THE ARCHAEOLOGY DATA SERVICE

- Based at the University of York
- 1996 - present
- CoreTrustSeal Certified
- Provide Open Access data:
  - 1.4m metadata records of UK archaeology
  - > 62,000 UK reports
  - > 2000 international project archives
  - >15Tb of data
  - >2,000,000 files
The ADS:
- is an advocate of the FAIR principles;
- recognise that stewardship should include demonstratable quantitative and qualitative evidence for data reuse;
- is actively investigating how data it curates can be fully compliant with the FAIR and CARE principles;
- is working within SSHOC, ARIADNEplus and E-RIHS to promote this.
HOW DOES ADS MAKE YOUR DATA FAIR?
FINDABLE

F1. (Meta)data are assigned a globally unique and persistent identifier

F2. Data are described with rich metadata (defined by R1)

F3. Metadata clearly and explicitly include the identifier of the data they describe

F4. (Meta)data are registered or indexed in a searchable resource
(Meta)data are assigned a globally unique and persistent identifier.

- Digital Object Identifier (DOIs) persistent identifiers
FINDABLE

F1. (Meta)data are assigned a globally unique and persistent identifier.

- Digital Object Identifier (DOIs) persistent identifiers
- ORCID IDs
- WikiData Q Codes
FINDABLE

F2. Data are described with rich metadata

- Dublin Core Metadata Element Set (DCMES) plus DCMI recommended qualifiers.
FINDABLE

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- Rich qualitative and technical metadata for all digital objects.
- Templates provided to ensure consistency.
FINDABLE

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- Dublin Core Metadata Element Set (DCMES) plus DCMI recommended qualifiers.
- Rich qualitative and technical metadata for all digital objects.
- Templates provided to ensure consistency
- All metadata is displayed alongside data, with technical metadata downloadable in open formats.

Downloads

Reports | Images | CAD (Vector graphics) | Spreadsheets | GIS | Harris Matrices

Spreadsheets

<table>
<thead>
<tr>
<th>Spreadsheet metadata</th>
<th>CSV</th>
<th>9 Kb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spreadsheet conventions</td>
<td>PDF</td>
<td>111 Kb</td>
</tr>
</tbody>
</table>

Please also consult the MOLA Conventions, Attribute Definitions, and Validation Tables (Crossrail) where required.

<table>
<thead>
<tr>
<th>Spreadsheet</th>
<th>Format</th>
<th>Size</th>
</tr>
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<tbody>
<tr>
<td>Bibliography</td>
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<tr>
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<td>Botany data</td>
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<td>1 Kb</td>
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<tr>
<td>Context register</td>
<td>CSV</td>
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<tr>
<td>Tobacco Pipe data</td>
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<tr>
<td>Deposit Survival form</td>
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</tr>
<tr>
<td>Deposit Survival form - Periods</td>
<td>CSV</td>
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<tr>
<td>Ecofact Inventory</td>
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<td>Finds Inventory</td>
<td>CSV</td>
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<td>Index of Archaeological Association</td>
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<td>Image register</td>
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<td>Image register - concordance</td>
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<td>Plan register</td>
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<td>Tithe Register</td>
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<tr>
<td>Tithe Bundle data</td>
<td>CSV</td>
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</tr>
</tbody>
</table>
FINDABLE

F3. Metadata clearly and explicitly include the identifier of the data they describe

- Persistent identifiers are displayed, alongside data, within each archive interface.
- Use additional or supplemental identifiers relating to the dataset that link to external repositories, agencies or resources (physical, as well as digital collections).
FINDABLE

F4. (Meta)data are registered or indexed in a searchable resource

- ADS datasets are findable through ADS’s own indexes and catalogues

- But data will only be as findable as the quality of the metadata provided.
FINDABLE

F4. (Meta)data are registered or indexed in a searchable resource

ADS collections are also available through external catalogues and resources, including:

- ARIADNEPlus Portal
- Heritage Gateway
- DataCite
- The Keepers Registry
- Natural Environment Research Council (NERC) data discovery portal
- Marine Environmental Data and Information Network (MEDIN) data portal
- Europeana
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- ADS catalogues and indexes are searchable and harvestable through a series of OAI-PMH targets, and as linked open data using a SPARQL query web interface.

https://archaeologydataservice.ac.uk/about/metadataServices.xhtml
ACCESSABLE

A1. (Meta)data are retrievable by their identifier using a standardised communications protocol

A1.1 The protocol is open, free, and universally implementable

A1.2 The protocol allows for an authentication and authorisation procedure, where necessary

A2. Metadata are accessible, even when the data are no longer available
A1. (Meta)data are retrievable by their identifier using a standardised communications protocol.

