UC Merced Climate Action Research Seed Fund Competition
Spring 2023 Request for Proposals

Section 1. Summary of Grant Program

Program Synopsis

The State of California has designated $18 million to the University of California (UC) Merced, per AB 179, for climate action research and innovation to address critical needs of the state. The Office of Research & Economic Development (ORED) will administer these funds. A total of $9M in **Climate Action Research Seed Funds** will be made available through three peer-reviewed rounds of competition. This first (spring 2023) Request for Proposals (RFP) invites UC Merced faculty and research scientists with PI status to apply for a total of $3-4 million in research awards. While projects may lead to larger fundamental as well as applied research, the focus here is on applied research and development projects that will build capacity for climate resilience, adaptation, and mitigation across the State of California. In keeping with UC Merced's commitment to community and to serving the state's diverse population, proposals should explicitly consider the disparate impact of climate change/action on vulnerable communities. Wherever possible, projects should explicitly incorporate the perspectives of partners/investigators from diverse disciplines, backgrounds, genders, race/ethnicities, and lived experiences.

Award Types & Funding

- Total funding: $9M, distributed as $3-4M in each in the first two rounds of competition, and $1-3M in the third round of competition.
- Types of awards: Small (under $50k) and Large ($50k-$1M) awards. Large awards are expected to facilitate transdisciplinary activity and/or collaboration with community/end-user partners.

Community/End-User Partners

Community/end-user partners may include industry, state or local agencies, California communities, tribal groups, and community, labor, or other public and private organizations working to advance climate resilience, adaptation, or mitigation). At least one California-located or registered "community/end-user partner," as appropriate to the research scope, is encouraged, especially for Large proposals.

Competition

The competition will take the form of three (3) rounds, separated by approximately six months. An important component of the funding is to foster multidisciplinary collaborations and community/end-user partnerships. Therefore, the rationale for this staggered approach is to allow time for teams to form prior to rounds two and three of the competition, while also allowing sufficient time for those funded in the third round to complete their work prior to the expiration date of the funds (June 30th, 2025). The rationale behind the timeline for this first round of competition is to have funds available for summer 2023.

First Round Competition Timeline

- Feb 23, 2023 – Deadline for first competition
- April 30, 2023 – Awards announced
- June 1, 2023 – Funds available

Details of the second and third round competitions including proposal deadlines, will be determined after completion of the first round competition.

Eligibility

Principal Investigator Eligibility:

All UC Merced faculty/research scientists with PI status may apply, but individuals may serve as PI on only one proposal per round of competition (there is no limit to the number of proposals for which they may serve as Co-PI or Co-Investigator).

Project Eligibility:

- All research activities must be based in California.
- All proposals must address California climate action priorities and describe one or more actionable outcomes, interventions, products, or tangible benefits that will be produced within 1-3 years of receipt of funding. A partial list of resources may be found in Appendix A.
- All research must be open, with no restrictions on publication.
- Publications are required to comply with the University of California Open Access policy as well as state requirements (AB 2192 in 2018).

Subaward Eligibility:

Some portion of the funds awarded to a project (up to 50%) may be distributed as subawards to community organizations, particularly those that allow the perspectives of underserved communities to be considered in identification and resolution of challenges. These will be considered on a case-by-case basis but the intent is to support local non-profit organizations.

Section 2. Proposal Preparation and Submission Instructions

Table of Contents

2.1 Grant Program Overview and Priorities

The UC Merced Climate Action Research Grants are intended to spur innovative applied research that addresses California's climate goals, ensures that local and diverse communities are prepared and resilient, and prevents future disasters. Proposals in both the Small and Large grant categories must be synergistic with the State of California's climate action priority or priorities and should promote social equity and climate justice. The California Climate Adaptation Strategy, in particular, presents a holistic vision for the state with the following outcome-based priorities:

1. Strengthen protections for climate vulnerable communities
2. Bolster public health and safety to protect against increasing climate risks
3. Build a climate resilient economy
4. Accelerate nature-based climate solutions and strengthen climate resilience of natural systems
5. Make decisions based on the best available climate science
6. Partner and collaborate to leverage resources

There are several goals and actions under each priority area. Together, this set of priorities requires the participation of multiple disciplines and different types of partners. There are also many other state resources and strategic plans that highlight agency-specific priorities. Appendix A provides a partial list of these resources.

