

Maria A. Maily

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Personal Statement I have a diverse background in spatial data analysis, applied to politics, communications and environmental protection. I am passionate about analysing and visualising data to improve decision making, in an effort to create a better, more sustainable future.

Education

MSc in Geographic Information Science

Sep 2022 – Ongoing

University of Edinburgh - Edinburgh, Scotland

Subjects: Spatial Modelling and Analysis, Principles of GIS, Technological Infrastructure for GIS, Introduction to Environmental Modeling and Visual Analytics.

Projects analysing the flood management in Edinburgh, the tranquility in the Loch Lomond and Trossachs National Park and the Scottish Index of Multiple Deprivation (SIMD) data through Self Organising Maps, provided opportunities to apply technical skills for spatial analysis, visualisation and communication to stakeholders. This was done through the use of ESRI products, Python, R, SQL for Oracle databases and HTML, CSS, JavaScript for web development.

Dissertation: Recreating the Icelandic landscape during the settlement period by utilising DEMs and 3D modelling. The study is building on archaeological, tephrochronological, environmental and literary research; and uses modern GIS to collate, analyse, and visualise the Icelandic landscape, its resources, and the networks that developed across it.

Supervisor: Dr Anthony Newton

MSc in Marine Resource Development and Protection

2015 – 2016

Heriot-Watt University - Edinburgh, Scotland

Subject: GIS for Environmental Scientists, Practical Skills in Surveying, Environmental Monitoring, Resources and Sustainability, and Applied Research Skills.

These subjects and associated projects helped develop individual and teamwork skills across various tasks: project planning under constraints (time, resources and budget), data collection and analysis, communication and effective presentation of findings.

Dissertation: Development of Shark Conservation and Species Action Plans for the Cayman Islands. The project consisted of data collection, analysis, mapping, and writing action plans based on the findings to inform policy and implementation roadmaps.

Supervisor: Dr Rupert Ormond

BA in Politics and International Relations, and in Media, Culture and in Communication

2012 – 2015

Macquarie University - Sydney, Australia

Subjects: Global Environmental Politics, Global Political Economy, Science, Society and Environment; Migration, Human Rights and Diversity; and The Planet Earth.

These formed the basis of theoretical knowledge of the workings of political decision-making and of environmental, political, societal, and economical challenges.

Research experience

Flood Management in Edinburgh

MSc GIS: Group Project

How can blue-green spaces be transformed to reduce flooding and deprivation?

Project deliverables included project management, data gathering and analysis, project presentation, technical report and webpage development. As team leader, my main priority was the management and facilitation of communication. Other responsibilities included creating ArcGIS maps, constructing the literature review, and developing the project's webpage.

Species Action and Conservation Plans (Cayman Islands) *MSc MRDP: Dissertation*

What steps should be taken to better protect local elasmobranch species?

Local spatial data was gathered through tagging and Baited Remote Underwater Videos. This was used to create and refine Species Action Plans for the six local shark species and a Elasmobranch Conservation Plan.

Blue Carbon Study of the Gutter Sound (Orkney) *MSc MRDP: Group Project*

What is the extent of blue carbon habitats and the distribution of priority marine features?

Field work activities included designing and conducting remote-operated vehicle and dive surveys. The collected images, videos and core samples were used to create maps that visualise the biotope featured and allowed for an estimation of the carbon budget. My main contribution was to visualise the data gathered in ArcGIS.

Removing Churchill Barriers (Orkney) *MSc MRDP: Group Project*

What are the social, economic, environmental and technological factors of replacing the Churchill Barriers with bridges and tidal turbines?

A seashore study was conducted as part of the fieldwork, stakeholders and specialists were consulted to refine the analysis and advice on turbines and the predicted outcome.

Industry experience

Sainsbury's *Nov 2018 – Aug 2022*

Trading and Online Assistant

Edinburgh, Scotland

Effectively coordinating tasks in the team and training team members.

Macquarie University Fish Lab *April 2018*

Temporary Research Assistant

Remote

Analysing yolk consumption and body development.

Department of Environment *Jun 2016 – Aug 2016*

Research Intern

George Town, Cayman Islands

Gathering data for the ongoing shark, turtle, snapper and iguana studies. This work was aided by public outreach, citizen science efforts and stakeholder meetings.

Skills

Technical

Programming: Python, R, HTML, CSS, SQL

Data Analysis: ArcGIS, RStudio, OpenRefine

Modeling: OpenModel, Simile, HEC-RAS, R

Database: Oracle

Office Software: \LaTeX , Microsoft

Operating System: Linux, Windows

Personal

Time Management, Curiosity, Communication, Teamwork, Attention to detail

Languages

English (fluent), German (fluent), French (beginner)

Other interests

Podcasts about history and popular science. Arts and crafts. Puzzle-solving. Scuba diving.

References

Bruce Gittings (*University of Edinburgh*)

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Robert Dickson (*Sainsbury's*)

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