



Implementation of the Data Seal of Approval

The Data Seal of Approval board hereby confirms that the Trusted Digital repository Archaeology Data Service complies with the guidelines version 2010 set by the Data Seal of Approval Board.

The afore-mentioned repository has therefore acquired the Data Seal of Approval of 2010 on March 10, 2011.

The Trusted Digital repository is allowed to place an image of the Data Seal of Approval logo corresponding to the guidelines version date on their website. This image must link to this file which is hosted on the Data Seal of Approval website.

Yours sincerely,

The Data Seal of Approval Board

Assessment Information

Guidelines Version: 2010 | June 1, 2010
Guidelines Information Booklet: [DSA-booklet_2010.pdf](#)
All Guidelines Documentation: [Documentation](#)

Repository: Archaeology Data Service
Seal Acquiry Date: Mar. 10, 2011

For the latest version of the awarded DSA for this repository please visit our website: <http://assessment.datasealofapproval.org/seals/>

Previously Acquired Seals: Seal date: March 10, 2011
Guidelines version: 2010 | June 1, 2010

This repository is owned by:

- **Archaeology Data Service**
The King's Manor
Department of Archaeology University of York
Exhibition Square
YO1 7EP York
North Yorkshire
United Kingdom

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Assessment

1. The data producer deposits the research data in a data repository with sufficient information for others to assess the scientific and scholarly quality of the research data and compliance with disciplinary and ethical norms.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

The types of dataset that the ADS accept into the archive are described in our Collections Policy. See in particular sections 2.3.1 to 2.3.2.3 which discuss how we assess the intellectual content of any potential dataset plus its reuse value, whether it is adequately documented and its suitability for digital preservation.

Collections Policy: <http://archaeologydataservice.ac.uk/advice/collectionsPolicy>

More specific advice and guidance for data producers on metadata and documentation that should be associated with an archive can be found in our Guidelines for Depositors and also our Guides to Good Practice Series which is in the process of being reworked and updated.

Guidelines for Depositors: <http://archaeologydataservice.ac.uk/advice/guidelinesForDepositors>

Guides to Good Practice: <http://guides.archaeologydataservice.ac.uk/>

Where data is submitted for archive that does not have appropriate contextual information, this should be highlighted at the ingest stage and the data producer will be contacted and asked to supply more information.

This process is documented in the ADS Ingest Procedures Manual

Ingest Procedures Manual available from: <http://archaeologydataservice.ac.uk/advice/preservation>

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

2. The data producer provides the research data in formats recommended by the data repository.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

Advice and guidance on file formats that we accept is available on our website.

Guidelines for Depositors:

<http://archaeologydataservice.ac.uk/advice/depositCreate2#section-depositCreate2-2.2.1.OverviewOfPreferredDataFormats>

During the process of accessioning data into the archive, curatorial staff check that all deposited files are suitable for ingest. We need to ensure that we have access to software that can read the files and that there is a suitable migration path for the data. This process is documented in our Ingest Procedures Manual.

Ingest Procedures Manual: http://archaeologydataservice.ac.uk/attach/preservation/ADS_ingest_manual_V2.pdf

We are currently working on updating our Guides to Good Practice series which includes more specific advice on many issues including file formats. The Guides are aimed at data producers and are intended to help them think about the life cycle of the data they are producing, ensuring that if data is intended for archiving, it is in suitable file formats and with the correct documentation to ensure that it is suitable. The revised Guides have been designed to facilitate future updating to keep abreast of changes in available technologies.

Guides to Good Practice: <http://guides.archaeologydataservice.ac.uk/>

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

3. The data producer provides the research data together with the metadata requested by the data repository.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

Comprehensive advice and guidance on metadata is provided to our data producers. The Guidelines for Depositors contain information about documentation required for different types of data. For more complex data types such as databases, Geographic Information Systems and Geophysics, there are templates that the data producer can download and complete in order to ensure data submitted to the archive has the correct level of documentation.

Guidelines for Depositors:

<http://archaeologydataservice.ac.uk/advice/depositCreate2#section-depositCreate2-2.2.1.OverviewOfPreferredDataFormats>

A template for the recording of project level metadata is also available from the Guidelines for Depositors page. Curatorial staff use this data to record and catalogue the collection and to aid resource discovery.

Guidelines for Depositors:

<http://archaeologydataservice.ac.uk/advice/depositCreate3#section-depositCreate3-2.3.Part3DocumentingTheProject>

During the process of accessioning data into the archive, curatorial staff check that all deposited files are accompanied by appropriate levels of metadata and documentation. This is documented in our Ingest Procedures Manual.

