

Request for Proposals

Niwot Ridge Long-term Ecological Research Program 2017

ELIGIBILITY. Any faculty member or group of faculty members involved with the Niwot Ridge LTER program is eligible to apply (any faculty member can become involved with the NWT program by sending your name and address to the NWT LTER coordinator (niwotridgelter@gmail.com) and attending science meetings).

SCOPE. The primary goal of these annual awards is to support LTER research and synthesis efforts, including filling gaps in current research to achieve LTER VII goals. Secondary goals include: enhancing the NWT research community by encouraging involvement of early- and midcareer researchers in the NWT program and enhancing our capacities to engage in broader impact activities. These awards are for one year, but can be renewed for multi-year projects. A faculty member can submit more than one proposal.

CORE TYPES OF SUPPORT. We have funding to allocate to support GRAs and expenses related to field supplies and sample processing. We expect to give about 15-20 awards, ranging from a couple of 40+K awards to many <10K awards. Collaborative proposals involving several PIs are encouraged, and can amount to >40K.

- a) **Graduate student support.** Funds can be used either to support an existing student or to recruit a new student. The faculty member who is applying for support must be eligible to be a mentor for a graduate student. If funds are to recruit a new student, the LTER cannot guarantee support past the year of the award. In this call, support can be requested for summer 2017, fall semester 2017, and/or spring semester 2018. We will not fund students over 50% time or pay non-resident tuition or tuition outside CU-Boulder. We will consider requests for multiple students to work on one project if the project has multiple PIs.
- b) **Supplies and sample processing.** Funds can be used for field supplies and costs to run samples. Table 1 (below) lists Arikaree Environmental Lab water and soil sample processing costs, including fees for fluorometer usage.

Additional types of support. While GRA, supply and sample support (above) are the main ways we support research, we can provide other types of support as well. These include travel for non-local scientists, LTER technician support, and REU support. Note: There will be separate RFPs released for LTER postdoctoral fellowships (every two years, due in November) and LTER travel for graduate students and post-docs (every June).

- c) **Travel.** We will consider requests for non-local scientists for travel and lodging at MRS. Support for graduate student and postdoc travel to conferences will be covered in a separate RFP released in June.
- d) **LTER technician support.** We will have 4-5 hourly field assistants on staff to assist with work during the summer months; permanent staff can also be requested to help. Please estimate hours and specify approximate time during season needed (e.g., 40 hours in mid-July).
- e) **REU support.** The LTER has two REU positions each summer that join the MRS-site REUs for their summer program. These REUs can be recruited through the MRS-REU application process or led by faculty. Please include a mentoring plan for the student with the understanding that they will be in residence at the MRS during the summer. Faculty affiliated with the MRS-REU program who plan to

request a REU from the MRS program can request support for supplies and samples through LTER (this call).

- f) Postdoctoral support.** We will entertain requests for limited duration (e.g. <6 months) or partial time support for postdoctoral and/or PRA research support that contributes to existing or emerging LTER priorities. Include adequate justification of the need for a PRA/postdoc and an explanation of how the remaining annual salary expenses will be met.

SELECTION CRITERIA

1. Proposed research and activities must support the goals and research activities in the NWT VII grant, particularly activities outlined in the proposal that are not currently supported in other ways or which may not be achieved without additional support. To assist, we have made a list of **priority research topics** (http://niwot.colorado.edu/rfp/priorities/NWT_Priorities_for_Year_1.pdf). Please make specific mention of how the proposed research relates to LTER VII hypotheses, and to relevant NWT VII research activities found in the proposal (hint: this means that you **MUST HAVE** read and reference specific parts of the **NWT VII proposal**, <http://niwot.colorado.edu/publications/pub/2016-proposal>).
2. Likelihood of yielding important and publishable research products – based in part on the proposed work and in part on previous research history and productivity of the PI(s), and if applicable, qualifications of the student.
3. Potential for enhancing the NWT and LTER research community – based on the past and likely future contributions of the PI(s) and the student to the NWT Program as well as to activities in the LTER network.
4. It is our preference that proposed research link to one or more of our existing long-term datasets. A "link" to long-term datasets could mean research that (1) will help us to interpret a long-term dataset, or (2) will test a mechanism implied by a long-term dataset, or (3) will analyze a long-term dataset.
5. Proposals from PIs with students who have previously received GRA funding will be evaluated with proposals for new students based on the selection criteria. The committee may consider past levels of support from LTER, leveraged support from other sources, as well as the overall breadth of supported projects when comparing proposals of equal merit.

TIMELINE. Application deadline is **Monday December 19th 2016** by 5pm MST. The scientific steering committee will evaluate proposals and make decisions by the end of January. We request that all funding offers be accepted or declined by March 1st to allow us to make offers to support other projects and use all available funding.

