

STATEMENT OF WORK
for
CLIMATE CHANGE BASELINE ANALYSIS
FOR
THE UNITED STATES ARMY GARRISON FORT WAINWRIGHT, ALASKA
Cooperative Ecosystem Studies Unit
CESU-17-10

In accordance with FAR 7.503(e), projects for execution under this CA by USACE do not include any functions to be performed that are inherently governmental. This determination is made with the assessment that places emphasis on the degree to which conditions and facts restrict the discretionary authority, decision-making responsibility, or accountability of Government officials using Non Federal Entity (NFE) services or work products.

In accordance with FAR 37.104, this CA shall not be used for performance of personal services. These tasks provided by the customer for execution under this CA by USACE do not include functions to be performed that are personal services.

Any modifications to Cooperative Agreement activities as outlined by this SOW must be channeled through the Grants Officer's Technical Representative (GOTR) and Grants Officer (GO) prior to NFE implementation.

NFE personnel shall also wear a distinctive NFE furnished security (ID) badge/lanyard readily identifying the individual as a NFE employee. The badge shall be worn in a conspicuous place at all times when performing work under the Cooperative Agreement including attendance at Government meetings and conferences that take place outside of the Government facility.

NFE personnel shall identify themselves as an NFE employee when answering or placing calls on a Government telephone and when leaving outgoing or incoming messages on voice mail. Use of acronyms in this identification is insufficient to meet this requirement.

All NFE email signatures shall identify them as such and will include their employer's name.

1.0 PURPOSE

- 1.1 The U.S. Army Garrison, Fort Wainwright, Alaska (USAG FWA) owns and manages approximately 1.6 million acres in Interior Alaska. The Army has an obligation to evaluate its impacts on the environment from federal actions. This includes impacts contributing to and impacts from climate change. Alaska is on the forefront of experiencing change brought on by a changing climate. Fort Wainwright is experiencing these changes first hand; through the loss of permafrost, longer and more intense fire seasons, drying of wetland ecosystems, and the influx of invasive species due to more favorable climate dynamics. Ultimately, these impacts affect infrastructure and the ability to effectively train Soldiers and meet mission requirements. Installation environmental programs ensure military mission activities are conducted in compliance with all applicable environmental laws, regulations and

policies, however with the complex nature in planning for climate change impacts, legacy regulations and guidance have not provided a clear cut methodology for including this topic into management processes. The USAG FWA is requesting assistance to facilitate a climate change baseline analysis with requirements to analyze climate change effects and management strategies for Fort Wainwright and its Training Lands. This Scope of Work (SOW) describes objectives necessary to ensure climate change analyses are accomplished for inclusion into installation conservation and compliance program objectives IAW 32 CFR 651 *Environmental Analysis of Army Actions*; and Council on Environmental Quality Memorandum *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*, dated: August 1, 2016.

- 1.2 The USAG FWA requests the Non-Federal Entity (NFE) to supply the necessary personnel, equipment, and materials required to conduct climate change baseline analysis including literature review, climate change risks, vulnerabilities, and adaptation strategies using authoritative region-specific climate science, climate projections, and existing modeling tools. The following tools and resources will be used at a minimum:
 - a. For national, regional, and international climate information, see the U.S. Global Change Research Program website, found at <http://www.globalchange.gov>, as well as the Intergovernmental Panel on Climate Change website, found at <http://ipcc.ch/>.
 - b. “DoD FY2012 Climate Change Adaptation Roadmap”, found at <https://www.serdp-estcp.org/News-and-Events/News-Announcements/Program-News/DoD-releases-Climate-Change-Adaptation-Roadmap-in-support-of-sustainability-planning> .
 - c. Other relevant climate change reports for the Army and/or Fort Wainwright military installation.
 - d. Data sources from the Climate Research Unit, General Circulation Models, PRISM Climate Group and others.
 - e. Climate models from the IPCC Assessment Report and the Coupled Model Intercomparison Project.
 - f. Ecosystem models; including but not limited to Alaska Frame-Based Ecosystem Code, Terrestrial Ecosystem Model, and Geophysical Institute Permafrost Lab.
 - g. Statistical modeling software such as R and others.

2.0 AUTHORITY

The NFE assists the implementation, in part, of each installation's specific responsibilities pursuant to the Sikes Act Improvement Act (16 USC 670 et seq.), 10 U.S.C. § 2358, 10 U.S.C. § 2694, 10 U.S.C. § 2684, and Pub. L. 103-139 (FY 94 NDAA, page 107 Stat. 1422). DOD is authorized to enter into cooperative agreements with States, nonprofit organizations, academic institutions, and other partners to support research, technical assistance, and educational services consistent with the mission of the DOD and the CESU Network.

3.0 DESCRIPTION OF OBJECTIVES

The following tasks shall meet the overall objectives of the baseline climate analysis and be included into the draft and final deliverables. They are as follows:

- 3.1 Task 1: Provide historical, current and projected future regional trends of climate relevant to the region for the Fort Wainwright military installation.
- 3.2 Task 2: Research and compile information developed for other purposes to assess climate change impacts or adaptation strategies to US Army Alaska training;
- 3.3 Task 3: Review existing management techniques and provide a discussion of sustainability in the context of climate change and military training in the management strategies section;
- 3.4 Task 4: Collaborate with installation mission leads, via installation environmental personnel, for comprehensive incorporation of training and test vulnerabilities including adaptive support strategies to mitigate near-term and long-term effects to military training related to climate change;
- 3.5 Task 5: Predict and describe incremental effects of climate change on ecosystems and military training. Use best available and geographically suitable predictive-models and statistical analysis to identify probable complex and indirect changes that are likely to happen in the future;
- 3.6 Task 6: Provide discussion on future research strategies that can contribute to and/or supplement this effort.