An important emphasis of both grant programs is near-term outcome-based solutions for public impact (See Sec. 2.3). To that end, proposal teams should consider thoughtful partnerships, broadly defined based on the proposed project, that will lead to high-impact solutions informed by collective and diverse insights and experiences. For example, disparate impacts of climate change, including related events such as wildfire, are well-known to disproportionately effect vulnerable communities. Engaging community partners on climate-related changes and/or events within their local or regional setting has the highest probability of leading to adaptable and sustainable solutions. For all projects, integrating social equity and climate justice is important and strongly encouraged.

2.2 Review Process and Scoring Criteria

There will be two levels of review:

- **Level I review:** Panel consisting of Deans (including Graduate Education and Undergraduate Education) or their representatives, Directors of the three Organized Research Units (ORUs) or their representatives, members of the Committee on Research (CoR), and internal and/or external subject matter experts. Final selection of Level I reviewers will be at the VCR's discretion to ensure that members of the panel reflect ethnic, gender, and disciplinary diversity.
- **Level II review:** Three-person panel, chaired by the VCR.

Level I Review and Scoring Criteria:

The following review criteria apply to both Small and Large grant categories. The scoring criteria used in the review process will be based on a 100-point scale as follows:

- **Responsiveness to the Grant Category (25 points):** Does the project address one or more California climate action research priorities? Are research gaps clearly identified? Are policy/regulatory and other barriers, if applicable, also articulated? Does the applicant communicate what difference the project would make in the short and long term? From a research perspective, how will the project potentially advance the state-of-the-art?
- **Actionable Outcomes / Public Impact (25 points):** Does the proposal clearly describe how the project will build capacity for climate resilience, adaptation, and mitigation across the State of California? Do actionable outcomes align with project objectives and needs of identified end-users, especially the challenges faced by underserved communities? Is there potential to impact public policy? Will the project engage and/or benefit specific vulnerable communities that have been historically underserved by environmental research and action yet are most impacted by climate change? If applicable, is there a high-quality, scalable plan for community/labor

workforce development or retraining? Does the proposal include good opportunities to prepare undergraduate students for climate-related careers?

- **Approach (15 points):** Are the conceptual framework, design, methods, and analyses well-developed, well-integrated and appropriate to the aims of the project? Does the approach include timeline-driven solution(s) with clear metrics and tangible/actionable outcomes by the end of the funding period? Does the applicant acknowledge potential problem areas and consider alternative strategies? Is the collective scientific expertise of the team suitable for the proposed project. To what extent does the methodology consider the needs of / proposed impact on vulnerable communities?
- **Leveraging (10 points):** Will the research framework and/or preliminary results of this project leverage and/or lead to external funding from other sources, such as federal agencies, state agencies, philanthropic, industry, non-governmental organizations, etc. Is there a plan for sustaining and/or growing the funding after the grant period? The rationale for leveraging of extramural funds is to ensure that research in this critical area is sustainable beyond the seed funding period. Accordingly, proposers should aim for a combination of matching or potential extramural funding which at least doubles the seed funding award. Please be as specific as possible. Note: This is a required section; proposals which do not address leveraging will be returned without review.
- **Diversity, Equity, Inclusion and Accessibility (10 points):** How will DEIA activities be integrated within the research project? What are the expected outcomes and metrics? Does the research team (including community partners) reflect a diversity of perspectives? Note: This is a required section; proposals which do not address DEIA will be returned without review.
- **Postdoctoral Researchers and/or Graduate Student Researchers (10 points):** Does the proposal include well-conceived opportunities for postdoctoral researchers and/or graduate students to prepare them for climate-related careers?
- **Budget (5 points):** Is the budget request appropriate for the scope of work proposed?

Level II Review:

Level II Review will explicitly address final distribution of awards to achieve a balance (a) across schools and disciplines, with particular attention to the humanities and arts; (b) amongst early and later career researchers; and (c) to ensure that every funded project contributes in some way to UC Merced's commitment to diversity, equity, inclusion and accessibility.

2.3 Instructions for Proposal Preparation

Both Small and Large grant categories are intended to i) advance the state's climate goals and ii) leverage these seed funds to position the project to obtain additional extramural funds and in-kind support. All proposals must address California climate action priorities and describe one or more actionable outcomes, interventions, products, or tangible benefits that will be produced within 1-3 years of receipt of funding. Large awards are expected to facilitate transdisciplinary activity and/or collaboration with community/end-user partners.

