Heritage Science Data Service

Depositing Research Data

An Onboarding Guide for RICHeS Access Fund Awardees and Service Providers

About this Guide

This guide is intended for **RICHeS Access Fund Awardees** and their **Service Provider(s)** who will be depositing data with the **Heritage Science Data Service (HSDS)**.

In most cases, Service Providers (such as laboratories and facilities) will carry out the data deposit on behalf of the project. These partners may already have established workflows for transferring data and metadata to HSDS.

Awardees remain responsible for ensuring that data is well organised, fully documented, and accompanied by appropriate contextual information, such as reports and images.

This guide therefore covers both:

- preparing data for deposit (relevant to Awardees and Service Providers)
- carrying out the technical deposit process (typically undertaken by Service Providers)

Where responsibilities differ, this is indicated in the relevant sections.

1. Welcome and Introduction

Congratulations on your **Access Fund Award**! The HSDS team looks forward to supporting your project.

Our role is to ensure the long-term preservation of your research outputs and to support their discovery and reuse by the heritage science and conservation community.

> **Key Compliance Requirement**: As a condition of the Access Fund, all research data generated during your project must be deposited with the Heritage Science Data Service (HSDS) or one of our Approved Alternative Repositories **within 3 months of project completion**.

We recognise that data management involves multiple stages and contributors. This guide provides clear information to support the preparation and deposit of your collection. Following these recommendations helps ensure your data remains accessible, citable, and usable in the long term.

If you have questions at any stage, please contact the HSDS team for support at **collections@hsds.ac.uk**.

We recommend familiarising yourself with this guide before beginning data preparation, and using it as a reference throughout the deposit process.

Deposit Roadmap

Depositing your research data involves several key activities. While the exact order may vary depending on your project and the involvement of Service Providers, all of these steps need to be completed as part of the deposit process:

- **Prepare your data:** Organise files, folder structures, and filenames, and complete quality checks to ensure your collection is ready for deposit.
- **Prepare your metadata**: Gather information to describe your collection and individual files, supporting discovery, interpretation, and reuse.
- **Complete licensing and agreements:** Confirm permissions, select a licence for access, and sign the Deposit Agreement.
- **Upload and submit:** Transfer files and metadata to HSDS through **Ingest**, either directly or via your Service Provider.

> **Note:** While the roadmap lists these activities together, the **Ingest** system will guide you through the specific sequence for entering metadata, signing agreements, and uploading files.

2. Technical Standards: Preparing Data

To support long-term preservation and to ensure your collection remains accessible to future researchers, we recommend preparing your data according to the following standards before transfer.

These recommendations apply whether data is prepared by Awardees, Service Providers, or collaboratively.

2.1 Organising Files and Folders

Before data is transferred to HSDS, organise your files in a way that is clear and easy to navigate (for example, on local storage or shared project drives). A well-structured collection supports efficient preservation and future reuse.

HSDS does not require a specific folder structure. You may organise your files in a way that best reflects your project, for example:

- **By data type** (for example, `Images`, `Spreadsheets`, `Text`)
- **By location or object** (for example, `Site_A`, `Box_1`, `Artifact_001`)
- **By topic or time period** (for example, `Reports`, `Analysis_2024`)

These approaches may be used individually or in combination. The key requirement is that the structure is logical and applied consistently across the collection.

2.2 File Naming Conventions

Meaningful and consistent file names support preservation, discovery, and reuse.

File names should:

- Be unique within the collection
- Use only letters (`a–z`), numbers (`0–9`), hyphens (`-`), and underscores (`_`)
- Avoid spaces and special characters
- Include a file extension (e.g. `.csv`, `.tif`, `.pdf`)
- Use lowercase extensions where possible (e.g. `.csv` rather than `.CSV`)
- Remain concise yet descriptive; longer names may be truncated when displayed in some systems

Here is an example illustrating a clear, consistent filename versus a problematic one:

Good	Bad
`Easby_wall_painting_P001.tif`	`Easby Church Mural Draft!! (1) final.TIF`

The preferred example uses a clear, descriptive name, avoids spaces and special characters, and uses a lowercase file extension. The second example contains spaces, special characters, version uncertainty, and an inconsistent extension.

File extensions indicate the file format and are usually generated automatically when a file is saved (for example, .pdf for documents or .tif for images). They should not be removed or altered.

Consistency in naming is important. You may use one or more naming patterns depending on file type, provided they are applied consistently across the collection.

Once your files are organised and consistently named, it's important to verify their integrity and quality before deposit.

2.3 Data Integrity and Quality Control

Before transferring materials to HSDS, ensure that only final, complete versions intended for long-term preservation are included.

- **Final Versions Only:** Remove drafts, working files, duplicates, and temporary versions. Check documents for comments, tracked changes, and other embedded annotations, and resolve or remove these where appropriate.
- **File Open Test:** Open a sample of files from each file type to confirm they can be accessed correctly and that no data is missing or corrupted.
- **Check for Hidden Data:** Review spreadsheets and editable files for hidden rows, columns, worksheets, filters, comments, tracked changes, or password protection. If files have multiple contributors, check document properties to ensure only intended content is included.

3. Administrative Requirements: Deposit Agreement

Before data can be transferred to HSDS, a formal Deposit Agreement must be in place. This ensures that the rights of data creators and the responsibilities of the repository are clearly defined.

- **Purpose of the Agreement:** The Deposit Agreement sets out the permissions granted to HSDS to preserve your data and make it available in line with agreed access terms.
- **Data Ownership:** You retain full ownership and copyright of your materials. The agreement does not transfer ownership; it enables HSDS to preserve, manage, and provide access to the data.
- **Licensing and Reuse:** All deposited materials are made available under an access licence that specifies how others may reuse them.

