Water Quality Project:

Description: Monitor drinking water sources and investigate linkages between water quality, land use, and public health.

Project background: A changing climate is expected to increase the frequency of extreme weather events (floods and droughts), threatening human health and safety. Of critical importance to community health, especially in rural areas of the tropics, is the availability of clean water. The presence of forests in riparian zones improves water quality and helps maintain water availability during long dry seasons. Land use and land cover largely determine the type and amount of contaminants entering surface and groundwater sources, and, consequently, the health of human communities that rely on this water for drinking, cooking, and bathing. The purpose of this project is to work with local communities on long-term water quality monitoring, and to assess the relationships between land use, water quality, and human health. Pairs of interns will work in the field, following an established protocol for collecting water quality data in local rivers around the Lalo Loor Reserve.

What will you do?

- Collect water quality data from several rivers, from their headwaters in the coastal mountains to their mouth at the Pacific Ocean
- Participate in assessment and follow-up training for community research teams, including training on E. coli sampling methods.
- Analyze water quality and water quality data to date and work with research teams to write a report of results
- Develop educational material about the importance of water quality
- Work with local communities and schools on awareness on issues related to global health and/or water quality

What will you learn?

- Standard field methods for evaluating water quality of streams, including physical and biological parameters
- Identification of common aquatic invertebrate groups
- Management and analysis of long-term datasets
- GPS navigation and data collection
- Communication techniques for public education on water quality

What do we seek?

We are looking for interns who have knowledge or experience in aquatic ecology or water quality issues, or interest and willingness to learn. Knowledge of Excel, organization, and attention to detail are helpful. Interns must be willing to hike long distances in rugged conditions and conduct field work, often in hot weather. Additionally, this project requires intermediate Spanish language ability and the willingness to work and interact with local people.

By participating in our project, we aim to provide data on the quality of communities' primary water sources, and build capacity for local people to monitor and manage their water resources. The goal is to share information to encourage sustainable management of watersheds and rivers.