

**REQUEST FOR STATEMENTS OF INTEREST/REQUEST FOR PROPOSALS  
WITHIN TWO COOPERATIVE ECOSYSTEM STUDIES UNITS**

**INTEREST #N62473-22-2-0008**

**PROJECT TO BE INITIATED IN 2022**

Project Title: Canyon and Wash Inventory, Assessment, and Monitoring Program,  
Marine Corps Air-Ground Combat Center Twentynine Palms, CA

Responses to this Request for Statements of Interest (RSOI) will support the Canyon and Wash Inventory, Assessment, and Monitoring Program at Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, California. The authority for this Cooperative Agreement is 16 USC §670c-1. Approximately \$176,521.00 is expected to be available to support the requirements of this project.

Item	Estimated Funding
Base Period	\$176,521.00

Type of Assistance Instrument Anticipated: Cooperative Agreement

Authority: Cooperative Agreement under 16 USC §670c-1

Eligible Applicants: Any Cooperative Ecosystem Studies Unit Californian or Desert Southwest cooperative partner who qualifies under the DoDGARS Part 34 or 2 Code of Federal Regulations 200 is eligible to apply.

Cost Sharing: Not required

**Background:**

Marine Corps Air Ground Combat Center Twentynine Palms (MCAGCC) is a major training asset for the United States Marine Corps (USMC) in the Mojave Desert. MCAGCC covers roughly 1,100 square miles in San Bernardino County, CA. The harsh desert environment is prone to extreme and isolated weather events. These sometimes sudden and violent events can create significant erosion and flash flooding events when centered over the complex mountainous and volcanic topography. Additionally, dynamic geologic changes occur in present time to include significant earthquakes and earth movements along major fault lines that transect the base. These events can restructure land biogeomorphology. Open and barren habitats do not provide much vegetation anchoring in these environments, and micro-geomorphological features such as slot canyons, dry waterfalls, impermeable lava dikes, etc. can concentrate flow and enhance scouring.

In this environment, Marines conduct large and small unit training with varying scale and tactics, utilizing the environment for concealment, advantage, and self-defense. This potentially places units in high danger when these weather events develop, and can confound efforts to reach

impacted Marines with emergency services.

Additionally, MCAGCC has a suite of rare species that are well adapted to finding and utilizing small niche habitats for moisture content. These species and environments often occur in or take seasonal advantage of relatively undetectable high watershed canyons and microdepressions such as tinajas. These features are more easily found through GIS and remote sensing than ground surveys due to the scale of the base and the difficulty of access. Highlighted and high priority communities derived from the study will be directly applicable to the MCAGCC Integrated Natural Resources Management Plan.

### **Brief Description of the Anticipated Work:**

MCAGCC seeks an experienced team to perform an ecohydrology assessment which combines creating an inventory of canyons and washes through mapping – remotely-sensed, ground-based and GIS analysis, hydrological analysis potentially using conductivity sensors to detect surface flow and soil moisture, remote sensing to map vegetation, and, lastly, highlighting areas of vulnerability to climate change and strategically determining target areas for long-term hydrology and biodiversity monitoring. The main final deliverable shall be a final report and GIS SDSFIE-compliant geodatabase with a field-tested monitoring protocol for the base with preliminary baseline data. This baseline data will come from the incorporated pilot study.

#### Task 1: Canyon and Wash Geomorphological Analysis

The Cooperator shall use available topographic, geomorphic, imagery data, and ground-based studies to create, verify, and refine an inventory of canyons and washes throughout the base. Identify hydrological potential and community productivity. Map vegetation in priority canyons and washes using remotely sensed data. Once these major drainages are confirmed, they will be prioritized for monitoring based on ecological value.

#### Task 2: Monitoring Protocol

The Cooperator shall develop a natural community based monitoring plan including field reconnaissance to a prioritized monitoring schedule. The monitoring plan should outline appropriate community-level protocols to document and track species diversity and abundance (including keystones of various taxon), disturbance and invasive species, and hydrological conditions. The protocol will recommend tools and forms for data collection, and survey timing and frequency (every 2 years is anticipated).

