

Introduction

The NERC (Natural Environment Research Council) EDS (Environmental Data Service) encompasses five Environmental Data Centres (EDCs) collectively responsible for managing and disseminating environmental data of long-term value generated through NERC funding or deposited by third parties. The five EDCs are:

- British Oceanographic Data Centre (marine)
- Centre for Environmental Data Analysis (atmospheric, earth observation, and solar and space physics)
- Environmental Information Data Centre (terrestrial and freshwater)
- National Geoscience Data Centre (geoscience)
- UK Polar Data Centre (polar and cryosphere)

The NERC EDS, via its data centres, accepts digital environmental data resources of long-term value, primarily generated through NERC-funding but including some resources funded by third parties, in re-usable formats for curation and public dissemination.

This policy details the EDS's approach to acquisition of data resources and will be subject to periodic review throughout the lifetime of the EDS.

Purpose

Data from NERC-funded activities are provided to the EDS on a non-exclusive basis without prejudice to any intellectual property rights. This is to enable NERC to manage and make openly available publicly funded research data.

This Policy aims to ensure data deposited with the EDS comply with FAIR principles¹. FAIR principles are used to maximise scientific discovery through reuse of data via making data findable, accessible, interoperable and reusable. and reusable.

Scope

This policy document covers the nature and scope of the EDS's acquisition of data for long-term curation and dissemination, and the decision-making process for acceptance. Details of who can access data held by the EDS and how access is enabled are also provided, in addition to the basis of any charges which may be incurred. It does not include details of how data resources to be provided to the EDS should be generated by those wishing to deposit with the data centres of the EDS.

Detail

The EDS accepts data within the overarching domain of environmental science, with the remit of the individual EDCs. However, environmental data not directly in scope of one of these data centres will be considered for curation on a case-by-case basis. Each individual EDC within the EDS works with the other EDCs and depositors of data to determine the most appropriate location for curation of data.

The EDS ingests data generated as a result of NERC-funding, to whom the NERC Data Policy applies, or those which fulfil a statutory obligation set out in Annexe A. Resources generated via alternative funding avenues or outside of meeting legislative requirements may also be considered if the deposit in question is perceived to be of importance to the environmental research community. There is no limit on the geographical or temporal range of data the EDS accepts.

Scope of data accepted

The NERC EDS typically accepted data in a range of formats. Data tables, geospatial data, images, moving images, and model outputs are all acceptable for deposit and curation where it is deemed feasible to maintain them and they are reusable in the long-term. The NERC EDS preferentially accepts data in non-proprietary formats. Alternative digital formats can be considered at the NERC EDS's discretion. In all cases, data must be provided with sufficient supporting documentation to enable understanding without the need to contact the depositor directly. Physical data deposits are not accepted as part of the EDS, however, depending on the type data, the EDS may be able to advise on appropriate repositories.

Criteria for evaluating data

As part of the ingestion process the data centres of the NERC EDS will identify those types of resource that have potential value for re-use. Decisions about which NERC EDS data centre should accept data may be made at any step of the deposit process but will ideally have been considered at the data management planning stage. When submitted, if data are found to fall more appropriately within the remit of another NERC EDS data centre, data may be directed there. Each deposit request will be checked against a number of criteria based on the [NERC data value checklist](#). In all cases, acceptance of data resources will be subject to meeting multiple criteria, rather than any single criterion in isolation.

These criteria include:

Long Term Scientific Value

Data accepted should be of long-term scientific value to the research community. Quality checks relevant to the data type will be performed.

Data should be accompanied by sufficient documentation and metadata to enable reuse, including details of sampling and processing where applicable. Relevant community standards, conventions and vocabularies should be applied. Where possible, data should be supplied in an open, non-proprietary format. Data may not be accepted if they require significant extra processing for ingestion.

Legislation and regulation

Data will be accepted if there is a legislative or regulatory reason why NERC should retain the data (Annexe A).

Pre-existing collections

Data resources contributing to existing data collections held by the NERC EDS should be accepted.

Uniqueness and Derived Data

Data that represent unique, unrepeatable measurements of the environment should be accepted.

