SAGES Innovation Programme

Geospatial knowledge: approaches, analytics, and prediction for a blue-green Scottish economy

Job Title: SAGES Policy Internship
Organization: Scottish Government, Datalab & SAGES
Duration: 6 months, part-time (flexible to fit around academic commitments)
Start date: April 2020
Remuneration: up to £9k (dependent on duration)
Travel costs: receipted travel and necessary overnight stays covered

Summary

SAGES & the Scottish Science Advisory Council (SSAC) are offering a unique opportunity for a short-term Internship working jointly between Geovation Scotland, Datalab and the Scottish government to produce a short 'Future Landscape' report on the effective use of geospatial data in Scotland. SAGES Director Mark Inall will lead the project assisted by Shona Nicol (Scottish Government) and Andrew Millar (Chief Scientific Advisor for Environment, Natural Resource and Agriculture).

Background

Geospatial data is any data with a geographical element. In the era of "big-data", geospatial data systems can be thought of as an outer wrapper within which sits a hierarchy from the internet-of-things, through smart homes, smart cities, to coordinated civil infrastructures.

The UK Geospatial Commission was established in 2018 by the Cabinet Office (https://www.gov.uk/government/organisations/geospatial-commission), in order to fulfil the opportunities of the highly complex geo-data innovation landscape. It is unclear how the Commission will interface with particular Scottish geo-data needs and aspirations. The Commission has an £80M budget over a two-year period (2018-20). The Commission's annual report sets out their direction of travel for the coming year. https://www.gov.uk/government/news/geospatial-commission-outlines-its-2019-2020-priorities

Through the Commission, a 'Geovation Hub' is being established in Edinburgh; a business accelerator collaboration between Registers of Scotland and Ordnance Survey. https://geovation.uk/scotland/. Geovation Scotland will focus on providing "property and geospatial technology" start-ups access to publicly generated geo-data.

Relevance to Scottish Government

Scottish Government is developing a Geospatial High-Level Delivery Plan to identify Scotland's geospatial data priorities and the continued development of a spatial data infrastructure. This will feed into the UK Geospatial Commission strategy through Shona Nicol (Head of Geographic Information Science and Analysis at The Scottish Government).

Key areas of Scottish geospatial data need have been identified that are priorities of the Scottish Geospatial High-Level Delivery Plan, but that neither Geovation Scotland, nor the UK Geospatial Commission are addressing.

Aims and Objectives

The aim is to provide advice to the Scottish Government on how Scottish geospatial data can be used more effectively to contribute to the Scottish Governments aspiration for 'sustainable economic growth' and help deal with the climate emergency. The objectives are:

- To map out what data analytics and infrastructure is already in place for a few specific examples;
- To give recommendations on how to improve data sharing between public, private and academic bodies; and
- To give recommendations on how to move from geospatial data to geospatial prediction.

Methodology

Since geospatial data and analytics is a vast area, this work will focus on three to five specific examples, such as land use, a specific plant disease, marine pressures, or water borne diseases in rivers. The examples will be used to showcase areas of data flow that need to be improved and are expected to be common to other areas of geospatial data and analytics, not just for the specific example. The following steps will be followed:

1) Identify example test questions. A good question would be one that is useful for the Scottish Government, where data and analytics is from public, private and academia;
2) Gather information on the current data, analytics, methods and platforms by interviewing any relevant stakeholders, such as Scottish Government staff, local authorities, Scottish Natural Heritage (Nature Scotland), Scottish Environmental Protection Agency, Coordinated Agenda for Marine, Environment and Rural Affairs Science, academics, industry;
3) Perform technical analysis in order to attempt to answer the questions;
4) Identify areas of improvement: for example, data type missing, data infrastructure not compatible, data analytics not functioning.
5) Geospatial prediction. Develop a fit for purpose workflow to enable future workers to have the data in order to aid predictive analyses.

Indicative timeframe for outputs

PG intern recruitment and setting up of any expert working groups/collaborations to be completed by May 2020

Data/information collection using literature searches/interviews/working groups/workshops to be completed July 2020

First draft report August 20202

Circulation to stakeholder/experts/SSAC for further comments and amendments to be completed September 2020

Incorporation of comments, final draft published by end November 2020

Person specifications

We are looking for an Early Career Researcher or SAGES Graduate student:
- Either working towards, or has recently completed a PhD
- Knowledge and/or experience of working in a policy environment
- Strong research data collection and synthesis skills.
- Strong communications skills (written and verbal) as post holder will be working with various organisations.
- Independent worker who can plan their own workload and is confident in their ability to deliver a well written report.

How to apply

To apply, please provide a one-page cover letter detailing why you are the right person for this Policy Internship as well as a CV (2 pages maximum) to Clare Wharmby, Innovation Manager, SAGES. Please include one reference that you are happy for us to contact, should you be successful.

Deadline for applications is Monday 10 February, 2020, 17.00hrs

By applying you are confirming that you are available for an interview at EECI on Tuesday 25 February 2020