There are many resources available to guide research teams on how to focus their work on scalable public-value impact. Four examples are the following:

1. The Heilmeier Catechism (or the DARPA questions): These questions have stood the test of time.Basically, what are you trying to do; how do you measure success; and who will care?
2. "Optimizing Public Benefits from State-Funded Research," Policy Matters, California Senate Office of Research, March 2018.

3. "Public Impact Research," APLU Report, Nov. 2019.
4. V. Ramanathan, et al., Executive Summary of the Report, "Bending the Curve: 10 Scalable solutions for carbon neutrality and climate stability," University of California, 2015.

A complete application consists of all of the sections described below, to be uploaded as a single pdf file into the InfoReady competition portal (see Sec. 2.4). Each section should start on a new page on the uploaded PDF.

1. **Coversheet** and **Abstract/Project Summary (max 2400 characters):** Provide a concise summary of the research project in non-scientific terms that would be understood by a lay audience. Include the specific CA climate priority or priorities being addressed, collaborators and community/end-users engaged in the project; and the actionable outcome(s). Avoid discipline-specific jargon or technical terms. Indicate how considerations of diversity and inclusion are incorporated into the project. If the project is funded, the abstract will become public information.

2. **Project Personnel Table:** Include UC Merced PI, Co-PIs and Co-Is and any non-UC academic collaborators and/or community/end-user partners. Attach a biosketch/CV for each PI and Co-PI. (maximum of three pages each)

3. **Project Description:** Limited to a maximum of **5 pages for Small proposals** and **7 pages for Large proposals**, excluding figures and references cited (11-pt. Times New Roman or Calibri font, 1" margins, single spaced). The following four sections must be included:

i) **Proposed Research Activities and Specific Aims:** State the specific California climate priority or priorities being addressed, with links to supporting agency documents or reports. List the goals, specific milestones, and the short- and long-term climate action outcomes the proposed research will address. Outcomes that will impact the Central Valley or Sierra Nevada regions are especially encouraged and should be noted. Describe how the research activities will generate measurable, tangible outcomes with potential to help California respond to climate change risk and contribute to the well-being of California's citizens and communities. Briefly describe how the proposed project is built upon prior research or pilot projects. State the expected impact the project will have in relation to the California climate action priority or priorities, how the project addresses social equity and climate justice concerns, and how progress towards the objectives will be evaluated and monitored. (See Appendix A). If relevant, describe the role of Community/End-User Partners.

ii) **Timeframe, Milestones, and Evaluation Metrics:** Identify the research timeline, benchmarks, and milestones. Describe the methods that will be used to assess the effectiveness of the project, including the incorporation of diverse perspectives. Provide a plan for monitoring the research, implementation, and dissemination activities. The proposal must include specific outcomes and metrics to be achieved in the project period. Concrete, measurable, longer-term outcomes also may be included if applicable and whether and how these outcomes will be tracked by the project team.

iii) **Plan for Promoting Diversity, Equity, Inclusion and Accessibility (DEIA):** Identify the DEIA metrics, timeline, benchmarks, and milestones. Describe the methods that will be used to assess the effectiveness of the DEIA activities (eg, diversity of the team, specifying how the project addresses climate equity, how the perspectives of underserved communities will be considered, the diversity of any community partners, training of URM students/postdocs, and the impact of results and their dissemination to vulnerable communities). Provide a plan for monitoring DEIA implementation and activities. The proposal must include specific outcomes and metrics to be achieved in the project period. For some examples and points to consider, see the links below
https://www.jdsupra.com/legalnews/doe-office-of-science-adds-diversity-8896554/

https://science.osti.gov/grants/Applicant-and-Awardee-Resources/PIER-Plans

iv) **Leveraging Plan:** Describe a specific plan to sustain the project beyond the duration of the grant, including the specific sources of funding that will be sought during or immediately after the project period. Identify one or more specific opportunities for follow-on funding which will sustain and grow the project beyond the two-year funding window. Describe how these seed funds will lead to a proposal for these funds during or immediately following the project period.

4**. Itemized Budget and Justification:** Provide a detailed budget, by project year, accompanied by brief line-item justifications in relation to the activities and potential impact. Research and training support for students and postdoctoral scholars is encouraged. Budgets should reflect the efficient use of resources to maximize outcomes and minimize administrative costs. Include itemized budgets and justifications for participating partner organization(s)/institution(s). If relevant, also include any matching contributions in the budgets and budget justifications. See Appendix B.

