

## Research data management: metadata

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### Introduction

1. In recent years, research funding-bodies such as [Research Councils UK](#) and journal publishers have introduced mandates that research data must be preserved for the long-term, publicly available, and discoverable to other researchers for re-use. In response to these new mandates, the University has instigated a [Research Data Management Policy](#). Wherever possible, and where there are no legal, ethical or commercial restrictions, your research data should be made available online; data should be deposited in a [subject-specific repository](#) or, if a suitable third party repository is not available, in the [University's research data repository](#). In all cases, the data should be catalogued in the University's data repository.
2. To ensure that research data can be discovered, interpreted, and used by other researchers, it is crucial that research data is accompanied by information that describes the data – this information is known as metadata.
3. This document provides an overview of what metadata is and how to create it but the [Digital Curation Centre \(DCC\)](#) is another useful resource for research data management and metadata.
4. For further assistance on research data management in general, please contact the [Research Office](#).
5. If you have questions about the University's research data repository, please contact [Learning Services](#).

### What is metadata?

6. Metadata is essentially data *about* your research data. It provides information on who, where, when, why, and how data was collected, access conditions, and terms of use of a data collection.

7. By providing this information, metadata supports the management, discovery, understanding, and re-use of data. As research data is increasingly stored electronically, and as both funders and publishers have their own policy requirements, creating metadata for research data is important. Additionally, providing standard metadata means end-users can correctly cite and attribute your research data, as they would with research outputs. For example:

*Richardson, Elizabeth A. (2009). Carstairs deprivation scores for Scotland by CATT2, 1981, 1991, 2001 [Dataset]. University of Edinburgh. School of GeoSciences. <http://hdl.handle.net/10283/19>.*

## **Types of metadata**

8. Broadly, metadata shows how the data is generated and managed. The most common types include:
  - a. Provenance metadata: including when and where the data was collected, and by whom.
  - b. Rights and access metadata: information on rights and access usage rules.
  - c. Structural metadata: information for a person or computer to read the data (e.g. data formats).
  - d. Preservation metadata: information that allows the long-term use of the data, including what software has been used to access the data.
9. Research data repositories require specific metadata, which would be impractical to list here in detail. However, some examples of key metadata you will normally need to provide are:
  - a. Title of the dataset;
  - b. Author/creator names;
  - c. Keywords that would help the dataset appear in search results;
  - d. A summary description/abstract for the dataset, detailing how and why it was collected;
  - e. The relationship of the data to other resources e.g. to a related research article on the research repository;
  - f. Research funders (may be internal or external);
  - g. The start and end dates of the period covered by the data.

## **Metadata requirements**

10. **Regardless of where the research data itself is stored, you must still create a record containing its metadata in the Edge Hill research data repository.**
11. Funders may have their own research metadata requirements which exceed Edge Hill's, and they may require you to store your research data in their own

repository. Please familiarise yourself with your funder's policy on research data management. Alternatively, you may store the research data in a subject-repository instead of Edge Hill's.

## **Data access statement**

12. The data access statement provides the end user of your research data with the information necessary to be able to make sense of the dataset(s). There is no template for this but such statements may include:

- a. Access restrictions – should the research data be available only to certain groups? If so, what is the reason and how can they request access?
- b. Data creation or observation conditions – which software or survey instruments were used to collect the research data?
- c. Code label and field descriptors – to what do the research data variables refer? Can someone with knowledge in the same field actually make use of the research data using the information provided?

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