

RESOURCING/

JOB DESCRIPTION:

Research Assistant in Geographic Information Systems (GIS)



Ref Number:	SS-172-20
Salary Scale:	Grade 6: £28,331 - £32,817 per annum
Contract:	Fixed term period for 15 months, Full-time
School/Department:	School of Anthropology and Conservation
Location:	University of Kent
Responsible to¹:	Dr Matthew Struebig and Prof. Bob Smith, or their nominee
Responsible for:	N/A
Expected start date:	1st May 2020 (or as soon as possible thereafter)

The Role

A passionate environmental scientist with expertise in Geographical Information Systems is required to manage and process spatial data, and implement spatial analyses at the Durrell Institute of Conservation and Ecology (DICE).

The individual will be part of the [Wallacea Research Programme](#), funded by the UK's Natural Environment Research Council (NERC) to study biodiversity and tensions in environmental management in the unique Wallacea region of Indonesia. Wallacea is the intersection of the Oriental and Australasian biogeographic regions, and includes the islands of Sulawesi, the Moluccas (including Halmahera, Buru, Seram, and many smaller islands), and Nusa Tenggara (including Lombok, Sumbawa, Flores, Sumba and Timor). The region is of immense scientific interest, but is relatively understudied compared to other parts of Southeast Asia. At the same time there are ambitious plans to expand agriculture, fisheries and natural resource extraction in the region, while needing to maintain commitments to safeguarding the environment and cutting greenhouse emissions. Resolving this balance between development and environmental protection, while accounting for potential impacts on stakeholders, requires improved understanding of the impacts of environmental change, as well as the possible implications of business-as-usual and alternative future management scenarios.

The Wallacea Programme supports [five research projects](#) working in various parts of Wallacea on terrestrial, coastal and marine biodiversity, ecosystem functioning, spatial modelling and natural capital assessment. To address Programme-level objectives common to the five projects an integrated spatial planning assessment will be undertaken to explore linkages

¹ Line Manager may be subject to change and will be confirmed in the employment contract issued to the successful candidate.



between the terrestrial to marine systems across Wallacea. This '*ridge to reef*' assessment will comprise spatial planning analyses that will apply optimisation approaches to datasets contributed from each Project; for example, species and genomic diversity and functional information from forests, agriculture, mangroves and coral reefs. A primary deliverable will be a spatial prioritisation framework and regional maps for environmental investment and/or protection, and an evaluation of the inevitable trade-offs among natural asset beneficiaries (i.e. by incorporating additional government census data on economic costs/benefits, livelihoods and poverty).

A GIS researcher is needed to collate, process and manage spatial data and implement the optimisation analyses. These activities will be led by [Dr Matthew Struebig](#) and [Prof. Bob Smith](#) at the University of Kent, and [Dr Maria Beger](#) at University of Leeds, and will involve input from academic and non-academic Programme partners in the UK and Indonesia.

Key Accountabilities / Primary Responsibilities

- Compile, process and manage spatial datasets for the Wallacea region from Programme partners in UK and Indonesia.
- Undertake spatial prioritisation analyses (e.g. using Marxan and/or similar approaches) based on the above datasets, and under the guidance of the grant holders (Dr Struebig, Prof Smith, and Dr Beger)
- Assist in the development of data nomenclature, archiving and metadata protocols, and ensure well documented data coding pipeline carries through to the Programme-level analysis.
- Represent the Wallacea Programme at meetings and events in UK and Indonesia

Key Duties

- Meet with UK Wallacea academic partners to compile/generate spatial data required for the spatial analysis.
- Administer data sharing agreements, and where appropriate (i.e. when permission granted and/or in the absence of ethical issues), manage spatial data in a way that can be archived with an online repository at the end of the Programme funding period (e.g. NERC's Environmental Information Data Centre).
- Implement spatial optimisation analyses in GIS software and the R statistical environment under the direction of the grant holders.
- Present updates on the data management and GIS analyses to partners within the Wallacea Programme in UK and Indonesia.
- Contribute to academic outputs from the optimisation analyses under the direction of the grant holders.
- Develop materials for and contribute to GIS trainings to early career researchers in UK and/or Indonesia.
- Keep up-to-date with pertinent literature.
- Contribute to other GIS tasks associated with the Programme as required.

Such other duties, commensurate with the grading of the post that may be assigned by the Head of Department or their nominee.

Health, Safety & Wellbeing Considerations

This role involves undertaking duties which include the Health, Safety and wellbeing issues outlined below. Please be aware of these, when considering your suitability for the role.

- Repetitive limb movements
- Regular use of Screen Display Equipment
- Pressure to meet important deadlines

Internal & External Relationships

Internal: The appointed individual will report to the grant holders, as a member of their research groups. In addition, they will engage where appropriate with other staff based within the Durrell Institute of Conservation and Ecology (DICE) Research Centre, and the 'Conservation Science' Thematic Research Area within the School of Anthropology and Conservation (SAC).

External: The individual will be cosupervised by Dr Maria Berger at the University of Leeds, and they will engage where appropriate with individuals in her lab. They will also work closely with other members of the NERC-Ristekdikti Wallacea Programme as well as project partners in Indonesia (e.g. government agencies and non-governmental organisations).

Person Specification

The Person Specification details the necessary skills, qualifications, experience or other attributes needed to carry out the job. Please be aware that your application will be measured against the criteria published below.

Selection panels will be looking for clear evidence and examples in your application, or in your cover letter where applicable, which back-up any assertions you make in relation to each criterion.

Qualifications / Training	Essential	Desirable	Assessed via*
MSc (or equivalent) completed by start date, in a relevant area of environmental or conservation science (e.g. landscape ecology, decision science, social-ecological systems)	✓		A

Experience / Knowledge	Essential	Desirable	Assessed via*
Experience of using GIS to conduct spatial analysis	✓		A, I,T

Experience of undertaking statistical analyses (e.g. spatial analyses) using R	✓		A, I, T
Experience of using systematic conservation planning software packages		✓	A, I
Experience of working on large projects involving multiple partners	✓		A, I
Experience of collaborating effectively with academic partners across multiple institutions		✓	A, I
Experience outside of academic, undertaking paid work within the conservation environmental NGO or government sectors		✓	A, I
Experience in building capacity and providing training opportunities in Geographic Information Systems		✓	A, I
Knowledge of overexploitation of natural resources (forests, wildlife, agricultural goods and/or fisheries) and other environmental issues in tropical countries, including Indonesia	✓		I

Skills / Abilities	Essential	Desirable	Assessed via*
Meticulous approach to record keeping, data collection, data entry and data management	✓		A, I
Excellent communication skills (spoken and written English)	✓		A, I
Excellent time management skills	✓		I
Ability to show initiative and work independently	✓		A, I
Ability to work as part of a large interdisciplinary team	✓		A, I

***Criterion to be assessed via:**

- A** = application form or CV/cover letter
I = interview questions
T = test or presentation at interview