

USGS NSF GRIP, GSP Opportunity

 Point of Contact Name:	Abigail Lynch
 Point of Contact Email:	ajlynch@usgs.gov
 USGS Center:	National Climate Change and Wildlife Science Center
 Project Title:	Mobile App Development for Innovative Assessment of Small-Scale Fisheries with Citizen Science
 Summary:	<p>Small-scale fisheries are important contributors to global food security and poverty alleviation. However, biological and harvest data are lacking for many small-scale fisheries because information on them is inherently difficult to acquire by traditional methods because small-scale fisheries are diverse and highly dispersed. Thus far, global assessments of small-scale fisheries have not been feasible. Scientists and managers lack sufficient funding, time, and access to certain small-scale fisheries to collect sufficient data for management and conservation decisions.</p> <p>This innovative approach of using a mobile app to conduct fisheries assessments will improve estimates of inland fisheries harvest to inform future management and conservation efforts. Better estimates of the contributions of small-scale fisheries are particularly important in the context of global change. Ultimately, how climate change, human population growth, or land use change will impact small-scale fisheries at a global scale has major implications for global food supply, especially in food deficit countries, which commonly rely on small-scale fisheries for food and commercial uses.</p>
 Project Hypothesis or Objectives:	<p>The objective of this project is to use citizen science strategies as an alternative solution to scientists collecting fisheries data in the field by enabling a team of volunteers to gather fish species and harvest information worldwide with a focus on developing countries where assessment data are particularly limited. Through partnering with international organizations or universities, we intend to create a mobile app where volunteers can record basic fisheries data (e.g., species information, number caught, location of catch, photos, etc.) for small-scale fisheries.</p>

Duration:	Up to 12 months
Internship Location:	Internship could be hosted at any of the following locations: Reston, VA; Amherst, MA; Raleigh, NC; Norman, OK; Fort Collins, CO; Tucson, AZ; Corvallis, OR; Anchorage, AK; Hilo, HI.
Field(s) of Study:	Life Science
Applicable NSF Division:	EAR Earth Sciences, DEB Environmental Biology, SES Social and Economic Sciences, SMA SBE Office of Multidisciplinary Activities, EFMA Office of Emerging Frontiers and Multidisciplinary Activities
Intern Type Preference:	Either Type of Intern
Keywords:	Inland fish, mobile app, fisheries assessments
Expected Outcome:	The main outcome will be the creation and/or implementation of a fisheries mobile app to collect fish data in an area that is data poor. This information will be used in fisheries research at USGS National Climate Change and Wildlife Science Center to both research climate change impacts on fish and validate estimates of fish production using satellite data. The intern will gain a valuable network of partners, learn to combine multiple disciplines to accomplish this task, acquire diverse communication skills, and be able to use the technology and methods in their future research activities.
Special skills/training Required:	<ul style="list-style-type: none"> •Completion of a bachelors or masters in computer science or related discipline with a particular interest in natural resource management and environmental science. •Knowledge of mobile app development. •Excellent technical, analytical, computer, organizational, and problem-solving skills. •Ability to work collaboratively and independently.
Duties/Responsibilities:	<ul style="list-style-type: none"> •Develop mobile app for use in citizen science initiative to assess small-scale fisheries assessment. •Aid research in the area of fisheries management and conservation and impacts of climate change on inland fisheries resources. •Work with USGS Scientists and University partners to integrate outputs of research into science to action projects ongoing within the DOI CSC network.
