Grants and Agreements Division (GAD) Submission Memo (GADSUM3)
for a No-Cost Extension of Time (NCE)

1. Original Agreement Number **NR223A750025C013**   2. Amendment # **1**

3. Recipient Name **REGENTS OF THE UNIVERSITY OF MINNESOTA OFFICE SPONSORED PROJECTS ADMINISTRATION**

4. Current Agreement Period of Performance. **10/01/2023** to **09/30/2024**

5. Revised agreement end date (maximum extension is 12 months.)   **09/30/2025**
(Construction may be an exception; add comments in block 8.)

6. **For Recipient Use Only.** If the information is not attached, provide a justification for the extension, including a detailed explanation for the delay. **(NCE request will not be approved merely to expend remaining funds.)**

This extension is needed because the project continues to acquire and harmonize additional datasets which will prove extremely valuable in our project deliverables. Per the original project, we have three deliverables:

Deliverable 1.The Alaska Soil Data Bank (AKSDB).
We will acquire, curate, and centralize non-NRCS legacy data for the state of Alaska and stand up a database for continuing contributions on the GEMS platform of the University of Minnesota Supercomputing Institute. The ASDB will result in a harmonized dataset for use in digital soil mapping in Alaska and scripts will be written to export the data into a NASIS-readable format for ingestion.

Deliverable 2. AK Statewide Predictive Soil Order/Suborder Map
We will generate digital predictive soil order and soil suborder maps of the state of Alaska at a resolution of 30m using both NASIS and non-NRCS data. These should improve on both STATSGO and gNATSGO products for high-level dominant soil class predictions.

Deliverable 3. Segmentation Analysis Approach to DSM for Katmai National Park and Preserve
We will utilize a landscape segmentation analysis approach to digital soil mapping for Katmai National Park and Preserve.

We continue to make excellent progress on deliverable 1, which is the foundational deliverable upon which the others will be built. Our AKSDB working group has expanded from a core of 6 to now 13 attendees in our monthly meetings, representing multiple federal agencies (DOE, USGS, USFS, BLM). Additionally, we have recently secured data sharing agreements with the Alaska Energy Authority (AEA) and Conoco Phillips (CPAI) as well as novel point data (> 8,000 pedons) from USFS which, in combination with equisting acquired datasets and other datasets currently being curated will add a significant amount of data to our efforts.

In order to continue to data acquisition effort as we transition towards harmonization, utilization and delivery of the data, we would like to request a no-cost extension. This will allow more time to curate the new data coming in and turn our full efforts towards deliverables 2 and 3 from 2024-2025.

7. **For Recipient Use Only.** If the information is not attached, provide a summary of progress to date and revised milestones.

A full documentation of work to date is provided in the project metadata and meeting minutes and messages log. Below is a high-level summary of that information:

Project Update and Milestones
Over the 17 months, the Alaska Soil Data Bank (AKSDB) project has made significant progress in compiling and centralizing previously fragmented or inaccessible Alaskan soil data into a harmonized database. Key milestones achieved include establishing a collaborative framework, acquiring priority legacy datasets, developing metadata standards, and initiating modeling workflows.

Collaborative Framework
A multidisciplinary team spanning over 10 institutions has coalesced, encompassing expertise in pedology, geospatial analysis, database development, high performance computing, and Alaskan ecoclimatology. Governance infrastructure in place includes regular meetings, project documentation in GitHub repositories, a co-authorship agreement, and subawards to support partner contributions. These foundations have enabled productive data sharing and translation of the vision into tangible outcomes.

Priority Data Acquisition
Many major legacy soil datasets combined to > 7,000 new pedons in critical areas of Alaska not represented in NASIS have been successfully acquired, spanning federal agencies, industry partners, and academic institutions.

Metadata Architecture
Thoughtful metadata standards have been developed to capture relevant attributes from heterogeneous datasets. Controlled vocabularies, field ontologies, quality rankings, and precision tags enable unified queries across aggregated collections. Raw source data also remains archived, maintaining provenance links to original datasets. This metadata hierarchy strikes a balance between harmonization and fidelity.

Modeling Workflows
Covariate data compilation is progressing, leveraging resources like downscaled climate data and remote sensing products. By April 2024, a downsized test harmonized dataset will feed test models for predicting soil taxonomic classifications across Alaska at 30 meter resolution. This framework can integrate new data over time while expanding output variables beyond taxonomy alone to soil carbon, permafrost, and other key indicators.

8. Notes / Comments / Additional Information (changes to points of contact or other Statement of Work (SOW) changes)

9. Recipient Approving Official (If request is a separate attachment, enter "see attached request" for the name.)

_____   Date _____

Name _____   Email _____   Phone _____

10. Agency Program/Technical Contact	11. GAD Concurrence - If NO, State the reason in box 8. **YES**
TRAVIS NAUMAN Digitally signed by TRAVIS NAUMAN Date: 2024.02.27 12:36:16 -07'00'	**CONTESSA GARCIA** Digitally signed by CONTESSA GARCIA Date: 2024.06.03 14:45:49 -05'00'
Email travis.nauman@usda.gov	Email tessa.garcia@usda.gov

12. Agency Allowance Holder/Signatory Official or Designee. **(Not to be signed prior to GAD concurrence)**

Email _____   Title _____

This document serves as the fully executed amendment to this agreement. Except as provided herein, all other terms and conditions of the original agreement and any previous amendments remain unchanged and in full force and effect.

