Request for Statements of Interest

Funding Opportunity Announcement

Federal Awarding Agency:

U.S. Army Corps of Engineers,

Engineer Research and Development Center

3909 Halls Ferry Road

Vicksburg, MS 39180-6199

Funding Opportunity No: W81EWF-22-SOI-0031

CFDA No: 12.630

Statutory Authority: 10 USC 4001

Project Title: “Improving the Computation of Large Wood and Other Geomorphic Parameters in Rivers”

Announcement Type: Initial announcement

Issue Date: 27 June 2022

Statement of Interest/Qualifications Due Date: 28 July 2022; 1300 central time zone

Full Application Package Due Date, if Invited: 15 August 2022; 1300 central time zone

Estimated Award Ceiling: $125,000 .00

Estimated Total Program Funding (optional): $525,000.00

Expected Number of Awards: The government will issue 1 award from this announcement.

Section I: Funding Opportunity Description

Background:

Locally-available wood offers attractive environmental benefits when used in bank stabilization. However, engineers in much of the country are uneasy using wood in bank protection designs due to lack of standard design tools based on scientifically sound information. The Engineering With Nature program has funded the development of a software update in the USACE river analysis software HEC-RAS to facilitate design and analysis of large wood in rivers. This update will plug into existing work flows and utilize familiar software for bank stabilization design and will greatly facilitate the consideration of natural wood by many more river engineers.

Major Tasks Are To:

(1) Identify data gaps of using large wood design for rivers and provide potential methods for addressing gaps. The CESU non-federal partner will be tasked with reaching out to appropriate agency, university, and private experts. Part of this task will be to host a 1-day interagency meeting with invited experts. The venue itself will be provided by USACE or a partner agency free of charge. It is expected that information on state of the knowledge will be presented as launching points for discussion.

(2) Using information gathered from Task 1, research how to calculate driving and resisting forces on large wood in rivers. Information on best materials and practices shall be reported as well as environmental variables that impact the use of large wood in rivers. A large part of this task will be to code stand alone software to be integrated into the USACE HEC-RAS software. Requirements of the software is that it must read from the 1D hydraulic model output files in order to compute driving forces, resisting forces, and factors of safety. The software application must provide simple visualizations in cross section and plan view. It must also read from tables of wood properties which will be provided by USACE. Data will flow one way, from HEC-RAS to the application. It is not required to write information back to RAS or include options within existing tools or displays. it is to be written using WinUI, utilizing Xamel islands in WinUI to use CSIchart. Close coordination with the USACE Hydrologic Engineering Center is required, and prior experience reading HEC-RAS output is strongly desired, so the final tool can be seamlessly incorporated into RAS. In addition, the successful Recipient is to document ways the tool could be enhanced in the future for use with RAS2D.
    a. Note: USACE will select the equations to be coded based on feedback at the interagency meeting described above and will provide worked-out spreadsheet examples. The Recipient is not responsible to make the selection.

(3) Provide a literature review and short scoping document on ways to automate high-level geomorphic assessments sufficient for deriving channel velocity and bank height. Previous experience automatically computing geomorphic values over large regions is strongly desired.

(4) (Option for outyears) Develop and maintain an online platform to facilitate landowners in applying new bank stabilization methods, locating headcut locations within large watersheds, and generating stream centerlines and other enhancements to enable cross section analysis.

Public Benefit:

HEC-RAS is the most commonly used river analysis and design software in the world—standalone software applications added to HEC-RAS find quick adoption and use by the Public. The wood calculator will allow engineers to compute force and moment balances and factors of safety. By facilitating these computations, engineers will be more able to determine when additional anchoring is needed or when such features should not be implemented at all due to excessive hydraulic forces. This will increase the reliability and robustness of large wood designs, which should both reduce project failures and make engineers more comfortable to include wood features in bank stabilization and other projects.

Section II: Award Information

Responses to this Request for Statements of Interest will be used to identify potential investigators for studies to be sponsored by the Kansas City District and the Engineer Research and Development Center to provide geomorphic analysis and coding to support efforts to use local material in bank stabilization. The estimated level of funding for FY22 is approximately $125,000. Additional funds of $100,000 each year for an additional four years may be available, providing the potential funding of $525,000 over five years to the successful Recipient/Awardee.

Government Involvement:

USACE will participate in the interagency meeting, select the equations to code, create spreadsheet examples of the analysis methods, and work closely with the successful Recipient to ensure that HEC-RAS will properly interface with and seamlessly incorporate the new standalone software application. USACE will also co-author the journal article and training materials.

Section III: Eligibility Information

1. Eligible Applicants – This opportunity is open to CESU non-federal partners in the Colorado Plateau region.

2. Cost Sharing – This action will be 100% funded by USACE.

Section IV: Application and Submission Information – Two Phase Process

Phase I: Submission of a Statement of Interest/Qualifications.

1. Materials Requested for Statement of Interest/Qualifications:
    a. Please provide the following via e-mail attachment to: stacy.d.thurman@usace.army.mil (Maximum length: 2 pages, single-spaced 12 pt. font).

        1. Name, Organization and Contact Information

        2. 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 Stacy Thurman; stacy.d.thurman@usace.army.mil

2. Statement of Interest/Qualifications shall be submitted NO LATER THAN 28 July 2022; 1300 central time zone.

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.

Phase II: Submission of a complete application package to include a full technical proposal including budget, if invited.

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 Stacy Thurman; stacy.d.thurman@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.
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 cost element breakdowns in sufficient detail so that a reasonableness determination can be made. The SF 424 Research & Related Budget Form shall be used if the subrecipient 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.

3. Application package shall be submitted NO LATER THAN 15 August 2022, 1300 central time zone.

4. Submission Instructions

Applications may be submitted by e-mail or Grants.gov. 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 stacy.d.thurman@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.

Section V: Application Review Information

1. **Peer or Scientific Review Criteria:** In accordance with DoDGARs 22.315(c), an impartial peer review will be conducted. Subject to funding availability, all proposals will be reviewed using the criteria listed below (technical and cost/price). All proposals will be evaluated under the following two criteria which are of descending importance.

a. **Technical (items i. and ii. are of equal importance):**
i. Technical merits of proposed R&D.
ii. Potential relationship of proposed R&D to DoD missions.

b. **Cost/Price:** Overall realism of the proposed costs will be evaluated.

2. **Review and Selection Process**

a. **Categories:** 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.

b. No other criteria will be used.

c. Prior to award of a potentially successful offer, the Grants Officer will make a determination regarding price reasonableness.

Section VI: Award Administration Information

1. Award Notices
   Written notice of award will be given in conjunction with issuance of a cooperative agreement signed by a Grants Officer. The cooperative agreement will contain the effective date of the agreement, the period of performance, funding information, and all terms and conditions. The recipient is required to sign and return the document before work under the agreement commences. **Work described in this announcement SHALL NOT begin without prior authorization from a Grants Officer.**

2. Administrative Requirements
   The cooperative agreement issued as a result of this announcement is subject to the administrative requirements in 2 CFR Subtitle A; 2 CFR Subtitle B, Ch. XI, Part 1103; and 32 CFR Subchapter C, except Parts 32 and 33.

3. Reporting
   See 2 CFR Sections 200.327 for financial reporting requirements,
   200.328 for performance reporting requirements, and 200.329 for real property reporting requirements.

Section VII: Agency Contact

Stacy Thurman, Grants Specialist
US Army Corps of Engineers, Engineer Research and Development Center
3909 Halls Ferry Road
Vicksburg, MS 39180-6199
stacy.d.thurman@usace.army.mil