Graduate Research Assistantship: Conflict Ecology and Geospatial Analysis

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Overview
This 0.49 FTE Graduate Research Assistant (GRA) will aid in interdisciplinary Conflict Ecology research by characterizing spatial and temporal patterns of land use/land cover change, conflict/war incidence, climate change, and socioeconomic conditions to better understand environmental changes preceding or following violent social conflict. The GRA will utilize quantitative (remote sensing and geospatial programming) and qualitative methods (census and demographic data analysis) to characterize changing socio-environmental relationships across various geographies; conduct in-depth literature reviews; and research and explore innovative approaches to couple environmental and social change in regions of conflict.

The GRA will work collaboratively with the research Principal Investigator (PI) and individually to (1) analyze changes in environmental resource access and use in conflict zones, (2) examine characteristics of both climate and conflict refugee populations and circumstances, (3) explore social and environmental conditions surrounding conflict incidence at various spatial scales, and (4) write content or prepare figures to contribute to publications or grant proposals and to communicate analysis to internal and external collaborators. This GRA position provides a nationally competitive stipend, tuition remission, and health insurance.

Duties
20% Research synthesis
Conduct meta-studies on climatic and environmental changes and conditions of resource access and use before/during/following regional- and national-level conflicts, and synthesize findings.

20% Data collection
Work with the PI to collect satellite, conflict, socioeconomic, and demographic data from various sources and merge with relevant social or environmental datasets.

40% Data analysis, reporting, and distribution
Using remote sensing and geospatial programming, work with PI to develop frameworks to analyze patterns of environmental change and conflict incidence. Work with PI to interpret results and develop tabular, graphical, and cartographic reports suitable for publication. Contribute to the preparation of reports and data analysis for use in peer-reviewed publications. GRA may also lead presentations at scientific symposia or conferences.

20% Research proposal and grant preparation
Contribute to development of research proposal ideas and projects. Work with PI and external collaborators to write and submit proposals for external funding.
Graduate Research Assistantship

Qualifications

Minimum Required Qualifications

• A profound interest in and motivation for understanding the variety of relationships linking environmental/climatic change and conflict.
• Master’s degree in Geography, Environmental Science, Political Science, or related field.
• Two years experience working with Landsat or MODIS satellite imagery or carrying out geospatial analysis.
• Proficiency using ENVI and ArcGIS/QGIS.
• A creative problem-solving nature; ability to learn and integrate new concepts quickly; comfort applying solutions computationally; strong work ethic and ability to work independently; good oral and written communication skills; attention to detail; and demonstrated ability to maintain a positive attitude.

Preferred Qualifications

• Academic or research experience on interdisciplinary socio-environmental topics.
• Demonstrated understanding of socio-environmental relationships, climate change, and ecosystem science.
• Experience studying or researching themes or theories within political ecology, landscape ecology, climate change science, or peace and conflict studies.
• Experience managing and analyzing very high resolution commercial satellite imagery.
• Experience using machine learning approaches, time series analysis, or spatial modeling.
• Strong geospatial programming/scripting background in Python or Java.

Anticipated Start Date

Position funding available as early as Winter (January) 2016. At least four academic quarters of funding currently available with future funding pending.