#### Task 3: Protocol Enactment, Testing, and Baseline Data Collection (3 Years)

The Cooperator will also perform baseline monitoring over the course of 3 years to cover the full terrain using this protocol prioritizing based on discoveries from Task 1 and previous years of data collection as the task continues.

#### Task 4: GIS Development, Rating Systems, and Reporting

Outcomes from the effort will be used to develop recommendations for on-the-ground

management, and will support adaptive management of the monitoring effort by improving/modifying aspects of the methods (as appropriate). Any major recommended changes to the protocol will be made at the time of final reporting and a revised monitoring protocol will be included as a separate appendix to the final report, so that staff going forward will be able to review the final report and find the latest guidance for the next iteration of the event.

## **Reporting and Meetings**

Reports and meetings are meant to satisfy all Tasks and Options exercised. All reports and minutes are generated as draft by the Cooperator, proceed through review by the Government (base and NAVFAC), before finalizing with incorporated comments.

### **Large and Complex Work Plan,**

The Cooperator shall prepare a proposed Work Plan detailing how the Cooperator proposes to accomplish all Performance. The Work Plan shall include, but not be limited to, methodologies for executing each element of the project (both field and analytical treatments), data measurements and requirements, accuracy assessment plans (methodologies and acceptable range of results), project implementation (including site access, reports and their structures, quality control procedures, and preliminary work schedule), personnel and agency roles and qualifications, technical services and qualifications (if distinct from personnel and agency), references, and the accident prevention plan. Modifications to the work plan may be made at any point in the project so long as they are approved by the Cooperative Agreement Technical Representative (CATR), Base Technical Representative (BTR), and the Cooperator before applying those changes.

The final work plan will be distributed to the CATR and BTR electronically.

### **Accident Prevention Plan (APP).**

The Recipient shall submit an Accident Prevention Plan/Health and Safety Plan concurrently with the Work Plan, but it shall be printed under a separate cover/separate file from the Work Plan. The APP will detail any anticipated hazards or threats to safety and detail any measures that can or should be taken to avoid or mitigate them. This plan should include Activity Hazard Assessments (AHAs) and any medical or safety certifications held by the project staff such as 40-hour EM 385 1-1 and OSHA training, first aid, and cardiopulmonary resuscitation (all examples given are mandatory).

Final APP will be distributed to the CATR and BTR electronically.

### **Semi-annual (6-month) Progress Reports.**

The Cooperator shall prepare Progress Report(s) detailing incremental accomplishment of all Performance Objectives under task orders. Reports shall be due quarterly by the 10<sup>th</sup> of the first month of the Federal quarter. Progress reports shall be prepared on a quarterly basis on a timeline that matches the timing of the submission of invoices. If no progress has been made or

the project is on standby, a brief email will suffice to document that the quarterly report had no significant findings.

Each report shall reference the Project, Document number, and Contract number. The report shall include the dates of the reporting period, a detailed account of work accomplished, a figure/map displaying locations of polygons surveyed, an estimate of percentage of work completed, and an estimate of costs to date [written by email separately from the written report and at the same time]. The report shall include any past or future potential issues. Progress report structure and information required shall be amended as requested by the CATR.

Progress reports will be distributed to the CATR and BTR electronically.

Large Draft and Final Reports and Publications.

The Cooperator shall prepare a Draft (for Government review) and Final (incorporating Government comments) Report detailing the accomplishment of all Performance Objectives under task order during the project. The Draft Final Report is due within 45 days of completion of work (to include field collection, laboratory work, and analysis) and within 60 days of the end of the Period of Performance. The Final Report is due within 30 days of Government comments or by the end of the Period of Performance, whichever is sooner.

The final report will be a comprehensive report compiling, summarizing, and describing the information gathered in all years of the task order, satisfying the primary objectives.

The draft report shall include line numbering for ease of comment reference. For purposes of the draft report all raw data, data sheets and electronic databases (including GIS data) shall be included with the electronic copy.

The BTR and CATR will review the Draft Report and provide comments and/or modifications to the Cooperator for incorporation into the report. If the Cooperator takes exception to any of the requests for modification made, a meeting or telephone conference will be held to resolve the issue. If there are unresolved differences, the Cooperator will address these in a separate letter submitted to the BTR and the CATR.

