

GIS Technical Intern

Smithsonian Conservation Biology Institute, Front Royal, VA Changing Landscapes Initiative

Project Description:

The Smithsonian Conservation Biology Institute (SCBI - <https://nationalzoo.si.edu/conservation>) is offering an internship in GIS analysis as part of the Changing Landscapes Initiative (CLI). CLI is a joint spatial analysis and public engagement program utilizing both land use/land cover change (LULC) modeling and scenario planning to inform land use decisions. Additionally, the program has now entered its next phase where LULC models are being used to evaluate impacts to regional ecologic function. To that end, we are currently developing a method for assessing ecological integrity of landscapes using structural equation modeling.

Learning Objectives:

This internship is intended for someone who wants to both refine and expand their quantitative and communication skill sets. The CLI team will provide opportunities for the intern to apply their knowledge to authentic, ongoing scientific inquiry. The intern will work alongside an experienced spatial analyst and landscape ecologist (Craig Fergus and Dr. Iara Lacher) to develop models using R and ArcGIS. The intern will have access to a diverse set of real world spatial data and the opportunity to refine their skills in R by both editing existing code and generating new code from scratch. Finally, the intern will gain first hand insight into how advanced spatial analysis is communicated to a variety of audiences (public, scientific, NGO) with the goal of integrating our science into regional planning and policy.

Skill Building Opportunities:

Interns will have the chance to learn and develop quantitative and communication skills by:

- Preparing spatial data for advanced analysis
- Performing descriptive analyses in both ArcMap and R
- Writing, editing, and running R scripts
- Creating aesthetically compelling cartographic products
- Assisting with data management
- Occasionally assisting with outreach efforts

Who Should Apply:

Interns with the following will benefit the most from this opportunity:

- Degree in geography, ecology, environmental science, or related field
- Experience manipulating spatial data to meet analytical needs (projections, raster/polygon conversion, subset selection)
- Experience synthesizing and summarizing diverse spatial data sets from of varying formats
- Proven ability to write and edit R scripts
- Experience with basic statistics and ability to perform simple exploratory analyses
- Interest in biogeography, landscape ecology/change, and a desire to learn
- Experience with land use modeling or species distribution modeling
- Experience with the use of python in ArcMap

Stipend:

\$1700 per month with on-site housing possible

Terms of Appointment:

6-month full time (40 hrs/wk) internship, with possibility of extension, starting in late August 2019

Location:

The Smithsonian Conservation Biology Institute is located at the north entrance of the Shenandoah National Park about 60 miles west of Washington, D.C., in Front Royal, VA.

Application Deadline:

Sunday, June 16, 2019

To apply:

Send a resume and cover letter to fergusc@si.edu explaining your interest in this program, expressing how you could benefit from the training, how it could contribute to your future career goals, and why you would make a strong candidate