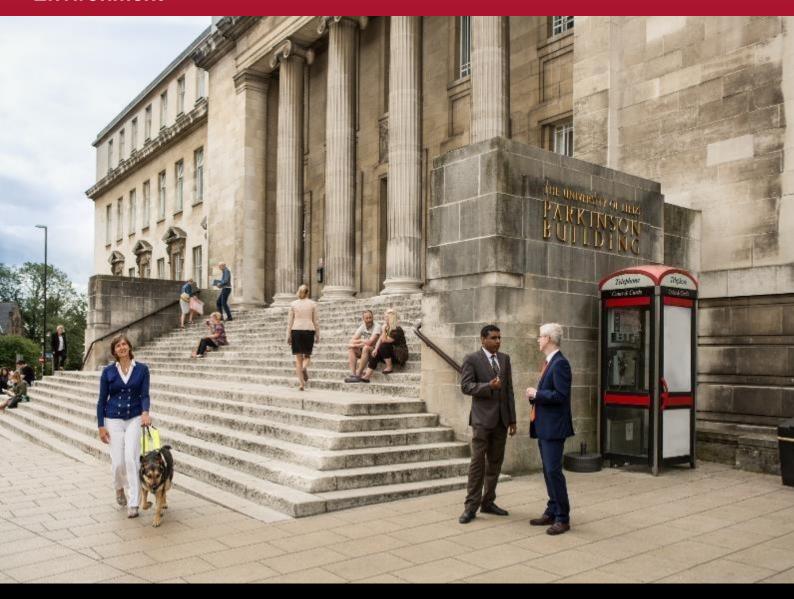## CANDIDATE BRIEF

Research Fellow in Tropical American Forest Dynamics, Faculty of Environment

Salary: Grade 7 (£39,355 – £46,735 p.a. depending on experience)

Reporting to: Professor Oliver Phillips

Reference: ENVGE1275

Fixed term until 30 September 2027 to complete specific time limited work *(with a potential extension of an additional 5 months)*

Location: University of Leeds (with scope for hybrid working)

We are open to discussing flexible working arrangements

Research Fellow in Tropical American Forest Dynamics, Faculty of Environment

Overview of the Role

Are you an ambitious researcher looking for your next challenge? Do you have strong quantitative skills and interests in forests, trees or climate change? Do you want to join a global, dynamic research team and further your career in a leading UK University?

You will work on a UK Natural Environment Research Council funded project: *"AMSINK – The End of the Amazon Carbon Sink?"*. Within the project you will have responsibility for undertaking statistical analyses of tropical forest dynamics (turnover, productivity, and change metrics) across time and space and for producing high-quality written outputs.

The Ecology and Global Change research cluster at Leeds conducts world-leading research in tropical ecology and change. The research will be undertaken collaboratively with a team of ecologists from across the tropics, including partners in the RAINFOR network, the PPBio network and other national and regional networks of tropical American forest researchers. AMSINK emphasizes support for long-term ecological monitoring and research with colleagues in South America, the U.K. and worldwide, all supported by the ForestPlots.net data management team based at Leeds. Our overall research goal is to assess the response of South American tropical forests to changing climate conditions. We are looking for a motivated researcher who can help discover how, where and why the dynamics of American tropical forests have changed.

You will have a PhD in Ecology, Environmental Science, Statistics or a related discipline, including advanced experience with applying statistics to ecological problems. You will have a publication track record, excellent analytical and communication skills and have a record of successfully working with a research team. Applicants must have strong statistical modelling skills using R. You will have experience of a range of relevant statistical techniques, potentially including mixed effects models, Bayesian and maximum likelihood approaches, spatial statistics and random forests or other machine-learning approaches and be quick to learn new techniques. Enjoyment of analysis of large and spatially explicit ecological data sets,

and an interest in large-scale comparisons involving observational or experimental datasets over space, time and environmental gradients, are essential. Field experience of tropical forest ecology is desirable but not essential. The ability to communicate well in the main Latin American languages will be an advantage. The successful candidate will be expected to contribute in other ways, including helping early career researchers in South America with their project-related analyses.

The project is coordinated by Professor Oliver Phillips, who is responsible for the overall implementation and for overseeing the analysis of the forest census data. Other partners in the project include Professors Tim Baker, David Galbraith, Manuel Gloor and Simon Lewis (Leeds), Dr Flavia Costa (INPA, Brazil), Dr Beatriz Marimon (UNEMAT, Brazil), and Dr Martin Sullivan (Manchester Metropolitan University). This job is funded by the Natural Environment Research Council through the University of Leeds, and you will work closely with a large and dynamic team of researchers in Leeds and beyond.

Main duties and responsibilities

- Quantifying long-term change in forest structure and dynamics;
- Assessing the responses of forest change parameters to environmental variation;
- Statistical modelling to assist environmental attribution of forest changes, and to provide ground-based estimates of regional carbon fluxes and their changes over time;
- Risk assessment of the sensitivity of tropical forest carbon dynamics to environmental change;
- Collating appropriate spatial and temporal datasets from within the project (e.g., ecological plot data), and beyond (e.g. climate data);
- Developing analysis of ecosystem properties underpinned by robust geo-statistical analysis;
- Testing hypotheses of different drivers of forest change, to assist in attribution.
- Combining the analysis with climate change projections to help assess the sensitivity of carbon balance to rainfall and temperature changes;
- Linking project findings with remotely-sensed datasets, to assist in scaling-up;
- Generating and pursuing independent and original research ideas in the appropriate subject area;

- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

Qualifications and skills

Essential
- A PhD or near completion - i.e. the initial thesis needs to have been handed in at the point of application in Ecology, Environmental Sciences, Statistics or a closely allied discipline;
- Advanced technical competence with ecological statistical modelling in R;
- Familiarity in successfully analysing large and complex spatial and/or temporal ecological datasets;
- Capacity to efficiently integrate geospatial layers into analyses, including efficient data extraction from climate, soil (etc.) layers;
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- A developing track record of peer reviewed publications in international journals;
- Excellent written and verbal communication skills including presentation skills;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

- Competence in a range of Bayesian / maximum likelihood / geostatistical and/or machine-learning techniques;
- Ability to communicate well in Portuguese, Spanish, or both;
- Prior first-hand ecological field experience of tropical forests;
- Previous experience with large-scale comparisons involving synthesis or replicated field studies across environmental gradients.

Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information please visit: www.gov.uk/skilled-worker-visa

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: https://www.gov.uk/global-talent

Find out more about the Faculty of Environment

Find out more about the School of Geography

Find out more about our Research and associated facilities

Find out more about equality in the Faculty

Our University
As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Environment we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically

diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Environment has received a prestigious Athena SWAN silver award from Advance HE, the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

Working at Leeds
We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our Working at Leeds information page.

Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

A criminal record check is not required for this position, however, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be, in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information.