  The default licence is **Creative Commons Attribution 4.0 International (CC BY 4.0)**. This allows others to download, share, adapt, and build upon the materials, provided appropriate credit is given to the creator.

  We generally recommend CC BY 4.0 because it supports open access, enables responsible reuse of research outputs, and contributes to making data more FAIR (Findable, Accessible, Interoperable, and Reusable).

- **Duration:** The Deposit Agreement remains in effect for the duration of copyright protection of the deposited materials, supporting long-term preservation and access.
- **Full Terms:** The full Deposit Agreement is available here: **HSDS Deposit Agreement**.

- **Signing the Agreement:** The Deposit Agreement is signed electronically through the **Ingest** portal.
- **Support:** If you have questions about the agreement or require assistance, please contact **collections@hsds.ac.uk**.

4. Documentation and Discovery: Preparing Metadata

Metadata is "data about your data." It enables discovery, interpretation, citation, and reuse of research outputs.

Before data is transferred to HSDS, we recommend gathering the information needed to describe both the project as a whole and the individual files within it.

4.1 Collection-Level Metadata (Project Overview)

Collection-level metadata describes your project and supports discovery through search and browse functions. All collection-level information is entered directly into the **Ingest** system.

You will be asked to provide information including:

- Collection title
- Collection description
- Collection overview
- Collection reuse statement (optional)
- Data creation start date
- Data creation end date
- Language

You will also be asked to provide discovery metadata to improve the visibility of your collection, such as:

- Descriptive tags
- Period dates
- Person keywords
- Location keywords

Example:

Field	Example
Collection Title	Pigment Analysis of a 13th-Century Wall Painting at St Agatha's Church, Easby
Descriptive Tags	romanesque mural, fresco, secco, yellow ochre, lime, charcoal, portable XRF
Period Dates	Early Medieval, High Medieval, Late Medieval
Person Keywords	Jane Smith, John Doe
Location Keywords	St Agatha's Church, Easby, North Yorkshire, England

The **Collection Reuse Statement** is an optional free-text field where you may describe how your collection could be valuable to future research beyond its original purpose.

You may wish to highlight relevance to other disciplines, potential significance for specific communities, or whether the collection captures rare or unique materials, sites, or processes.

This statement helps communicate the broader research value of your collection. It is optional, but where included it may help increase visibility and encourage interdisciplinary reuse.

This statement complements the reuse licence by providing contextual information about potential value rather than defining conditions of reuse.

4.2 File-Level Metadata (Item Detail)

File-level metadata describes individual files and supports preservation, interpretation and reuse. File-level metadata is provided using the **Core Metadata Template**, which is later uploaded through the **Ingest** system.

For each file, you will be asked to provide information such as:

- Filename
- Data category (selected from dropdown menu)
- Title
- Description
- Tags
- Creator
- Copyright holder
- Creation history
- Language
- Date file digitally created
- Technical metadata (where applicable)

Example:

Field	Metadata
Filename	pigment_analysis_001.csv
Title	XRF Results for Sample P001
Description	Elemental composition data collected from wall painting sample P001
Creator	Joan Smith (https://orcid.org/0000-0002-0000-0779)
Creation History	XRF instrument software export (CSV format)
Copyright Holder	University of York
Date File Digitally Created	2024-03-12

In many cases, Service Providers may contribute or complete **technical metadata**, particularly where data is generated using specialist equipment or software.

Relevant technical or contextual information may be held by research partners, laboratories, or contractors. Involving all contributors helps ensure metadata is complete and accurate.

We recommend reviewing the metadata requirements before beginning your deposit, particularly where information needs to be gathered from multiple contributors.

5. Data Transfer Method

All research data is deposited via **Ingest**, our online deposit system.

In most cases, data will be transferred by Service Providers working in collaboration with Awardees. The system guides users through the process, including file upload, metadata entry, and submission.

6. Further Guidance and Resources

Using Ingest

Step-by-step instructions for using the Ingest system are available online: **Ingest Documentation**. This resource details the whole deposit process, from initial setup through to final submission. It is suitable for all user types, including first-time depositors, returning users, and system administrators, and includes examples and best practice advice for completing each section.

Reviewing this guidance as you prepare your data, and consulting relevant sections when needed, will help ensure a smooth and efficient submission process, whether you are depositing data directly or through a Service Provider.

Digital Archiving and Best Practice

For a wider perspective on managing and preserving research data, we recommend the Archaeology Data Service / Heritage Science Data Service **Guides to Good Practice: Digital Archiving and the Project Lifecycle**. These guides cover the full research data lifecycle, including planning for data creation, metadata standards, file formats, preservation strategies, and data reuse.

While the **Ingest Documentation** provides practical instructions for depositing your data, the **Guides to Good Practice** offer a broader framework for embedding good data management practices in your projects, ensuring your research outputs remain well-documented, discoverable, and reusable over the long term.

7. Long-Term Stewardship of Your Research Data

Depositing with HSDS ensures your research outputs remain accessible and valuable over time. Key benefits include:

- **Long-term preservation:** Your data will remain usable beyond the duration of your project.
- **FAIR-aligned management:** Data is findable, accessible, interoperable, and reusable.

- **International discoverability and citation:** Enhanced visibility and research impact.
- **Enhanced usability:** Specialist tools and support improve metadata quality and enable reuse across disciplines.

HSDS provides a secure, trusted environment for heritage science and conservation data, giving you and your collaborators confidence in the long-term care and accessibility of your research outputs.

For any questions or support at any stage of the deposit process, please contact **collections@hsds.ac.uk**.