Previous experience evaluating discrete water quality and suspended sediment data with high-frequency water quality and streamflow data is preferred. The candidates should have experience reviewing and approving data from water quality sensor networks using Aquarius Time-Series (or equivalent software). The candidates should have experience publishing in peer reviewed journals assessing water quality using data from long-term and continuously deployed high-frequency water quality sensor networks, preferably in large rivers within the southwestern U.S.

D. Public Benefit

The data, reports, and publications generated under this project will benefit the public through increased awareness and understanding of the water quality conditions in the studied rivers and the links between water quality and reservoir function within multiple watersheds. Data collected for this project will also support the work of numerous local, state, and federal agencies responsible for assessing and managing water and natural resources within these basins. Utilizing turbidity and streamflow records to calculate high-frequency suspended sediment concentrations and loads in arid rivers will reduce the cost of continuous suspended sediment monitoring compared to current methods and will provide managers information regarding the impacts of seasonal and interannual fluctuations and episodic events on reservoir sediment loading and storage capacity. Finally, application of machine learning approaches to explore the patterns in high-frequency water quality data will allow managers to understand the drivers of sediment loading for each reservoir.

E. Authorization: 10 USC 4001

F. Legal Requirements

Each Cooperative Agreement awarded under this announcement will be governed by 2 CFR 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards", 2 CFR 1100 Subchapter D—Administrative Requirements Terms and Conditions for Cost-Type Grants and Cooperative Agreements to Nonprofit and Governmental Entities and the most current DoD research general terms and conditions located at https://www.onr.navy.mil/work-with-us/manage-your-award/manage-grant-award/grants-terms-conditions.

G. Program-Specific Requirements

The resulting agreement will be subject to the following:

1. The award recipient shall be solely responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The recipient will be expected to comply with all environmental regulations and obtain all necessary licenses and permits for the selected operational setting.

2. All use of vehicles in the performance of this agreement, whether manned or unmanned, shall be in accordance with applicable state, Federal, and local laws, executive orders, rules and regulations, USACE policy, and university policy regarding the use and operation of vehicles. This applies to both recipient(s) and any subrecipients.

II. Federal Award Information

The following information applies to awards issued under this announcement:

- This is a new program initiative
- The Government anticipates one Federal award from this announcement, but reserves the right to award more or less
- The total amount of funding expected to be awarded through this announcement is $1,000,000
- The expected amount of funding for each award is $950,000
- The expected award structure is by Year: Year 1 = $150,000 ; Year 2 = $200,000 Year 3 = $200,000; Year 3 = $200,000 Year 5 = $200,000
- Award(s) from this announcement will be Cooperative Agreement(s)
- The anticipated period of performance is one year, with 4 additional option years
- Applications for renewal or supplementation of existing projects are eligible to compete with applications for new Federal awards
- The government reserves the right to accept only portions of an application and to negotiate with potential awardees
- Government's substantial involvement includes 50% of the station operation and maintenance will be provided by SPA staff. SPA will lead the effort to obtain Right of Entry and ensure NEPA is conducted, with support from the Vendor. SPA will contribute towards all complex and extensive tasks (e.g., station installation/relocation, telemetry installation, annual mass calibration, data analysis, and drafting reports and manuscripts, etc.).

III. Eligibility Information

A. Eligible Applicants

This opportunity is restricted to non-federal partners of the Colorado Plateau Cooperative Ecosystems Studies Unit (CESU).

Disclosures of current and pending support made in this application may render an applicant ineligible for funding. Prior to award and throughout the period of performance, ERDC may continue to request updated continuing and pending support information, which will be reviewed and may result in discontinuation of funding.

Religious organizations are entitled to compete on equal footing with secular organizations for Federal financial assistance as described in E.O. 13798, "Promoting Free Speech and Religious Liberty."

B. Cost Sharing or Matching

This action will be 100% funded by USACE.

C. Conflict of Interest

a) General Requirement for Disclosure

You and your organization must disclose any potential or actual scientific or nonscientific conflict of interest(s) to us. You must also disclose any potential or actual conflict(s) of interest for any identified sub recipient you include in your application. We may have to ask you more questions if we need more information.

At our discretion, we may ask you for a conflict-of-interest mitigation plan after you submit your application. Your plan is subject to our approval. Refer to 2 CFR §§ 200.112 and 200.318.

b) Scientific Conflict of Interest

Scientific collaborations on research and development projects are generally the result of close collaboration prior to the submission of applications for support. Accordingly, these collaborations should be considered when considering potential conflicts of interest. The potential conflict is mitigated by the disclosure of these collaborations, and the list of current and pending support you provide for senior and key researchers. Therefore, you must include in your list of current and pending support all collaborators, even if they did not formally provide support.