For simplicity, all budgets should be prepared by the Sponsored Project Office (SPO). Please email spo@ucmerced.edu with subject "UC Merced Climate Action Reseaerch Seed Fund Competition" and an RA will be assigned to assist you with budget preparation. Depending on PI's preference, post-award funding may be managed either by a SPO or ORU RA.

5. **Letters of Commitment (optional):** Letters of Commitment from Community/end-user partners are encouraged but not required at the time of proposal submission. They may be requested prior to funding being released.

2.4 Instructions for Submission

Proposals should be submitted directly by a member of the team via InfoReady:
https://ucmerced.infoready4.com/#competitionDetail/1891200

The deadline for the submission of proposals to this first round (spring 2023) competition is 11.59PM PST on Thursday February 23rd, 2023.

2.5 Reporting Requirements

Awardees will be required to submit annual project reports. Failure to make timely progress may result in ORED recalling unused funds.

2.6 Contacts and FAQs

Questions about the competition may be directed to Vice Chancellor for Research, Innovation and Economic Development Dr. Gillian Wilson **(**gwilson@ucmerced.edu). Technical questions about submitting through InfoReady should be directed to Kelly Bolcavage, Senior Research Development Officer, (kbolcavage@ucmerced.edu**).**

A list of Frequently Asked Questions (FAQs) document will be maintained in the InfoReady portal.

Appendix A: California Climate Action Priorities and Resources

Proposals must address one or more of California's climate action priorities, as highlighted in some resources below. Detailed information is provided on the specific goals and actions aligned with the state's priorities. This partial list is intended as only a guide. Applicants may propose activities that align with

other documented state climate action priorities not listed here. However, those resources must be identified in the proposal.

- **California Climate Adaptation Strategy:** https://www.climateresilience.ca.gov/
  - California Natural Resources Agency. Links together the state's existing and planned climate adaptation efforts, showing how they fit together to achieve California's six climate resilience priorities.
- **The Pathways to 30×30 Strategy:** https://www.californianature.ca.gov/pages/30x30
  - California Natural Resources Agency. Describes how California will successfully implement the goal of conserving 30% of California's lands and coastal waters by 2030.
- **California Air Resources Board 2022 Scoping Plan:** https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents
  - California Air Resources Board. Assesses progress toward the statutory 2030 greenhouse gas target, while laying out a path to achieving carbon neutrality no later than 2045.
- **California's Fifth Climate Change Assessment:** https://opr.ca.gov/climate/icarp/climate-assessment/
  - Governor's Office of Planning and Research. Contributes to the scientific foundation for understanding climate-related vulnerability throughout California.
- **California Climate Dashboard:** https://calepa.ca.gov/climate-dashboard/
  - California Environmental Protection Agency. Describes programs, policies, and investments that California is making to combat climate change.
- **California Climate Solutions:** https://calepa.ca.gov/climate-solutions/
  - California Environmental Protection Agency. Provides an overview of California's Climate Solutions.
- **Defining Vulnerable Communities in the Context of Climate Change:** https://opr.ca.gov/docs/20180723-Vulnerable_Communities.pdf
  - Integrated Climate Adaptation and Resiliency Program. Resource guide to use when first considering how to define vulnerable communities in an adaptation context.

Additional information on California Climate priorities maybe found at this website: https://uckeepresearching.org/california-climate-action/

Appendix B: Allowable Costs

The guidance for allowable costs, non-allowable costs, and F&A (indirect costs) is as follows:

Allowable Costs: Salaries, fringe benefits, student tuition and fees, supplies, facility recharge, equipment (individual unit cost more than $5,000), project-related travel dissemination and publishing, for UC Merced personnel only. Sub-awards to Community/End-User Partners. Research activities must take place in California, and costs are expected to be incurred in California.

Non-allowable Costs: Salaries, fringe benefits, student tuition and fees for non-UC Merced personnel. Teaching buyout or more than 1-month of summer salary support for UC Merced faculty. Funding provided by this opportunity may not be used to cover patient care costs, clinical trials, patent execution costs, fundraising costs, or any costs prohibited by California state policy. California industries and for-profit entities may participate in the project, but they may not request funds.

Indirect costs: Indirect Cost Return (IDC) also known as Facility & Administrative (F&A) costs will be waived.