Plan Overview

A Data Management Plan created using DMPonline

Title: Potential for Magnesium:Nitrogen colimitation in a temperate grassland ecosystems

Creator: Joshua Lynn

Principal Investigator: Joshua Lynn

Affiliation: University of Manchester

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ORCID iD: 0000-0002-7190-7991

ID: 108497

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Copyright information:

Potential for Magnesium:Nitrogen colimitation in a temperate grassland ecosystems

Manchester Data Management Outline

1. Will this project be reviewed by any of the following bodies (please select all that apply)?

- Funder

2. Is The University of Manchester collaborating with other institutions on this project?

- No - only institution involved

3. What data will you use in this project (please select all that apply)?

- Acquire new data

4. Where will the data be stored and backed-up during the project lifetime?

- University of Manchester Research Data Storage Service (Isilon)

5. If you will be using Research Data Storage, how much storage will you require?

- < 1 TB

6. Are you going to be receiving data from, or sharing data with an external third party?

- No

7. How long do you intend to keep your data for after the end of your project (in years)?

- 21+ years

Guidance for questions 8 to 13

Highly restricted information defined in the [Information security classification, ownership and secure information handling SOP](#) is information that requires enhanced security as unauthorised disclosure could cause significant harm to individuals or to the University and its ambitions in respect of its purpose, vision and values. This could be: information that is subject to export controls; valuable intellectual property; security sensitive material or research in key industrial fields at particular risk of being targeted by foreign states. See more [examples of highly restricted information](#).

Personal information, also known as personal data, relates to identifiable living individuals. Personal data is classed as special category personal data if it includes any of the following types of information about an identifiable living individual: racial or ethnic origin; political opinions; religious or similar philosophical beliefs; trade union membership; genetic data; biometric data; health data; sexual life; sexual orientation.

Please note that in line with [data protection law](#) (the UK General Data Protection Regulation and Data Protection Act 2018), personal information should only be stored in an identifiable form for as long as is necessary for the project; it should be pseudonymised (partially de-identified) and/or anonymised (completely de—identified) as soon as practically possible. You must obtain the appropriate [ethical approval](#) in order to use identifiable personal data.

8. What type of information will you be processing (please select all that apply)?

- No confidential or personal data

9. How do you plan to store, protect and ensure confidentiality of any highly restricted data or personal data (please select all that apply)?

- Not applicable

10. If you are storing personal information (including contact details) will you need to keep it beyond the end of the project?

- Not applicable

11. Will the participants' information (personal and/or sensitive) be shared with or accessed by anyone outside of the University of Manchester?

- Not applicable

12. If you will be sharing personal information outside of the University of Manchester will the individual or organisation you are sharing with be outside the EEA?

- Not applicable

13. Are you planning to use the personal information for future purposes such as research?

- No

14. Will this project use innovative technologies to collect or process data?

- Yes, and innovative technologies will not collect or process personal data (please list the innovative technologies below)

LiCor-6800 portable photosynthesis system- measures photosynthetic rates of plants

15. Who will act as the data custodian for this study, and so be responsible for the information involved?

Joshua Lynn

16. Please provide the date on which this plan was last reviewed (dd/mm/yyyy).

2022-10-11

Project details

What is the purpose of your research project?

To investigate the evidence for magnesium and nitrogen co-limitation in temperate grassland ecosystems.

What policies and guidelines on data management, data sharing, and data security are relevant to your research project?

The project is applying for funding from The Royal Society, which has the following data management policy. This policy will be adhered to as well as the University of Manchester's data management

policy.

The Royal Society data policy:

The Royal Society supports science as an open enterprise and is committed to ensuring that data outputs from research supported by the Society are made publicly available in a managed and responsible manner, with as few restrictions as possible. Data outputs should be deposited in an appropriate, recognised, publicly available repository, so that others can verify and build upon the data, which is of public interest. To fully realise the benefits of publicly available data they should be made intelligently open by fulfilling the requirements of being discoverable, accessible, intelligible, assessable and reusable.

Responsibilities and Resources

Who will be responsible for data management?

Joshua Lynn

What resources will you require to deliver your plan?

Computers and storage facility provided by the university.

Data Collection

What data will you collect or create?

Data on plant growth and photosynthetic responses to Mg/N fertilization.

How will the data be collected or created?

Via glass house and field studies using experimental methodology. Data will be first entered on paper then digitally.

Documentation and Metadata

What documentation and metadata will accompany the data?

A full detailed method section in the published results of the study and metadata explaining the components of the dataset. The datasets will additionally be made available on a data distribution

platform such as the the open science framework (osf.io) or dryad (datadryad.org).

Ethics and Legal Compliance

How will you manage any ethical issues?

N/A

How will you manage copyright and Intellectual Property Rights (IPR) issues?

N/A

Storage and backup

How will the data be stored and backed up?

Data will be stored and encrypted on laptops and computers as well as University storage facilities (https://ri.itservices.manchester.ac.uk/rds/).

How will you manage access and security?

Main risks to data security are lost/stolen/damaged computers. This will be mitigated by backing up devices on both external hard drives and university based data storage services: https://ri.itservices.manchester.ac.uk/rds/. All data will eventually be made publicly available, but collaborators will be able to access data by making Opens Science Framework (osf.io) project pages with controlled access. Field data will be carefully handled and entered onto waterproof paper with pictures taken of the data sheets after collection. Then the sheets will be securely transported to the office for immediate digitization and safe storage.

Selection and Preservation

Which data should be retained, shared, and/or preserved?

All of the data will be archived in freely available repositories.

What is the long-term preservation plan for the dataset?

It will be deposited in a public repository.

Data Sharing

How will you share the data?

Via the open science framework (osf.io) and publication.

Are any restrictions on data sharing required?

No.