APPLICATION REQUIREMENTS

1. **Cover page.** Project title, PI name(s), position, department. Title. Specify the PI responsible for the reporting requirements.
2. **Proposal.** In 3 pages or less, provide a description of what you will do during the period of funding, and what you expect to accomplish (expected products may occur after the one-year funding period). Tables and figures count towards this page limit; literature cited does not. Include:

- a) A clear statement about the hypothesis or general research question that you will be pursuing, an explanation of the rationale for the work, and the research approach or experimental plan you will take in the project.
- b) Explanation of how the proposed work supports the selection criteria.
- c) A timeline including research activities, presentations, manuscript submission. If the proposed activity is part of a multi-year effort, please indicate these general plans.
- d) A statement of intention to provide data, results, and data documentation (subject to access restrictions outlined in the NWT data policy) to the NWT information manager.
- e) For GRA support, a statement of the student's willingness to participate in the LTER science communication and outreach graduate seminar (offered each fall through EBIO, 1 credit hour, led by Alex Rose) and contribution of at least 10 hours of outreach service (in coordination with Alex).
- f) Evidence that data from previous NWT support has been submitted to NWT LTER. For instance, include a link to the dataset and metadata on the NWT webpage.

3. Budget. A budget (in tabular form) and a narrative justification of all requested expenditures (1-page maximum). Include personnel (e.g., GRA support, benefits, and tuition), materials and supplies, laboratory fees. No dollar amounts needed for LTER technician support (just hours and timing) and/or REU support. Only include direct costs. The funding cycle will start May 2017 and all funds must be spent by April 2018 (end of Spring 2018 semester). If including GRA support, please specify the student that you will support (or that you will be recruiting a new student to CU). Please indicate other forms of support available to the student. Request a year-long GRA if that is what the student needs for the proposed project. We try to support students for as many semesters as our budget allows.

4. Supplemental information. Provide evidence for selection criteria #2 and #3 above; for instance, include the graduate student's CV, or how you will recruit a student. If applicable, include results from prior NWT funding (presentations, publications, past REUs or grad students) and leveraged work from other sources.

5. Send application materials in one PDF file to NWT LTER (niwotridgelter@gmail.com) by the application deadline: Monday December 19th, by 5 PM MST. Please title the file with your last name.

REPORTING REQUIREMENTS. At the end of the funding period (May 2018), the awardee will be asked to provide a report on how the funds were used and the benefits gained from the activities. An interim report is also expected that will contribute to the NWT VII annual report to NSF (late November 2017). Outreach activities (e.g., those associated with GRA support) should be included. Awardees will be expected to present their work at one of the science hours of the NWT monthly meetings.

Any data acquired for this project should be archived with appropriate metadata according to NWT guidelines in consultation with NWT information manager Hope Humphries. All resulting publications must acknowledge the NWT LTER program using the NSF LTER Grant number. Please notify the NWT information manager of publications.

CONTACTS. Please contact the NWT LTER lead-PI Katharine Suding (suding@colorado.edu) or other members of the NWT executive committee to discuss ideas or request clarification. Budget details can be confirmed with Heather Stoffel (heather.stoffel@colorado.edu) for personnel rates and Holly Hughes

(holly.hughes@colorado.edu) for laboratory fees. Application materials should be sent to the Niwot email address (niwotridgelter@gmail.com).

Table 1. Arikaree Environmental Laboratory Service Rates (as of Sept 2016). Please use “capital investor” rates to estimate sample costs for LTER projects, even if the project will be in conjunction with a graduate student.

Instrument	Analysis	Full run (# samples)	Graduate student (\$)	Capital investor (\$)	CU (\$)
Lachat QuikChem 8500	Standard (N, P, or Si ²⁺)	90	N/A	5.95	7.00
	Non-standard (+ TDP)	100	N/A	11.05	13.00
Manual Titration	Alkalinity	N/A	4.50	5.10	6.00
Accumet AR10 pH Meter	pH	N/A	4.50	5.10	6.00
Perkin Elmer AAnalyst 200 Atomic Absorption Spectrometer	Standard (Na ⁺ , K ⁺ , Ca ²⁺ , Mg ²⁺)	130	18.75	21.25	25.00
	Non-standard (+ Mn ²⁺ , Li ⁺ , or Fe)	100	23.25	26.35	31.00
Thermo Finnigan FLASH EA 1112 CHN Analyzer	Total C and N; ground and packed	30	6.00	6.80	8.00
Metrohm 930 Compact IC Flex	Standard (Cl ⁻ , NO ₃ ⁻ , SO ₄ ²⁻)	70	N/A	16.15	19.00
	Non-standard (+ F ⁻ , Br ⁻)	50	N/A	20.40	24.00
Biotek Synergy 2 Multi-Detection Microplate Reader	NH ₄ ⁺	45	N/A	5.95	7.00
Shimadzu TOC-V CSN	DOC, TDN	50	9.75	11.05	13.00
	TOC, TN	50	N/A	11.05	13.00
Mettler Toledo SevenEasy Conductivity Meter	EC	N/A	4.50	5.10	6.00
Picarro L2130-i	δ ¹⁸ O, δ ² H	50	24.00	27.20	32.00
HORIBA Scientific FluoroMax 3	Chl a	20	N/A	18.70	22.00
HORIBA Scientific FluoroMax 3	2D FI and UVvis at 254nm	30	N/A	21.25	25.00
Filtering				5.10	6.00
Packing (solids)				1.00	1.00
Pre-cleaned bottles				2.00	2.35
Total Suspended Solids (TSS)				8.50	10.00