D. Certifications, representations, and assurances

1. To apply for grants and other funding opportunities the applicant entity must have an active registration in the System for Award Management (SAM). Applications will not be accepted through Grants.gov or other methods unless the entity is registered in SAM. Registration in SAM now includes the acceptance of Certifications and Assurances. See https://www.grants.gov/web/grants/grantors/grantor-standard-language.html for details on how to register in SAM, and Grants.gov

2. The Federal Assistance Certifications Report is an attestation that the entity will abide by the requirements of the various laws and regulations; therefore, as applicable, you are still required to submit any documentation, including the SF-LLL Disclosure of Lobbying Activities (if award value exceeds $100,000.00), and, if applicable, informing DoD of unpaid delinquent tax liability or a felony conviction under any Federal law.

3. Certification Regarding Disclosure of Funding Sources. By checking "I Agree" on the SF 424 (R&R) block 17 you agree to abide by the following statement: "By signing this application, I certify the proposing entity is in compliance with Section 223(a) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 which requires that: (a) the PI and other key personnel certify that the current and pending support provided on the proposal is current, accurate and complete; (B) agree to update such disclosure at the request of the agency prior to the award of support and at any subsequent time the agency determines appropriate during the term of the award; and (c) the PI and other key personnel have been made aware of the requirements under Section 223(a)(1) of this Act. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. code, Title 218, Section 1001)."

IV. Application and Submission Information (2 Phase Process)

A. **Phase I:** Submission of Statement of Interest (SOI)

1. Materials Requested for Statement of Interest/Qualifications:

a. Please provide the following via e-mail attachment to: Kisha M. Craig, Kisha.M.Craig@usace.army.mil (Maximum length: 2 pages, single-spaced 12 pt. font).

i. Name, Organization and Contact Information

ii. Brief Statement of Qualifications (including):
- Biographical Sketch,
- Relevant past projects and clients with brief descriptions of these projects,
- Staff, faculty or students available to work on this project and their areas of expertise,
- Any brief description of capabilities to successfully complete the project you may wish to add (e.g. equipment, laboratory facilities, greenhouse facilities, field facilities, etc.).

Note: A proposed budget is NOT requested at this time.

The administrative point of contact is Kisha M. Craig, Kisha.M.Craig@usace.army.mil

2. ERDC will only accept SOIs submitted on or before 26 July 2025, 12:00 noon Central Time (CT).

Based on a review of the Statements of Interest received, an investigator or investigators will be invited to move to Phase II which is to prepare a full study proposal. Statements will be evaluated based on the investigator's specific experience and capabilities in areas related to the study requirements.

B. **Phase II** (if invited): Submission of Full Application Package

1. Address to Request Application Package

The complete funding opportunity announcement, application forms, and instructions are available for download at Grants.gov.

The administrative point of contact is Kisha M. Craig, Kisha.M.Craig@usace.army.mil.

2. Content and Form of Application Submission

All mandatory forms and any applicable optional forms must be completed in accordance with the instructions on the forms and the additional instructions below.

a. SF 424 R&R: Application for Federal Assistance

b. **Full Technical Proposal:** Discussion of the nature and scope of the research and technical approach. Additional information on prior work in this area, descriptions of available equipment, data and facilities, and resumes of personnel who will be participating in this effort should also be included. Specifically identify any anticipated requirement to use unmanned aircraft system(s).

Data Management Plan:

A data management plan is a document that describes which data generated through the course of the proposed research will be shared and preserved, how it will be done, or explains why data sharing or preservation is not possible or scientifically appropriate, or why the costs of sharing or preservation are incommensurate with the value of doing so. See also: DoD Instruction 3200.12.
https://www.esd.whs.mil/Directives/issuances/dodi/

Data management plans are generally 2 pages in length, and must include the following considerations:
(1) The types of data, software, and other materials to be produced.
(2) How the data will be acquired.
(3) Time and location of data acquisition, if scientifically pertinent.
(4) How the data will be processed.
(5) The file formats and the naming conventions that will be used.
(6) A description of the quality assurance and quality control measures during collection, analysis, and processing.
(7) A description of dataset origin when existing data resources are used.
(8) A description of the standards to be used for data and metadata format and content.
(9) Appropriate timeframe for preservation.
(10) The plan may consider the balance between the relative value of data preservation and other factors such as the associated cost and administrative

burden. The plan will provide a justification for such decisions.
(11) A statement that the data cannot be made available to the public when there are national security or controlled unclassified information concerns (e.g., "This data cannot be cleared for public release in accordance with the requirements in DoD Directive 5230.09.")