Ingest Procedures Manual available from: <http://archaeologydataservice.ac.uk/advice/preservation>

We are currently working on updating our Guides to Good Practice series which includes further advice on documentation and metadata and includes details of technologies not covered in the Guidelines for Depositors (such as laser scanning and marine remote sensing).

Guides to Good Practice: <http://guides.archaeologydataservice.ac.uk/>

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

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4. The data repository has an explicit mission in the area of digital archiving and promulgates it.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

Our Preservation Policy is available on-line and the first paragraph of this can be seen as our mission statement.

“The Archaeology Data Service (ADS) supports research, learning and teaching with high quality and dependable digital resources. It does this by preserving digital data in the long term, and by promoting and disseminating a broad range of data in archaeology. The ADS promotes good practice in the use of digital data in archaeology, it provides technical advice to the research community, and supports the deployment of digital technologies.”

Preservation Policy: <http://archaeologydataservice.ac.uk/attach/preservation/PreservationPolicyV1.3.1.pdf>

In terms of succession planning, we have a preservation legacy fund which would help us preserve data if funding ran out. This preservation legacy fund is mentioned in our Preservation Policy (section 6.3.2).

The terms of our depositor licence agreements enable us to pass data on to another body for preservation if the need arises.

Sample deposit licence: http://archaeologydataservice.ac.uk/attach/guidelinesForDepositors/ads_licence_form.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

For further clarification it would be good to show if the Preservation Policy document has been approved by the funding body and/or administrative control and if the mandate is reflected in the organization statutes ?

5. The data repository uses due diligence to ensure compliance with legal regulations and contracts including, when applicable, regulations governing the protection of human subjects.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

All data producers who wish to deposit with us have to sign a deposit licence. The ADS will not accept materials for archive which have unclear ownership or unresolved rights issues.

Sample deposit licence: http://archaeologydataservice.ac.uk/attach/guidelinesForDepositors/ads_licence_form.pdf

We also have a published policy on the deposition of personal, confidential and sensitive personal data.

Guidance on the Deposition of Sensitive Digital Data:
<http://archaeologydataservice.ac.uk/advice/sensitiveDataPolicy>

Access to archived data by consumers is governed by our Copyright and Liability Statements and Common Access Agreement.

Copyright and Liability Statements and Common Access Agreement:
<http://archaeologydataservice.ac.uk/advice/termsOfUseAndAccess>

The ADS is also governed by the legal statements of its host institution, the University of York

University of York Legal Statements: <http://www.york.ac.uk/docs/disclaimer/disclaimer.htm>

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

6. The data repository applies documented processes and procedures for managing data storage.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

Many of our processes and procedures are documented in our Preservation Policy. Section 6.3.1 of the policy describes the backup strategy, which utilises a deep storage facility at the UK Data Archive at the University of Essex.

Preservation Policy: <http://archaeologydataservice.ac.uk/attach/preservation/PreservationPolicyV1.3.1.pdf>

Data recovery provisions are detailed in our Disaster Recovery Plan. This is available on our internal staff wiki and printed copies are held elsewhere.

Disaster Recovery Plan: <http://muninn.york.ac.uk/wiki/Wiki.jsp?page=DisasterRecoveryPlan> (internal access only)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

7. The data repository has a plan for long-term preservation of its digital assets.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

The ADS follows the Open Archival Information System Reference Model (OAIS) and uses a number of migration types in order to preserve data: normalisation, version migration, format migration and refreshment. These are discussed in more detail in our Preservation Policy.

Preservation Policy: <http://archaeologydataservice.ac.uk/attach/preservation/PreservationPolicyV1-1.pdf>

Consistency and validation checks on the data within the Submission Information Package are carried out as part of the Ingest process. These checks vary depending on the nature of the files that are deposited with us. They are carried out to ensure that the data is suitable for archiving and future migrations. This process is documented within our Ingest Procedures Manual.

Ingest Manual: http://archaeologydataservice.ac.uk/attach/preservation/ADS_ingest_manual_V2.pdf

File migration is often carried out at the point when we ingest the data into our archive. However, further migrations may need to be carried out at a later date to stop future obsolescence. The ADS have procedures in place to review the file types that we have in our collections and plan for migrations where appropriate. Review is carried out on an annual basis by the Curatorial and Technical team at the ADS.