Only the primary copy of data should be accepted, where practical. Data already published with a licence may not be accepted.

If data have been derived from data with an existing licence restricting reuse, data may not be accepted.

Disclosure risk

The NERC EDS does not accept data where there is a disclosure risk and ask that any data containing sensitive information be anonymised or be of a sufficiently broad scale that sensitive location information is not made publicly available. Checks are performed on data and supporting documentation submitted to the NERC EDS to ensure that they contain no sensitive information which may contravene [UK General Data Protection Regulation \(GDPR\)](#).

Model output

Model output data should be accepted if they cannot be easily replicated with open-source code, software and model inputs.

Alternative repositories

Data may not be accepted in specific cases for specialist data where alternative repositories have been agreed by NERC EDS. In such cases an alternative repository will be recommended. For example, GenBank for omic data, the UK data archive for social science data, Archaeology Data Service for archaeology etc.

Payment for acquisition services

The EDS data centres receive funding to take in environmental data from NERC grants and most relevant UKRI grants. This means there are no costs to depositors. In exceptional circumstances due to excessive volumes of, or extremely complex, data costs may need to be recovered from a depositor. This should have been identified early on in a grant at the data management planning stage.

Researchers wishing to deposit data resources that are not funded by NERC should be aware that the NERC EDS may charge for the services they provide. Deposit of NERC-funded resources is always given priority over non-NERC funded requests.

Charging is based on the cost recovery when ingesting data.

Access and use

The NERC EDS manages a central data catalogue. In addition, each component data centre provides its own domain specific data catalogue. These are all publicly accessible, enabling searching of the NERC EDS's data holdings and download services, with view services where appropriate. Information on citation, licensing, embargo periods and access to supporting documentation for re-use is also provided. Public access to the data held by the NERC EDS is conditional on acceptance of any terms and conditions under which the resources are made available and access is, in most cases, free at the point of use. Most resources held by the NERC EDS are available under the UK's [Open Government Licence \(OGL\)](#).

The NERC EDS supports the depositor's right of first publication and in line with the NERC Data Policy permits an agreed embargo period with a normal maximum of two years from the point of data collection or generation. Embargoed data are ingested into the NERC EDS, but public access to those resources is restricted until such time as the embargo period expires.

It is the policy of the NERC EDS to:

- provide data management advice and guidance to researchers working on NERC-funded environmental projects
- store a copy of the data 'as supplied' in a secure data store in an agreed format
- ensure the data are discoverable and provide open access to any unrestricted data held in the data store
- create Digital Object Identifiers (DOIs) for data, where appropriate, facilitating data citation and display these alongside the data

Glossary

Uniqueness - NERC EDS considers uniqueness as unrepeatable measurements of the environment are considered unique, given that they pertain to a specific location and/or time.

References

1. Wilkinson, M. D. *et al.* The FAIR Guiding Principles for scientific data management and stewardship. *Sci. Data* 3:160018 doi: 10.1038/sdata.2016.18 (2016).

Contact

Please send any queries about this policy to data@nerc.ukri.org

Annexes

Annexe A: Legislation and Regulations relevant to EDS data acceptance

Here we outline key legislation or regulations which may lead data centres to accept data.

1. Article III 1c of the [Antarctic Treaty](#) states that “scientific observations and results from Antarctica shall be exchanged and made freely available”. PDC acts as the UK’s National Antarctic Data Centre helping the UK to meet this.
2. It is the statutory responsibility of the NGDC, on behalf of the BGS, to receive data associated with boreholes drilled from the surface to a depth of more than 30 m for mineral exploration or extraction purposes ([Mining Industry Act 1926](#)) and boreholes drilled deeper than 15 m for water ([Water Resources Act 1991](#) and [Water \(Scotland\) Act 1980](#))
3. It is the statutory responsibility of the NGDC, on behalf of BGS, to receive hydrocarbon well data as set out in the [North Sea Transition Authorities Petroleum Operations Notice 9 \(PON9\)](#).
4. The NGDC, on behalf of BGS, is an approved Place of Deposit under the [Public Records Act 1958](#) and maintains the nation's geological records on behalf of the UK National Archives.

Document control

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