4.0 PREFERRED QUALIFICATIONS

- 4.1 All personnel should possess professional qualifications appropriate to the scope and complexity of their duties under this CA. At a minimum, team leaders should possess some climatological education credentials or experience. Acceptable educational fields include climatology, biology, ecology, geology, geography, and other physical sciences.

5.0 GOVERNMENT FURNISHED MATERIALS

Base personnel will provide installation access to NFE personnel (presuming they meet security review requirements) and facilitate access to appropriate locations on the installations, if necessary. The government will provide applicable common installation imagery layers and other pertinent existing data; and relevant GIS data models, data layer specifications, and template geodatabase.

6.0 INSTALLATION ACCESS

6.1 If installation access is required, a list of all personnel working on the project that require access will be provided to the coordination POCs listed in Section 8.0. This list will include each person's full name and state driver's license number; tentative dates and times of the visit; and all vehicles used during the project with the make, model, year and license plate number. Information will be safeguarded as Personally Identifiable Information (PII) and For Official Use Only (FOUO) and is required to provide installation access for NFE personnel. All electronic communications containing PII must be marked in the subject line as FOUO and sent encrypted. The first/top line of the email upon opening must read:

"This e-mail contains FOR OFFICIAL USE ONLY (FOUO) information which must be protected under the Freedom of Information Act (5 U.S.C. 552) and/or the Privacy Act of 1974 (5 U.S.C. 552a). Unauthorized disclosure or misuse of this PERSONAL INFORMATION may result in disciplinary action, criminal and/or civil penalties. Further distribution is prohibited without the approval of the author of this message unless the recipient has a need to know in the performance of official duties. If you have received this message in error, please notify the sender and delete all copies of this message."

7.0 DELIVERABLES

7.1 All submittals will be thorough, professional in appearance, carefully edited, and without advertisement. Include color maps, graphs, charts, and figures where appropriate to convey complex data. The installation will receive an individual climate change analysis report IAW Section 3.0, and Sections 7.3, 7.4, and 7.5. The report will include text and any appropriate graphics suitable for insertion.

7.2 Meeting Minutes: NFE will produce meeting minutes of all items discussed at meetings and teleconferences, including a list of meeting participants, and submit to the GOTR and regional POCs via email within 10 days of each meeting/telecon.

7.3 Monthly Progress Reports: NFE will submit monthly progress reports summarizing activities outlined in each task listed in section 3 of this SOW. Monthly progress reports should document number of days, locations, and activities in travel status; list of plans, reports, and briefings prepared or reviewed; list of meetings attended including purpose/objective and attendees; list of major action item support and tasks accomplished; status of project progress, problems identified, solutions implemented, and schedule adjustments if appropriate; and any critical communications not

reported in other sections.

- 7.4 Draft Report: Draft reports will include a description of the methodology, techniques, and the rationale for the use of those methods; model used and results, including GIS generated graphics. Maps will also include roads and other prominent features. Provide electronic files titled descriptively with a date. Text files (reports) will have each line of the document numbered to facilitate ease of review and comment. Text files will be submitted as Microsoft Word files NLT 6 months prior to the period of performance end date- one for the USACE and Installation POC.
- 7.5 Draft Final Report: Upon receipt of comments on the Draft Report from the government (30 day review period), complete a Draft Final Report. The purpose of this document is to allow the government to verify adequate incorporation of government comments on the Draft Report prior to proceeding to the Final Report. Provide electronic files titled descriptively with a date. Text files (reports) will have each line of the document numbered to facilitate ease of review and comment. Text files will be submitted as Microsoft Word files NLT 4 months prior to the period of performance end date - one for the USACE and Installation POC.
- 7.6 Final Report: Upon receipt of comments on the Draft Final Report from the government, complete one hard bound Final Report for the installation. Hard bound (three ring bound) Final Report will be named with the title and date clearly indicated on the spine of the document, printed 1.5-spaced, on double-sided sheets. Place the NFE's name and agreement number on the title page, but not on the cover, spine, or associated with any figures. The document should also be sent to the USACE and Installation POCs electronically in both Microsoft Word and searchable Adobe portable document format (PDF) NLT 30 days of receipt of government comments on the Draft Final Report, but NLT 2 months prior to the period of performance end date.

7.7 GIS Data

- 7.7.1 All surveys will be captured, saved and delivered in GIS format, compatible with the existing geographic information system currently used by the installation and in accordance with US Army current standards.
- 7.7.2 Final deliverable GIS datasets will be provided in the following coordinate system:
- Coordinate System/Projection: UTM
 - Datum: WGS-84
 - Zone: Zone will vary depending on installation location.
 - Units: Meters

All Shapefiles (geodatabase) developed in the course of this CA will be provided as a final deliverable and are exclusively the property of the U.S. Army. These files may not be distributed, shared, copied, sold, or otherwise used without express written permission of U.S. Army. All data/sets will be

differentially corrected to an accuracy of 5 meters horizontal accuracy, or better. Data shall include complete attributes in accordance with data layer specifications in accordance with U.S. Army adaptation of Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) 3.1, or current standard. These data will be provided in digital format on CD-ROM.

Metadata: Required to fully complete enclosed metadata report form.

8.0 PERIOD OF PERFORMANCE

The period of performance for this task is 12 months.

9.0 POINTS OF CONTACT

The POCs for USACE are Ms. Kali Evans at (402) 995-2295 and Mr. Brian Hesford at (402) 995-2759. Routine and overnight (express) correspondence should be addressed as follows:

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