

## **GRADUATE RESEARCH ASSISTANTSHIPS IN CONSERVATION AND SUSTAINABLE DEVELOPMENT FOCUSED ON COLOMBIA, ECUADOR, AND PERU**

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**Overview:** The NASA-funded project, “Maintaining Life on Land (SDG 15) under Scenarios of Land Use and Climate Change in Colombia, Ecuador, and Peru”, is seeking applications for one Ph.D. Research Assistantship. The positions will be based within the Montana State University Department of Ecology. **Applicants must be Peruvian.** While the position will be under the jurisdiction of Montana State University, the student will be expected to collaborate with two other graduate students for the project based at Northern Arizona University and University of Northern British Columbia, and with the project team which also includes the United Nations Development Programme (UNDP), the Wildlife Conservation Society, the Alexander von Humboldt Institute, the Colombia National University, and government ministries in Colombia, Ecuador, and Peru. The positions are expected to be funded for a three-year period with the potential for a fourth year of funding arranged within each host institution. The target start date for the positions is August 2019 or sooner.

**Description of the project:** The United Nations General Assembly recently adopted the 17 Sustainable Development Goals (SDGs) to end poverty, protect the planet, and ensure prosperity for all by 2030. The targets for SDG 15, Life on Land, include sustainably managing forests, combating desertification, halting and reversing land degradation, and halting biodiversity loss. Spatial data is essential to implementing and reporting on projects that deliver on the SDGs, including SDG 15. UNDP is the leading agency in the UN system in assisting governments to integrate the SDGs into their national development plans and policies. Through this project, UNDP and the Governments of Colombia, Ecuador, and Peru have joined forces with premier research organizations to support countries to deliver on SDG 15. The goal of the proposed project is to develop and implement, in collaboration with Colombia, Ecuador, and Peru, a decision support system for scenario planning, forecasting, policy development, and reporting on SDG 15.

**Resources provided:** An opportunity to attain a PhD in the appropriate field; a tuition waiver; a stipend that is generally sufficient to pay living expenses and student fees, including medical coverage, travel from and to partner countries.

**Montana State University Position Description**  
**Ph.D. Research Assistantship in Tropical Ecosystem Response to Climate and Land Use Change**

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**Position Details**

Montana State University (MSU) is seeking a Peruvian Ph.D. student to work with an interdisciplinary team engaged in the NASA-funded project “Maintaining Life on Land (SDG 15) under Scenarios of Land Use and Climate Change in Colombia, Ecuador, and Peru” (see above). Under the supervision of the Principle Investigators, the student will develop and execute methods for forecasting ecosystem type, forest structure, and select vertebrate species response to scenarios of climate and land use change. The work will be done to support decision making by relevant ministries Colombia, Ecuador, and Peru regarding SDG 15. The student is expected to work in collaboration with full project team including two Ph.D. students at the Northern Arizona University and the University of Northern British Columbia.

This a 1.0 FTE Ph.D. Research Assistantship position that is expected to be available for a three-year period with an additional year of funding available through a Teaching Assistantship. In addition to the assistantship, funds for travel to Montana State University will be provided. The intended start date is August 2019 or sooner.

**Supervisor:**

Andrew Hansen  
Ecology Department, Montana State University  
[hansen@montana.edu](mailto:hansen@montana.edu)  
<http://www.montana.edu/hansenlab/>

**Duties:**

- Assess the needs of the collaborating countries with regards to SDG 15 regarding ecosystem and species responses to climate and land use scenarios.
- Compile predictor data sets including climate, geomorphology, human pressure, and land use for a historic calibration period and under scenarios to 2100.
- Develop statistical functions for the historic period relating ecosystem type, forest structure, and select vertebrate species to the predictors.
- Use the statistical functions to forecast biodiversity response under scenarios of climate and land use.
- Analyze and interpret the results with regards to conservation strategies aimed at meeting the SDG 15 targets identified by each collaborating country.