When preparing the Data Management Plan, it must be numbered to coincide with the above criteria that shall be included.

c. **Cost Proposal/Budget:** Clear, concise, and accurate cost proposals reflect the offeror's financial plan for accomplishing the effort contained in the technical proposal. As part of its cost proposal, the offeror shall submit a full budget in sufficient detail so that a reasonableness determination can be made. A recommended template will be included in the invitation to Phase II. The SF 424 Research & Related Budget Form can be used as a guide but is required if the sub-recipient uses it. The cost breakdown should include the following, if applicable:

1. Direct Labor: Direct labor should be detailed by level of effort (i.e. numbers of hours, etc.) of each labor category and the applicable labor rate. The source of labor rates shall be identified and verified. If rates are estimated, please provide the historical based used and clearly identify all escalation applied to derive the proposed rates.

2. Fringe Benefit Rates: The source of fringe benefit rate shall be identified and verified.

3. Travel: Travel costs must include a purpose and breakdown per trip to include destination, number of travelers, and duration.

4. Materials/Equipment: List all material/equipment items by type and kind with associated costs and advise if the costs are based on vendor quotes and/or engineering estimates; provide copies of vendor quotes and/or catalog pricing data.

5. Subrecipient costs: Submit all subrecipient proposals and analyses. Provide the method of selection used to determine the subrecipient.

6. Tuition: Provide details and verification for any tuition amounts proposed.

7. Indirect Costs: Currently the negotiated indirect rate for awards through the CESU is 17.5%.

8. Any other proposed costs: The source should be identified and verified.

d. **R&R Senior/Key Person Profile**

1. Biographical Sketch
2. Disclosure of Current and Pending Support:
   - i. A list of all current projects the individual is working on, in addition to any future support the individual has applied to receive, regardless of the source.
   - ii. Title and objectives of the other research projects.
   - iii. The percentage per year to be devoted to the other projects.
   - iv. The total amount of support the individual is receiving in connection to each of the other research projects or will receive if other applications are awarded.
   - v. Name and address of the agencies and/or other parties supporting the other research projects.
   - vi. Period of performance for the other research projects.

e. **SF-LLL Disclosure of Lobbying Activities** (if award value exceeds $100,000.00)

f. **R&R Other Project Information**

3. ERDC will only accept full application packages submitted on or before 11 August 2025, 12:00 noon Central Time (CT).

4. Submission Instructions

Choose **ONE** of the following submission methods:

a. E-mail:

Format all documents to print on Letter (8 ½ x 11") paper. E-mail proposal to Kisha M. Craig, Kisha.M.Craig@usace.army.mil.

b. Grants.gov: https://www.grants.gov/:

Applicants are not required to submit proposals through Grants.gov. However, if applications are submitted via the internet, applicants are responsible for ensuring that their Grants.gov proposal submission is received in its entirety.

All applicants choosing to use Grants.gov to submit proposals must be registered and have and account with Grants.gov. It may take up to three weeks to complete Grants.gov registration. For more information on registration, go to https://www.grants.gov/web/grants/applicants.html.

Organizations must have a Unique Entity Identifier (UEI) and active System for Award Management (SAM) registration to apply for Federal financial assistance.

C. Application Withdrawal:

An applicant may withdraw an application at any time before award by written notice via

email. Notice of withdrawal shall be sent to the agency point of contact identified in this announcement, and are effective upon receipt.

D. Funding Restrictions

Per 2 CFR § 200.216, funds may not be used to procure telecommunications equipment or video surveillance services or equipment produced by entities identified therein.

Funds from an award may not be used to attain fee or profit.

V. Application Review Information

A. Selection Criteria

Applications will be evaluated using the following criteria, listed in descending order of importance:

- Technical merits of the proposed research and development; and
- Potential relationship of the proposed research and development to Department of Defense missions
  Applicants will be evaluated based on the investigator's specific experience and capabilities in areas related to the study requirements

B. Review and Selection Process:

Each application will be reviewed based on the selection criteria above rather than against other applications submitted under this Announcement.

Based on the Peer or Scientific Review, proposals will be categorized as Selectable or Not Selectable (see definitions below). The selection of the source for award will be based on the Peer or Scientific Review, as well as importance to agency programs and funding availability.

i. Selectable: Proposals are recommended for acceptance if sufficient funding is available.

ii. Not Selectable: Even if sufficient funding existed, the proposal should not be funded.

Note: The Government reserves the right to award some, all, or none of proposals. When the Government elects to award only a part of a proposal, the selected part may be categorized as Selectable, though the proposal as a whole may not merit such a categorization.

