**Samuel Valman**

[Samuel.valman@nottingham.ac.uk](mailto:Samuel.valman@nottingham.ac.uk) [s.j.valman2@newcastle.ac.uk](mailto:s.j.valman2@newcastle.ac.uk)

orcid: 0000-0001-8799-3129

**Education**

**Engineering and Physical Sciences Research council: PhD Candidate**

**September 2021 – December 2023**

Course: Geospatial Systems Centre of Doctoral Training

Multi-institutional and interdisciplinary: Universities of Nottingham and Newcastle, Departments of Geography and Engineering.

Fully funded studentship

**UKRI MRes September 2020 – September 2021**

Course: Geospatial Systems Centre of Doctoral Training

Multi-institutional and interdisciplinary: Universities of Nottingham and Newcastle, Departments of Geography and Engineering.

Funded: Engineering and Physical Sciences Research Council

**MSc by Research (Distinction) September 2019 – December 2020**

Awarded funding from the School of Geography to pay for tuition fees.

University of Nottingham: School of geography

**BSc Geography Hons (2:1) September 2015 – July 2019**

**Publications**

Pugh, B. E., Colley, M., Dugdale, S. J., Edwards, P., Flitcroft, R., Holz, A., Johnson, M., Mariani, M., Means-Brous, M., Meyer, K., Moffett, K. B., Renan, L., Schrodt, F., Thorne, C., Valman, S., Wijayratne, U., & Field, R. (2022). A possible role for river restoration enhancing biodiversity through interaction with wildfire. *Global Ecology and Biogeography*, 31, 1990– 2004. <https://doi.org/10.1111/geb.13555>

Guiney, R., Santucci, E., Valman, S., Booth, A., Birley, A., Haynes, I., Marsh, S. and Mills, J. (2021). Integration and Analysis of Multi-Modal Geospatial Secondary Data to Inform Management of at-Risk Archaeological Sites. ISPRS International Journal of Geo-Information 10(9), 575.

**Accepted: Conference Paper SEDHYD 2023**:The Alluvial Phase Space Diagram (APSD) and its potential application in the FRAME-RUBRIC model. Thorne, C., Biedenham, D., Dahl, T., Valman, S., Mayne, C., Cox, A., Chris, H., Little, C. and Soar, P.

**In process**:

Valman, S., Ives, C., Dugdale, S. and Johnson, M. The criteria conundrum: Hydrological, ecological, chemical, and morphological environmental variables result in inconsistent classifications of Anthropogenic streams. River Research and applications.

Jackson, B., Rodríguez Huerta, E. Valman, S., Blair, B., Boyd, D. and Sparks, J. Aquaculture, labour, and emissions in the Southwest Bangladesh and the Sundarbans Reserve Forest. Marine Studies Journal.

Regional Analysis of Swedish Permafrost Subsidence. Sjogersten, S., Siewert, M., Valman, S., Ledger, M. and Boyd, D. Global Change Biology.

**Grants**

MiTACS Academic internship awarded for May 2023

Postgraduate research fund 2019 £750

**Research employment**

**UK Space Agency: Permafrost in Sweden** (UoN Bioscience / UKSA/ Umeå University)

* Artificial Neural Network for satellite land use classification (trained with drone data)
* Comparison with Radar land deformation to measure pollution from melting permafrost

**NERC urgency grant: Synergistic Fire and Floodplain Solutions** <http://gotw.nerc.ac.uk/list_full.asp?pcode=NE%2FV021443%2F1&cookieConsent=A>

Multi-disciplinary international team of researchers and data fieldwork assistants looking at how a restored river floodplain has coped with fire. Using Avian, aquatic, vegetation, soil, and remotely sensed data sources.

* Second paper scheduled to be submitted by August 2022

**Stage Zero River Restoration** (UoN, Portland University, NOAA, USFS, EA, Deschutes Watershed Council)

* Wrote and collated [www.StageZeroRiverRestoration.com](http://www.StageZeroRiverRestoration.com) with an international group of contributors, including webinar, and crowd sourced sitemap.
* Carried out fieldwork on Whychus Creek Stage Zero project: Lidar total stations surveys, macro-invertebrates, and vegetation surveys.

**UK Space Agency: Slavery from Space - Slavery Risk Calculator**

* UK Space Agency, UoN Rights Lab
* Satellite monitoring palm oil plantations in Malaysia and Indonesia
* Monitoring illegal burn scars using high resolution imagery
* International forest loss estimates using cloud computing
* Ordering and processing proprietary high resolution satellite data

**World Wildlife Fund US: The Social and Ecological Impacts of Supply Chains**

* Finding illegal shrimp farms and development in Bangladeshi nature reserves using high resolution satellites and cloud computing
* Paper in process of being submitted to Marine Studies Journal

**Templeton World Charity fund: Disaster assessment Bahamas**

* UoN Rights Lab, Templeton Charity
* Batch processing and downloading Planet High Resolution imagery to monitor pre and post hurricane Dorian damage using Google Earth Engine.

**Mendrop Engineering Resources: FRAME – Channel change Model**

* USGS, US Army Core of Engineers, UoN Geography
* Worked in an international group creating a sediment balance and channel change model primarily for the Mississippi River
* Primarily data analysis and visualisation of model success through adapting the Alluvial Phase Space Diagram to enable its use in future projects.
* Conference paper accepted, US Army Core of Engineers report in progress.

**Research Excellence Framework (REF**) **Reports** – UoN Geography

* Contributed supporting evidence to REF reports for Blue-Green cities project
* Costa-Rica vs Nicaragua International Court of Justice Case REF Report evidence collation

**Conferences**

**UK Earth Observation conference September 2022:**

Poster: Earth Observation and Artificial Intelligence for a river digital twin: first steps.

Samuel Valman1, Stephen J Dugdale2, Doreen S Boyd2

Emissions, Modern Slavery and Identifying Avenues to Mitigate Climate Change.

Bethany Jackson1,2, Doreen S. Boyd1,2, Jess L. Decker Sparks1, Edgar Rodríguez Huerta1, Nicole Tichenor Blackstone3, Sam Valman4, Bobbie Blair2, Bertrand Perrat5, Giles M. Foody2

**Attendee**:

Wavelength

Northumbria innovation festival

Geo for Good

Introduction to python for remote sensing

Satellite data analysis and Machine Learning classification with QGIS workshop

**Training**

Python: (Artificial intelligence, Neural Networks, Tensorflow, statistics)

Google Earth Engine

HTML and CSS (<https://github.com/SamValman>)

GIS – QGIS, ArcOnline, ArcPro, Survey123

Total station LiDAR

RTK GPS

Academic and Environmental outreach

* Produced Wikipedia entries for the Blue-Green Cities water management to help increase engagement
* Demonstrated fluvial processes to visiting Secondary school students using the water flume UoN Geography
* Demonstrated Cloud Computing introduction for Geospatial Data Science Masters students
* Presented tutorial for Cloud Computing using Google Earth Engine to Freshwater lab group
* Clean Rivers Trust Tar Pit restoration monitoring
* Nottingham Wildlife Trust Volunteer (2019-2020)
* Major to Minor Lizard monitoring (2019)

Interests

* Team Great Britain Kayaking (2016-2021)
* Helping organise Nottingham World Championships (July 2022)
* Coached Junior Development Squad kayaking (July 2021)

References

Dr. Stephen Dugdale:

Prof. Doreen Boyd,

Prof. Colin Thorne,