

Position Title: Remote sensing and spatial computational ecology

Location: Temple University, Philadelphia, PA. USA

Start date: August 2021

Description: Full-time, two-years of funding

Context:

The Department of Geography at Temple University invites motivated individuals to apply to a postdoctoral position. The postdoctoral fellow will join a vibrant collaborative international science team in the development of an Integrated Biodiversity Information and Monitoring System in Colombia. Colombia is a strategic country for global concerted efforts to conserve biodiversity. It is the second most mega-diverse country worldwide and at the same time is undergoing rapid ecological changes that can compromise efforts to conserve biodiversity in the country. The collaboration aims to provide capacity for biodiversity monitoring and to incorporate such capacity into decision-making in order to promote effective and timely biodiversity conservation and sustainable development in Colombia.

Initial support from NASA contributed to advance capabilities in the Colombian Biodiversity Observation Network for biodiversity monitoring and decision-making through 1) the development of a biodiversity decision support system that integrates processing tools for the analysis of Earth observations with a cloud-based backend infrastructure and a graphical interface for the derivation of biodiversity indicators suitable for decision-making by end users and 2) the integration of two web-based applications (*BioModelos-Wallace*) to enable expert validation of species range estimates and dynamic updating of species distribution information with Earth observations. This NASA funded opportunity will contribute to the consolidation of the biodiversity decision-support system and to facilitate its integration with *BioModelos-Wallace* into the biodiversity information and monitoring system.

Description:

The successful candidate will lead the integration of existing remote sensing data and products to fill data gaps and consolidate knowledge on biodiversity and drivers of change at the species, community and ecosystem levels. The position also entails the development of tools and workflows that can connect the system with national and international platforms to enable dynamically updatable products to inform decision-making. Finally, the postdoctoral fellow will contribute with the production of scientific manuscripts for publication and capacity building through the production of training materials, workshops and other events. The position entails occasional international trips.

Responsibilities:

1. Integrate multiple remote sensing data and products to contribute to the characterization of biodiversity change and drivers at the species, community and ecosystem level.
2. Develop new and adapt existing computer packages, and APIs in different platforms and programming environments (R, Python, QGIS, Google Earth Engine) for the development of workflows that can facilitate remote sensing data processing and analysis for biodiversity monitoring and decision making in Colombia.
3. Improve the performance of the geospatial packages via seamless integration between different programming environments.
4. Publish the code in repositories that control the quality of the packages such as CRAN and PyPi.
5. Continuously engage with end-users of the system and other stakeholders through the production of documentation, training materials and training events both in Colombia and in the US.
6. Produce peer-reviewed scientific manuscripts both individually and as part of the research team.

Qualifications:

The ideal candidate will have a Ph.D. degree and expertise in remote sensing, landscape ecology, spatial computational ecology, geography, or a related field. Individuals are expected to have experience with:

1. Remote sensing data processing and spatial data integration and analysis
2. The development of APIs and computer packages in different platforms (Google Earth Engine, QGIS) and languages (JavaScript, Python, R),
3. The publication of computer packages in quality-checked repositories
4. A demonstrated evidence of excellent writing and communication skills and be highly motivated to publish in scientific journals.

To Apply:

Interested applicants should send the following as a single PDF attachment to Professor Victor Gutierrez (victorhugo@temple.edu) with the subject "Postdoctoral Position":

1. A statement of interest with well-articulated career goals, research interests, and qualifications and experiences relevant to the position;
2. A curriculum vitae; and
3. Contact information for three professional references