

RECLAMATION

Managing Water in the West

U.S. Department of the Interior
Bureau of Reclamation

NOTICE OF INTENT TO AWARD

This Funding Announcement is not a request for applications. This announcement is to provide public notice of the Bureau of Reclamation's intention to fund the following project activities without full and open competition.

ABSTRACT	
Funding Announcement	BOR-PN-18-N0021
Project Title	Correcting streamflow biases in watershed hydrology simulations
Recipient	Board of Regents, University of Washington
Anticipated Federal Amount	\$237,022
Anticipated Non-Federal Amount	\$0
New Award or Continuation?	New
Anticipated Period of Performance	August 1, 2018 – February 28, 2021
Award Instrument	Cooperative Agreement
Statutory Authority	PUBLIC LAW 111-11, SECTION 9509, Research Agreement Authority (123 STAT. 991)
CFDA # and Title	15.560 Research Act
Single Source Justification Criteria Cited	(4) Unique Qualifications
Reclamation Point of Contact	Melinda Ritacco Supervisory Grants Management Specialist 208-378-5103

OVERVIEW

Reclamation's Research and Development Office (R&D) applies science and technology to advance the agency's mission to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. This action supports and enhances that aim through exploring new techniques for addressing the challenges of incorporating daily modeled hydrology data into water resources models.

Specifically:

- Project 1895 will establish new methods for addressing biases in hydrologic model simulations that can have substantial impacts on water resources modeling studies that are intended to secure future water supplies and assist in improving reservoir operations and management.

Additionally:

- These investigations will benefit other ongoing efforts, such as Policy and Administration's SECURE Reservoir Operations Pilots (1763) and Basin Studies (PWP5).

RECIPIENT INVOLVEMENT

The proposed work will re-evaluate the existing streamflow bias-correction method and develop a new bias-correction method that a) uses hydrologic process as the basis for developing the mapping between reference and modeled streamflows; and b) accounts for the spatial connectivity that results from the channel network when processing multiple locations.

Streamflow bias correction procedures will be evaluated using existing long-term simulations of future conditions for the Columbia River in the Pacific Northwest and the Rio Grande River in the southwestern United States. The new bias-correction method will be applicable at a daily time step and will result in time series that can be used in flow regulation studies. The bias-corrected flows will be tested in a water resources model for a watershed in the Pacific Northwest (to be selected), as well as the Rio Grande watershed.

RECLAMATION INVOLVEMENT

The proposed work will re-evaluate existing streamflow bias-correction methods used and develop a new bias-correction method that a) uses hydrologic process as the basis for developing the mapping between reference and modeled streamflows; and b) accounts for the spatial connectivity that results from the channel network when processing multiple locations. TSC will collaborate the bias-correction methods development, assist to define the new process-based bias-correction methods, and interpret results. TSC will also collaborate with the UW to prepare a final study report and corresponding journal articles detailing the bias-correction methods and the results. The TSC will work alongside the UW to present study results at one or more scientific conferences (e.g., AGU Fall Meeting, AMS Annual Meeting, or similar). The TSC will also collaborate and participate in training partners in the use of the new bias-correction method.

STATUTORY AUTHORITY

Public Law 111-11, Section 9509, Research Agreement Authority

The Secretary may enter into contracts, grants, and cooperative agreements, for periods not to exceed 5 years, to carry out research within the Bureau of Reclamation.

SINGLE-SOURCE JUSTIFICATION

(4) UNIQUE QUALIFICATIONS

Reclamation has worked with the University of Washington (UW) in the past on water resources related research. Outcomes from these efforts have been very positive. This action builds upon completed work in a second phase of study by the Columbia River Management Joint Operating Committee (RMJOC-II). The study is an update to and extension of an earlier study for the Columbia River, commonly referred to as RMJOC-I (Hamlet et al., 2013). Reclamation and the UW have been an active RMJOC member in both efforts. This project builds upon this work, as well as identified needs for improved bias-correction techniques for use in water resources planning studies.

**DEPARTMENT OF THE INTERIOR
SINGLE SOURCE POLICY REQUIREMENTS**

Department of the Interior Policy (505 DM 2) requires a written justification which explains why competition is not practicable for each single-source award. The justification must address one or more of the following criteria as well as discussion of the program legislative history, unique capabilities of the proposed recipient, and cost-sharing contribution offered by the proposed recipient, as applicable.

In order for an assistance award to be made without competition, the award must satisfy one or more of the following criteria:

- (1) Unsolicited Proposal – The proposed award is the result of an unsolicited assistance application which represents a unique or innovative idea, method, or approach which is not the subject of a current or planned contract or assistance award, but which is deemed advantageous to the program objectives;
- (2) Continuation – The activity to be funded is necessary to the satisfactory completion of, or is a continuation of an activity presently being funded, and for which competition would have a significant adverse effect on the continuity or completion of the activity;
- (3) Legislative intent – The language in the applicable authorizing legislation or legislative history clearly indicates Congress' intent to restrict the award to a particular recipient of purpose;
- (4) Unique Qualifications – The applicant is uniquely qualified to perform the activity based upon a variety of demonstrable factors such as location, property ownership, voluntary support capacity, cost-sharing ability if applicable, technical expertise, or other such unique qualifications;
- (5) Emergencies – Program/award where there is insufficient time available (due to a compelling and unusual urgency, or substantial danger to health or safety) for adequate competitive procedures to be followed.