Electronic, legible copies of all raw field data collected and any raw laboratory results are to be submitted with the draft report. All electronic photographs are to be labeled with the project name, location of the photo, and date of the photo.

Final Report Specifics

1) Photographs/images taken as part of the task order shall remain Government property and are to be provided electronically on disc(s) with submission of the final report. Cooperators may use the photos internally, and for publication with prior approval by BTR and only with appropriate citation.

2) The final report will be submitted with all of the information contained in the draft report as modified by Government comment.

3) GIS Data - The Cooperator shall submit any new GIS data generated during the field surveys following the guidelines of the installation and the US Marine Corps GEOFidelis. GIS data will be reviewed by the BTR and shall not be considered final until all comments have been incorporated and data accepted by the BTR. Any elements that do not have a usable correlation to the GEOFidelis model can be delivered in a separate geodatabase agreed upon by the Cooperator and the BTR.

The final report will be distributed electronically to the CATR and electronically and in bound hard copy to the BTR. The Cooperator shall provide one complete set of unbound hard and electronic copies of the final report (including all photographs, appendices, copies of all data sheets completed in support of the project, all databases and other supporting information) to the NAVFAC SW regional NCR Records Management. The transmittal cover sheet and mailing instructions can be found in Environmental Work Instruction EWI 4, Revision 6 revised 30 September 2021 (available on request to the CATR). The hard copy sent to NCR Records Management shall be unbound and 3-hole punched without a binder. The digital copy provided should be on the minimum number of DVD's or CD's necessary to hold the required information. Two additional bound hard copies along with an electronic version and any electronic data on CD-ROM or DVD-ROM will be sent to the BTR. All electronic deliverables will also be delivered via DoDSAFE or similar mechanism with a drop-off request initiated by the CATR or BTR upon Cooperator's request.

On-Site Full-Day Kick-off Meeting.

Kick-off and Site Visit Meeting: The purpose of the kick-off meeting is to discuss any questions the Cooperator may have regarding the contract, explain Base access and security requirements/restrictions, clarify schedules and discuss other pertinent information on the work to be performed. This meeting will also serve to introduce the Cooperator to the site and any unique characteristics or specifics for application of the work plan.

Unless otherwise specified in the task order, the Cooperator personnel managing the task order are expected to be present in person at all meetings.

The Cooperator shall provide meeting minutes to the CATR via e-mail within 15 days after the meeting. Content of meeting minutes shall include, but not necessarily be limited to, a list of attendees with contact information, topics/issues discussed, problems and solutions identified, the "Task List" generated at the meeting with designation of responsible person for each task listed and due dates. The Cooperator shall incorporate any Government comments received on the meeting minutes. Revised meeting minutes shall be submitted via e-mail within five (5) days of receipt of Government comments.

MCAGCC requires roughly a half-day of field briefings for all personnel entering the field. These briefings include desert survival, range safety, UXO avoidance, and other mandatory safety and protocol trainings. These trainings will be offered as part of the full-day kick-off meeting or can be scheduled at convenience.

### On-Site Half-Day Meeting (Small).

Annual: There shall be a half-day meeting scheduled following the end of each field season on an annual basis. This meeting will present findings and preliminary results, discuss next targets and steps, determine any deliverables and publications upcoming for the next year, and conduct an after-action style review for adaptive purposes.

End of Study: There shall be one more in-person meeting at the end of the project to discuss final results including analysis, write-up, and any resulting publications the Cooperator may wish to prepare and submit.

Unless otherwise specified in the task order, the Cooperator personnel managing the task order are expected to be present in person at all meetings.

The Cooperator shall provide meeting minutes to the CATR via e-mail within 15 days after the meeting. Content of meeting minutes shall include, but not necessarily be limited to, a list of attendees with contact information, topics/issues discussed, problems and solutions identified, the "Task List" generated at the meeting with designation of responsible person for each task listed and due dates. The Cooperator shall incorporate any Government comments received on the meeting minutes. Revised meeting minutes shall be submitted via e-mail within five (5) days of receipt of Government comments. Please see Enclosure 1 (statement of work) and Enclosure 2 (terms and conditions) for additional information

### **Period of Performance:**

The period of performance covered by this Cooperative Agreement is approximately 48 months ending approximately on or before 15 September 2026. The end date is the anticipated date that the Government accepts the final report. However, the parties may extend the term of the Cooperative Agreement by written modification.