In addition to the technical/program review, the DoD performs a budget review and a risk review as directed by 2 CFR 200.206, including a review of the Federal Awardee Performance and Integrity Information System (FAPIIS). Applicants may review information in FAPIIS and comment on any information entered into that system. Comments made by applicants will be taken into account in addition to other information in considering applicants' integrity, business ethics, and record of performance.

VI. Federal Award Administration Information

The notification e-mail regarding a selection is not authorization to commit or expend DoD funds. A DoD grants officer is the only person authorized to obligate and approve the use of federal funds. This authorization is in the form of a signed Notice of Award. Applicants whose applications are recommended will be contacted by a DoD grants officer to discuss any additional information required for award. This may include representations and certifications, revised budgets or budget explanations, or other information as applicable to the proposed award. The award start date will be determined at this time.

VII. Reporting Requirements

The terms and conditions of the award will provide the specifics on how to submit the reports and any required sections for those reports.

The following is required in accordance with 2 CFR 200.328 (Financial Reporting) and 2 CFR 200.329 (Program Performance):

Report	Requirements/Form	Frequency	Means of Submission
ERDC Progress Report	Progress during the period covered by the corresponding SF 270	Upon SF-270 submission	E-mail
Research Performance Progress Reports (Interim and Final)	OMB 0690-0032	Annually	E-mail
Financial Report	SF 425	Quarterly	E-mail
Payment Report	SF 270	Monthly	E-mail
Invention/Patent (IP) Report, if applicable & IAW 37 CFR 401.14 (c)	Form DD882	Annually	E-mail
Annual Inventory of Federally Owned Property, if applicable	See REP Article III.C of DoD R&D General Terms and Conditions	Annually	E-mail
Notification of Loss, Damage or Theft of Federally Owned Property, if applicable	See REP Article III.C of DoD R&D General Terms and Conditions	Upon occurrence	E-mail
Closeout Report	See OAR Article VI of DoD R&D General Terms and Conditions	Once	E-mail

Awardees will need to comply with the reporting requirements in 2 CFR 170: Reporting Subaward and Executive Compensation Information.

The terms and conditions of the award will provide the specifics on how to submit the reports

and any required sections for those reports.

VIII. Federal Contacts

Questions should be directed to:

Kisha M. Craig
Grants Specialist
Kisha.M.Craig@usace.army.mil

Zavien T. Beal
Grants Officer
Zavienl.T.Beal@usace.army.mil

Questions regarding Grants.gov should be directed to: the toll-free number 1-800-518-4726 and email at support@grants.gov.

IX. Other Information

The Federal government is not obligated to make any Federal award as a result of the announcement. Only grants officers can bind the Federal government to the expenditure of fund.

Applicants are advised to monitor Grants.gov for potential amendments to this Notice of Funding Opportunity. You can also elect to be automatically notified by Grants.gov whenever there is a change to the opportunity.

Applications must not include any information that has been identified as classified national security information under authorities established in Executive Order 12958, Classified National Security Information.

References

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APPENDIX A: Government Furnished Equipment

Equipment: The Government will provide, at a minimum, the following new and used items in support of this project. Quantities are in parentheses.

New Equipment:

- YSI EXO III multi-parameter sonde bodies (2).
- YSI EXO optical DO sensors (2).
- YSI EXO turbidity sensors (3).
- YSI EXO wiped conductivity and temperature sensor (4).
- YSI EXO unguarded pH sensors (1).
- YSI EXO central wipers (4).

Used Equipment: All used equipment was deemed functional as of advertisement. Quantities are in parentheses.

- YSI EXO III multi-parameter sonde (2).
- YSI EXO optical DO sensors (2).
- YSI EXO turbidity sensors (2).
- YSI EXO un-wiped conductivity and temperature sensor (2).
- YSI EXO wiped conductivity and temperature sensor (2).
- YSI EXO ungraded pH sensors (1).
- YSI EXO central wipers (2).

The Photovoltaic systems include:

- YSI EXO compatible flying lead cables.
- 10-amp 12-Volt solar charge controllers with low voltage disconnect, series regulation, and series configuration.
- Campbell Scientific CR-300 with integrated CELL210 w/4G LTE CAT1 modem.
- Coaxial antenna cables.
- 2 dBd 4G/3G multi-band omnidirectional antennas with mounting hardware.
- Surge protection kits.
- 20-Watt solar panels with 15-foot tinned terminals and mounting kit for a mast).
- Null modem cables: 9-pin male to 9-pin male connects to RS-232 ports.
- 20 Watt solar panels with 15-foot tinned terminals and mounting kit for a mast.