



From: Faculty Research Development Office (FRDO)
Office of the Vice President for Research

Subject: Limited Competition: NSF Critical-Zone Collaborative Network, NSF 19-586

Date: July 22, 2019

UNM Researchers,

The NSF's **Critical-Zone Collaborative Network** program seeks proposals to establish an adaptive and responsive research network that supports investigations of the Earth's Critical Zone. This network will consist of two components that will work together to advance knowledge, education, and outreach in this convergent science: 1) **Thematic Clusters** of fixed or temporary locations will conduct basic research on significant, overarching scientific questions concerning the structure, function, and processes of the Critical Zone. These U.S.-based Clusters could include existing observatories engaged in collecting environmental data, other monitoring locations that have been in operation for extended periods of time, and new sites that will support the scientific goals of the Cluster. The Thematic Clusters will carry out interdisciplinary research on scientific questions and manage part of the network infrastructure; 2) A **Coordinating Hub** that will oversee the compatibility and archiving of the data resulting from the Thematic Clusters, coordinate outreach and community-building activities, support the use of network facilities by outside researchers, and plan for infrastructure needs of the network. The Coordinating Hub will serve as the national center for the network.

The Critical Zone (CZ), which extends from the top of the vegetation canopy to the base of weathered bedrock is where fresh water flows, soils are formed, and most terrestrial life flourishes on Earth. The CZ is under unprecedented pressure because of contemporary human demands for food, water, land, and other resources that drive global economies. The Critical-Zone Collaborative Network will build upon the outcomes of the Critical Zone Observatories (CZO) to address significant interdisciplinary scientific questions at the regional and national scale, and develop predictive models of complex CZ phenomena. In order to achieve these goals, stimulate collaborations among new and existing CZ community members, and expand the CZO infrastructure to more diverse participation, the Critical-Zone Collaborative Network to be established will consist of several (approximately 8-10) science-driven **Thematic Clusters** linked to one **Coordinating Hub**.

The **Thematic Clusters (Clusters)** will operate an array of CZ locations chosen on the basis of a unifying scientific theme. Each Cluster would ideally have several locations encompassing multiple watersheds that could facilitate investigations of environmental gradients relevant to the proposed research theme. The Network is expected to include Clusters with a variety of physical and environmental characteristics, such as lithology, climate, erosional and depositional settings, land use, and biota, that foster investigations showcasing convergent science and multidisciplinary teams. These Clusters could include existing CZOs or similar locations that have been actively gathering data for extended periods of time, other locations that leverage relevant data sets that have been collected previously, as well as new locations that will support the science theme.

The **Coordinating Hub (Hub)** will manage the standardization, archiving, and accessibility of the data generated by the Clusters, convene regular meetings of the Thematic Clusters, and plan for future research infrastructure needs of the network. The Hub will also help support national outreach activities and organize workshops that engage the larger CZ community. These activities are expected to enhance scientific progress within the domains of CZ research and to encourage the participation of a broad range of scientists from various disciplines, at different career stages, and from groups that are traditionally underrepresented in the sciences.

\$8.5M is anticipated to be made available each year for the next five years to support the Hub and Clusters. The Coordinating Hub award will be up to \$1M/year for 5 years. The ~8-10 Thematic Cluster awards will also be made for up to 5 years, but the award amounts will depend upon the scope and budgetary requirements of the successful proposals.

The deadline for full proposals to the NSF is December 2, 2019.

For complete programmatic details, please visit the NSF Critical-Zone Collaborative Network webpage: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505628.

This is a limited competition. Each institution is limited to one Coordinating Hub proposal and up to three Thematic Clusters proposals. If you are interested in submitting a proposal, please email a statement of interest (maximum 1 page) with a tentative title that stipulates the specific kind of proposal being submitted (Network Cluster or Network Hub), a brief project description (200 words), list of CZ locations to be included (if Cluster) and their unifying scientific theme, and names and departments of all senior UNM personnel by **noon, Friday, August 16, 2019** to limited@unm.edu with the subject line **indicating: NSF CZCN - your name**. Based on the e-mail responses received, the Limited Competitions Management Team may announce a call for preproposals.

Please distribute this notice to departments and individuals whom you believe would be interested.

If you are affiliated with HSC, please contact Corey Ford (CFord@salud.unm.edu) or Cassandra Misenar (CMisenar@salud.unm.edu) for more information.