### **Materials Provided Upon Award:**

MCAGCC will work with the cooperator to provide the latest GIS materials including LIDAR, imagery, TINs, and DEMs for the base. The latest LIDAR was flown in 2009 with a 1-meter resolution.

Other GIS data will be available upon request to include natural features and infrastructure necessary to determine the work and the logistics to accomplish it.

### **Materials Requested for Statement of Interest/Qualifications:**

Please provide the following via e-mail attachment to: Kevin Magennis ([kevin.e.magennis.civ@us.navy.mil](mailto:kevin.e.magennis.civ@us.navy.mil)).

- a. SF 424 (Enclosure 3) and Research & Related Senior/Key Personnel Form (Enclosure 4). Please see Factor 1 for additional submittal requirements.

- b. Research & Related Budget Forms (Enclosure 5).
- c. Please see Factor 3 for additional submittal requirements. SF-LLL Disclosure of Lobbying Activities (Enclosure 6). If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."

Reimbursement of pre-award costs will not be allowed.

Please note, that some of the forms functionality may be lost. Please visit <https://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1> to retrieve the forms directly from the Grants.gov website.

### **Review of Statements Received:**

Proposals will be evaluated as best value tradeoffs based on the following three factors: 1) Credentials of Key Personnel, 2) Scientific Approach, and 3) Reasonableness of Cost.

NOTE: All requirements listed are minimum requirements. Offerors will be assessed on their ability to adhere to the listed requirements, completeness of responses, follow directions, comply with restrictions and provide quality control on their submittals. All page limits refer to 12 point font and single spaced pages. Submissions that exceed the page limitation specified within its corresponding factor may have additional pages removed from consideration.

### **Factor 1 - Credentials of Key Personnel**

- a. **PRINCIPAL INVESTIGATOR:** The Recipient shall designate one person as responsible for ensuring that provisions are in place, project and personnel supervision are sufficient, quality control and meeting of reporting requirements are on met a daily basis. This person shall have, at the minimum:
  - 1. Minimum three (3) years of professional experience with advanced data management and GIS.
  - 2. Minimum three (3) years of professional experience in geomorphology, remote sensing, hydrological modeling, or similar discipline.
  - 3. Minimum three (3) years of professional experience in desert, mountainous, and barren environments.
  - 4. A Bachelor's Degree in Biological Sciences, Natural Resource Management, Geography, Data Management, GIS, or a similar discipline.

- b. FIELD TECHNICIAN(S): The person shall have, at the minimum:
1. A Bachelor of Science degree in geography, geology, biology, or other related field from an accredited college or university.
  2. General knowledge of field data collection techniques in the method(s) specified in the proposal and ability to perform the tasks specified in the proposal.
  3. Ability to keep clear, legible and accurate notes.
  4. Ability to perform moderate to difficult hiking and basic climbing (bouldering) in a harsh desert terrain and high temperatures.

With the Research & Related Senior/Key Personnel Form, the Applicant shall provide type written resumes, not to exceed 5 pages for each individual, single spaced with 12pt font for the project manager and field technician(s) that are assigned to the project. Resumes must state qualifications, experience with this type of project, professional registration and certificates. In addition to the standard resume, please list applicable projects or research with reference points of contact demonstrating each professional experience bullet above to cover both the technical requirement and the time requirement. Indicate which requirement each project/research fulfills.

### **Factor 2 – Scientific Approach**

Not to exceed 4 pages, the Offeror shall develop a description of their approach and methods to addressing the anticipated work stated above. The Offeror shall be evaluated as to the soundness of the overall approach and use of any innovative techniques to accomplish project objectives.

Factors for evaluation include:

- a. Method of remote sensing and ground model development that uses existing data without additional overflights, drone use, or other collection time and needs.
- b. Flexibility of method and efficiency of data collection to work around prioritized military training schedules.
- c. Expected scale and resolution of the data and deliverables.
- d. Reasonableness and approach to monitoring and ability to perform for 3 years within budget.
- e. Timelines likely to stay within fiscal deadlines.
- f. Complexity and adaptability to environmental factors.
- g. Innovation and efficiency of approach and the transferability to other Navy and Marine Corps projects including scalability of protocols.