A1.1 The protocol is open, free, and universally implementable
- HTTPS protocol used to ensure free and open access to resources and to facilitate data retrieval.
- In rare instances, where discrete data objects are too large to support easy exchange using HTTPS, the ADS makes data available 'on request' using free and open exchange services.

A1.2 The protocol allows for an authentication and authorisation procedure, where necessary
- Use of HTTPS provides authentication of the ADS website, and ensures the protection of the privacy and integrity of disseminated data.
A2. Metadata are accessible, even when the data are no longer available

- All datasets and metadata are maintained in perpetuity.
- Maintain a Appraisal and Deaccession Policy which outlines current practice for datasets removed from the archives holdings. In such instances the ADS is committed to supporting identifiers (DOIs), maintaining resource discovery metadata, and updating current information on resources.
INTEROPERABLE

I1. (Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.

I2. (Meta)data use vocabularies that follow FAIR principles

I3. (Meta)data include qualified references to other (meta)data
INTEROPERABILITY

11. (Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation

- Resource discovery metadata is made available using a qualified Dublin Core in RDF/XML through the ADS Linked Data repository.
- External services can consume and disseminate metadata.
I2. (Meta)data use vocabularies that follow FAIR principles

- Use a variety of sustainable, open vocabularies to qualitatively classify and identify resources and datasets, including:
  - Heritage Data vocabularies,
  - Library of Congress Subject Headings (LCSH)
  - Marine Environmental Data and Information Network (MEDIN)
  - Getty Thesaurus of Geographic Names (TGN)
- Utilises recognised technical vocabularies to denote and categorise preservation activities
  - PREservation Metadata: Implementation Strategies (PREMIS)
  - Getty metadata types (Baca 2016)
INTEROPERABILITY

I3. (Meta)data include qualified references to other (meta)data

- The ADS supports the qualified referencing with and between publications, datasets and resources. Where available the repository uses sustainable referencing, e.g. DOIs.
R1. (Meta)data are richly described with a plurality of accurate and relevant attributes

R1.1. (Meta)data are released with a clear and accessible data usage license

R1.2. (Meta)data are associated with detailed provenance

R1.3. (Meta)data meet domain-relevant community standards
R1. Meta(data) are richly described with a plurality of accurate and relevant attributes

R1.1. (Meta)data are released with a clear and accessible data usage license

- Clearly define the terms of access and reuse within the collection interface and within metadata records
- Creative Commons Attribution 4.0 licence (CC-BY 4.0) but data may also be disseminated under other licences on request.
R1. Meta(data) are richly described with a plurality of accurate and relevant attributes

R1.2. (Meta)data are associated with detailed provenance

- Provides detailed provenance metadata for all data. At a collection level this is expressed in the archive interface and discovery metadata, at file level within the technical metadata disseminated alongside the data.
R1. Meta(data) are richly described with a plurality of accurate and relevant attributes

R1.3. (Meta)data meet domain-relevant community standards
- Dublin Core metadata for collection level metadata.
- Data must be accompanied by appropriate, file specific 'technical' metadata derived from recognised community standards and standardised templates provided to ensure consistency.
- All (meta)data is accepted, preserved and disseminated in sustainable, open formats.
- Use appropriate vocabularies to qualitatively describe datasets and document preservation actions.
The ADS and the FAIR Data Principles

The ADS is an advocate for FAIR and the FAIR principles for data stewardship. As such the ADS recognise that while preservation and dissemination of data remain of core importance, stewardship should also include demonstratable quantitative and qualitative evidence for data reuse. The ADS is actively investigating how the datasets it curates can be fully compliant with the FAIR principles and is working within SShog, ARADNeplus and E-RHIS to promote this.

As a result when you deposit your datasets with the ADS, you can be confident that your data becomes FAIR data.

What is FAIR Data?

![Diagram of FAIR data principles]

(after Beding et al. 2018)

How is ADS data FAIR data?

Each of the FAIR Principles and sub-principles is described below, along with the specific ways in which the ADS ensures compliance with all aspects of FAIR.
OASIS V AND FAIR

- DOIs for all reports
- Supports ORCIDs for report authors
- Metadata follows the FAIR principles - all core fields use LOD vocabularies
- Use of web services (including WMS) allows the creation of rich and interoperable metadata created by authorities including OS and BGS
- Metadata is designed to be interoperable with wider systems: “record once re-use multiple times”
- API (in development) will allow machine access to metadata
- Supports open licences to facilitate re-use
● Deposit with a trusted repository
● Provide accurate and proportionate metadata
● Provide associated identifiers with metadata
● Use DOIs when referencing and sharing datasets
● Use standardised vocabularies with data and metadata
● Deposit data under suitable licences
● Think about and plan for data reuse from the beginning of your project.
● Create DMPs
Thank you!

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