**Required Qualifications:**

- M.S. in ecology or related field.
- Proficiency in Spanish and English. MSU requires applicants from countries where English is a second language to present evidence of proficiency in the use of the English language. Typical tests and scores are as follows: TOEFL: 80-internet-based [iBT] or 550-PBT, IELTS: 6.5, or PTE Academic: 54. *The successful candidate will have the option to take the TOEFL/IELTS/PTE Academic within six weeks of being offered the position. If their English language skills are currently not at a level to pass, as long as they can pass with the above within six weeks they will be considered proficient.*
- Demonstrated understanding of or aptitude for attaining an understanding in theory and application in ecology and ecosystem structure, function, and composition, and in conservation biology.
- Adequate training, experience, or aptitude in spatial analysis and statistical techniques.

- Interest and/or experience in working with natural resource managers on national-scale conservation application and reporting.
- Potential to execute and publish ecological research.
- Experience in working on integrated science teams.
- Citizen of Peru, with the intent to Peru to work in the conservation sector after completion of the PhD.

**Desired Qualifications:**

- Demonstrated proficiency in the use of Esri products, Google Earth Engine, Python, and/or R.
- Experience in publishing peer reviewed scientific papers.
- Successful collaborations with large research teams.
- Experience in managing large databases.

**Institutional Requirements for Application**

Montana State University and the Ecology Department have slightly different but overlapping requirements. The successful applicant must fulfill all institutional requirements to be eligible to apply. Applicants do not need these documents for the initial application (procedure described below), but will be required to produce them within 2 weeks if selected as the successful applicant. P

**University Requirements:**

- Official transcripts reflecting all undergraduate and/or post-baccalaureate study from each international and U.S. college/university. Official transcripts are those that come directly to MSU from the previously attended university. An English translation must be provided for all non-English academic transcripts and credentials. Photocopies can be used to initiate the application process, however official transcripts/credentials are still required upon admission.
- An undergraduate GPA of at least 3.00 (on a 4.00 scale). Applicants with post-baccalaureate experience must have a graduate GPA of at least 3.00.
- Three letters of reference.
- A personal statement.
- Official entrance examination scores.
- MSU requires applicants from countries where English is a second language to present evidence of proficiency in the use of the English language. Typical tests and scores are as follows: TOEFL: 80-internet-based [iBT] or 550-PBT, IELTS: 6.5, or PTE Academic: 54. *The successful candidate will have the option to take the TOEFL/IELTS/PTE Academic within six weeks of being offered the position. If their English language skills are currently not at a level to pass, as long as they can pass with the above scores within six weeks they will be considered proficient.*

**Ecology Department Requirements:**

- The applicant's 3 letters of recommendation must indicate the student has good prospects of success in graduate school.
- The applicant should have at least the equivalent of three-fourths of the science courses required in the [undergraduate curriculum at Montana State University](#) in the option chosen for graduate study.
- Official Graduate Record Examination (GRE) General Test scores must be submitted at the time the student submits the full application to the Department of Ecology. The sum of the verbal and quantitative scores should be at least 1100 for GRE scores before July 2011 and a minimum

of 300 for the current GRE tests. Generally, the scores should not be more than five years old but exceptions can be made.

- The applicant should have maintained the following minimal undergraduate grade-point averages: 3.0 average in all biology courses; 3.0 average in all courses taken during the junior and senior years; and 2.5 average in all chemistry, physics and mathematics courses.

### **Application Procedure**

Applicants will undergo an initial application screening process. The successful applicant will then be invited to formally apply to each university. For the initial application, applicants will need to prepare three items. These can be submitted in either English or Spanish:

- Letter of interest (1-4 pages describing research interest and experience, suitability)
- CV
- Names and contact information of three references

Please email these by 17 April 2019 to position supervisor Andrew Hansen ([hansen@montana.edu](mailto:hansen@montana.edu)), with a copy to [anne.virnig@undp.org](mailto:anne.virnig@undp.org) and [michael.valqui@undp.org](mailto:michael.valqui@undp.org). The application period will be rolling, with applications reviewed as they are received until the deadline of 17 April 2019.

The position is contingent upon funding and will remain open until a qualified applicant is recruited.