### **Factor 3 - Reasonableness of Cost**

After technical evaluation of the proposal, the offers will be analyzed for fair and reasonable pricing. The proposal will be analyzed to determine whether its pricing is materially/mathematically balanced, and is fair and reasonable. The Offeror shall use OMB Circular A-21 “Cost Principles for Institutions of Higher Education,” 48 CFR part 31 “Contract Cost Principles and Procedures,” or 2 CFR 200 Subpart F “Audit Requirements” as applicable. Evaluations will include an analysis to determine the Offeror’s comprehension of the



requirements of the solicitation as well as to assess the validity of the Offeror's approach. A clear cost breakdown of work elements to be accomplished detailing quantities for the various work items, unit, unit prices and extended prices will be required and will be evaluated. Evaluation will include an analysis to determine the Offeror's comprehension of the requirements of the proposed agreement as well as to assess the validity of the Offeror's methodology.

Please provide your proposed budget on the provided pdf titled, "Research and Related Budget" form (Enclosure 5). **\*Form: RESEARCH AND RELATED BUDGET**

Complete the Research and Related Budget form in accordance with the instructions on the form. You must provide a detailed cost breakdown of all costs, by cost category, by the funding periods described below, and by task/sub-task corresponding to the task number in the proposed Statement of Work. You may request funds under any of the categories listed as long as the item and amount are necessary to perform the proposed work and meet all the criteria for allowability under the applicable Federal cost principles. The budget should adhere to the following guidelines:

The budget should be driven by program requirements. Elements of the budget shall include:

- Direct Labor - Individual labor category or person, with associated labor hours and unburdened direct labor rates.
- Indirect Costs - Fringe benefits, overhead, G&A, COM, etc. (must show base amount and rate). Justify in Field K.
- Travel - Number of trips, destination, duration, etc. Justify in Field K (on the form).
- Subcontract - A cost proposal as detailed as the applicant's cost proposal will be required to be submitted by the subcontractor. If applicable, include a Research & Related Subaward Budget Attachment Form.
- Consultant - Provide consultant agreement or other document that verifies the proposed loaded daily/hourly rate. Include a description of the nature of and the need for any consultant's participation. Strong justification must be provided, and consultants are to be used only under exceptional circumstances where no equivalent expertise can be found at a participating university. Provide budget justification in Field K.
- Materials - Specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Include a brief description of the applicant's procurement method to be used (competition, engineering estimate, market survey, etc.). Justify in Field K.
- Other Directs Costs - Particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the cooperator/recipient (justifications must be provided when Government funding for such items is sought). Include a brief description of the applicant's procurement method to be used (competition, engineering estimate, market survey, etc.). Justify in Field K.
- Budget Justification (Field K on the form): Provide the required supporting information for the cost elements as shown above (see Research & Related Budget instructions) and listed as follows: indirect cost, travel, consultant, materials, and other direct costs.

Provide any other information you wish to submit to justify your budget request.

**NOTE:** Every deviation from the scope of work requirement must be identified. Proposer must identify the paragraph in the scope of work that is applicable and provide sufficient information to justify why the deviation is in the best interest of the government.

**RELATIVE IMPORTANCE OF EVALUATION FACTORS** – Factors 1, 2, and 3 are of equal importance.

**Timeline for Review of Statements of Interest:**

We request that Statements of Interest be submitted by September 14, 2022 2:00 PM PDT. This Request for Statements of Interest will remain open until an investigator team is selected. Statements of Interest received after September 14, 2022 2:00 PM PDT is considered “late” and may not be considered. Please submit requests for information/questions no later than September 12, 2022 2:00 PM PDT .

Please send electronic responses and questions only to:

Mr. Kevin Magennis, Contract Specialist Environmental Acquisition Core  
[kevin.e.magennis.civ@us.navy.mil](mailto:kevin.e.magennis.civ@us.navy.mil)

Point of Contact Information:

Mr. Kevin Magennis, Contract Specialist  
Naval Facilities Engineering Systems Command Southwest  
750 Pacific Highway, 12<sup>th</sup> Floor, San Diego, CA 92132  
619.705.5566