Table 1. Revised Timetable of Project Milestones and Deliverables		Year 1 (OCT 2022- SEP 2023)		Year 2 (OCT 2023 – SEP2024)		YEAR 3 (OCT 2024 – SEP2025)		
Activity	Responsible Project Personnel	QTR 1-2	QTR 3-4	QTR 1-2	QTR 3-4	QTR 1-2	QTR 3-4	Deliverables (D)
0.0 Review of Project Milestones and Deliverables	Lead: Jelinski	■						
Task 1: Alaska Soil Data Bank								
1.1 Data Acquisition	Lead: Jelinski, Graduate Student Support: Brungard, Grunwald, ABR	■	■	■				(1)Construction of Alaska Soil Data Bank on UMN MSI GEMS data platform.
1.2. Data Centralization	Lead: Jelinski, Graduate Student	■	■	■				
1.3. Data Quality and Enhancement	Lead: Jelinski, Graduate Student		■	■	■			
1.4. Data Harmonization	Lead: Jelinski, Graduate Student				■	■		
1.5. Data Export and Integration with Other Databases	Lead: Jelinski, Graduate Student						■	
Task 2: Generate Statewide 30m Predictive Digital Soil Mapping Product								
2.1. Covariate Curation & Script Development	Lead: Jelinski Support: Brungard			■	■	■		(2) Statewide 30m digital soil class (order and suborder) map
2.2. Predictive Model Runs	Lead: Brungard, Grunwald				■	■		
Task 3: Generate Digital Soil Mapping Product for Katmai National Park and Preserve								
3.1. Segmentation Analysis	Lead: ABR		■					(3) Digital Soil Map of Katmai Natl Park & Preserve
3.2. Predictive Model Runs and Segment Classification	Lead: ABR			■	■	■		
Task 4: Reporting and Project Closeout								
4.1. Scientific Communication of Results	Lead: Jelinski, Graduate Student Support: Grunwald, Brungard, ABR				■	■	■	
4.2. Final Reporting and Project Closeout	Lead: Jelinski Support: Grunwald, Brungard, ABR					■		

No Cost Extension Request: NR223A750025C013 - 09-30-2025

Nic Jelinski <jeli0026@umn.edu>

Tue 2/13/2024 11:04 AM

To:Garcia, Tessa - FPAC-FBC, MN <tessa.garcia@usda.gov>;Nauman, Travis - FPAC-NRCS, UT <Travis.Nauman@usda.gov>
Cc:Lene-Ashley, Jessica - FPAC-NRCS, AK <Jessica.Lene-Ashley@usda.gov>;Matt Macander <mmacander@abrinc.com>;Sue Ives <sives@abrinc.com>;Colby Brungard <cbrung@nmsu.edu>;Grunwald,Sabine <sabgru@ufl.edu>

Tessa and Travis -

As our current technical and administrative contacts for the AKSDB project we are requesting a 12 month no cost extension of project NR223A750025C013 "Harnessing disparate non-NRCS legacy datasets for digital soil mapping initiative in Alaska for completing the Soils2026 initiative" (currently set to end 30SEP2024) to 30SEP2025.

Per General T&C Article III.G ' No-Cost Extensions of Time', here is the following requested information:

1. Amount of additional time requested
We are requesting a no-cost extension to 30SEP2025 (12 Months).

2. Explanation for the need for the extension
This extension is needed because the project continues to acquire and harmonize additional datasets which will prove extremely valuable in our project deliverables. Per the original project, we have three deliverables:

Deliverable 1.The Alaska Soil Data Bank (AKSDB).
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3. A summary of progress to date and revised milestones

A full documentation of work to date is provided in the [project metadata](#) and [meeting minutes and messages](#) log. Below is a high-level summary of that information:

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Science Products to Date
To date, the group has produced two scientific conference presentations (European Conference on Permafrost 2023 (poster) & Pedometrics 2024 (oral)).

Revised Timeline
Given solid progress, the group is requesting a 12 month no-cost extension, with a new end date of September 2025. This enables developing enhanced datasets and analyses beyond the originally planned deliverables. In summary, strong partnerships, datasets, and tools now exist as a foundation

for generating new soil mapping products and publications over the next 2 years. Additional funding proposals for follow-on work are also envisioned capitalizing on AKSDB momentum.

Please let us know if you require any further information in consideration of this request. Thank you!

Respectfully,
Nic
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BOOK AN APPOINTMENT WITH ME (Spring 2024 Availability: Tuesdays 1-2pm & 4-5pm Central Time)
he/him
Associate Professor
Department of Soil, Water and Climate
University of Minnesota-Twin Cities
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