



NOTICE OF INTENT TO AWARD

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

ABSTRACT	
Funding Announcement	USGS-18-FA-0035
Project Title	RESEARCH ON USING DATA OBSERVATION DATA ANALYSIS TOOLS IN DEVELOPING COUNTRIES
Recipient	Boston University
Anticipated Federal Amount	\$49,900
Cost Share	N/A
Total Anticipated Award Amount	\$49,900
New Award or Continuation?	New award
Anticipated Period of Performance	March 15, 2018 – September 30, 2021
Award Instrument	Cooperative Agreement
CFDA # and Title	15.808 – Research and Data Collection
USGS Point of Contact	Sylvia Wilson, 703-648-4809

OVERVIEW

As part of the SilvaCarbon Initiative, Boston University and USGS will work with colleagues in government institutions in three regions in the world (SE Asia, Latin America and Central Africa) on the use of open source tools and software that Boston University developed to process and analyze earth observation data. USGS, through a separate agreement with the University of Maryland (UMD), has developed forest cover maps based on canopy cover using Landsat data in developing countries. Boston University, through a suite of applications, will develop an accuracy assessment of maps and area estimations of mapped land cover and change. The tools are based on a Linux Ubuntu virtual machine that contains a range of open source image processing tools such as QGIS, Orfeo, GDAL, Python, R, etc. Boston University will work in collaboration with USGS and country partners to install and test the virtual machine in house.

Boston will use products created by the USGS and UMD as a strata for sampling and estimating accuracy of the map and map classes. This process includes three main steps: 1) design and selection of sample; 2) response design: interpretation of sample and decision of agreement of reference and map observations; and 3) analysis of sample.

RECIPIENT INVOLVEMENT

Boston University, through a suite of applications, will develop an accuracy assessment of maps and area estimations of mapped land cover and change. Boston University will develop open source tools to process and analyze Landsat data use for monitoring land dynamics.

USGS INVOLVEMENT

Substantial involvement on the part USGS is anticipated for the successful completion of the objectives to be funded by this award. In particular, USGS will:

- Bring together multiple relevant institutions that research forest monitoring in each country and set up a series of meetings to review the existing products and perform the accuracy assessment of the maps;
- Input and revision on the tools and their applications to Landsat data;
- Conduct revision of land cover classifications;
- Provide the link between SilvaCarbon countries and Boston University; and
- Organize the application of tools and collect results.

SINGLE-SOURCE JUSTIFICATION

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.
- (6) Cooperative Agreements - USGS Unique Authority cited at 43 U.S.C. 36d (Federal, State, and academic partners) or DOI Authority cited at 43 U.S.C. 1457b (not-for-profit organizations).

USGS did not solicit full and open competition for this award based the following criteria:

- (4) Unique Qualifications

Single Source Justification Description:

Boston University has developed a unique suite of applications in a package called BEEODA (Boston Education in Earth Observation Data Analysis). The tools are based on a Linux Ubuntu virtual machine that contains a range of open source image processing tools such as QGIS, Orfeo, GDAL, Python, R, etc. One of the modules this package includes is the accuracy assessment of activity data and area estimation. Boston University will work in collaboration with USGS and country partners to install and test the virtual machine in house, and perform an accuracy assessment on their current forest cover products. Cooperation in this project between USGS and Boston University will allow use of tools to test the accuracy of the activity data generated by USGS and UMD, as well as testing the ability of the accuracy assessment tools to improve the land change monitoring. Boston University’s work consists of using its methods at a country level and transferring the capacity to partners in these countries to replicate the work annually. This cannot be done without their suite of tools and the virtual machine they are providing.

STATUTORY AUTHORITY

USGS Unique Authority cited at 43 U.S.C. 36d (Federal, State and academic partners).

§ 36d. Cooperative agreements: Notwithstanding the provisions of the Federal Grant and Cooperative Agreement Act of 1977 (31 U.S.C. 6301–6308), the United States Geological Survey is authorized to continue existing, and on and after November 10, 2003, to enter into new cooperative agreements directed towards a particular cooperator, in support of joint research and

data collection activities with Federal, State, and academic partners funded by appropriations herein, including those that provide for space in cooperator facilities.