File migrations: <http://muninn.york.ac.uk/wiki/Wiki.jsp?page=FileMigration> (internal access only)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

8. Archiving takes place according to explicit work flows across the data life cycle.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

Archiving is carried out in accordance with the procedures set out in the following two documents:

ADS Ingest Manual: http://archaeologydataservice.ac.uk/attach/preservation/ADS_ingest_manual_V2.pdf

ADS Repository Operations:

http://archaeologydataservice.ac.uk/attach/preservation/ADS_Repository_Operations_V2.pdf

Specifics on the migration paths for individual types of file are recorded in the data procedures manuals. A separate manual exists for each of the following groups of files:

- Audio
- Binary and plain text
- CAD and vector graphics
- Databases
- Geophysics
- GIS
- GPR
- Lidar
- Moving images
- Photogrammetry
- PTM & RTI
- Raster images
- Spreadsheets
- Statistics
- Virtual reality
- Websites and marked up text

Data Procedures: <http://muninn.york.ac.uk/wiki/Wiki.jsp?page=DataProcedures> (internal access only)

Changes to preservation procedures for a particular file type are discussed in a monthly meeting of Curatorial and Technical Staff, (the minutes of which are made available on the staff wiki) and the relevant data procedures document is updated accordingly.

Migration of a batch of files within our archive may become necessary for a number of reasons including:

- * version change (many formats change or evolve over time)
- * format obsolescence (a format is or is becoming deprecated)
- * another format becomes a more attractive preservation option

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As with migrations during accessioning it is important that the significant properties of a file are retained. As such migrations are likely to be complex involving the DIPs or AIPs of multiple resources and multiple systems a migration plan is drawn up before commencing operations.

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

Interesting strategy for AIP structure and migration management.

9. The data repository assumes responsibility from the data producers for access and availability of the digital objects.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

A deposit licence must be signed by the data producer before we will accept their data for archiving. We will not carry out any work on submitted data until such a time as the licence has been signed and returned to us. The data producer must sign the licence to verify that they hold the copyright for the data in question and that they are happy for the ADS to archive and distribute the data for educational purposes on their behalf.

Sample deposit licence: http://archaeologydataservice.ac.uk/attach/guidelinesForDepositors/ads_licence_form.pdf

We have a Disaster Recovery Plan which covers such a wide range of issues, such as hardware failure, theft, data loss and flooding.

Disaster Recovery Plan:

<http://muninn.york.ac.uk/wiki/Wiki.jsp?page=DisasterRecoveryPlan> (internal access only)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

10. The data repository enables the users to utilize the research data and refer to them.

Minimum Required Statement of Compliance:

2. Theoretical: We have a theoretical concept.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

Data is made available on our website in a selected number of file formats that are useful to our data consumers. We try to ensure that the file types we make available are ones which are widely used by our designated community or where software is freely available to view the files.

A set of internal wiki pages (data procedures) used by ADS curatorial staff documents which file formats we should make available to data consumers. This ensures consistency between individual collections within our holdings.

Data Procedures: <http://muninn.york.ac.uk/wiki/Wiki.jsp?page=DataProcedures> (internal access only)

Search facilities into the archives are available on the ADS website. Searching can be carried out through a combination of a keyword search and a faceted classification browser.

ADS Archives listing and search: <http://archaeologydataservice.ac.uk/archives/>

Resource discovery metadata about our holdings is available as a web service. An OAI target could be set up on request.

We are hoping to enable deeper searching of the data that we hold in the near future. Searching at file (rather than collection) level may be possible once file level metadata has been generated through the ADS+ project.

Permanent urls have been allocated to ADS archives for some years now and we are committed to ensuring the stability of these.

The ADS have been working with the DataCite project in order to allocate a DOI to each collection. Every archive published on-line by the ADS now has its own DOI. Over the next few months will be allocating further DOIs to individual grey literature reports in our Library of Unpublished Fieldwork Reports.

DataCite home page: <http://datacite.org/>

Library of Unpublished Fieldwork Reports: <http://archaeologydataservice.ac.uk/archives/view/greylit/>

Reviewer Entry

Accept or send back to applicant for modification:

Accept

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Comments:

11. The data repository ensures the integrity of the digital objects and the metadata.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

3. In progress: We are in the implementation phase.

Evidence:

Fixity information is currently stored for all files in the form of an MD5 checksum. These checksum values are checked and compared when the files are moved or when that specific collection is worked on. This process is documented in our Ingest Procedures Manual

Ingest Procedures Manual: http://archaeologydataservice.ac.uk/attach/preservation/ADS_ingest_manual_V2.pdf

We are currently working on creating file level metadata for all of our data as part of the ADS+ project. Fedora Commons will be used to store this file level metadata and will include checksums. Once file level metadata is generated for our collections, this will allow for automated checking of fixity values in order to ensure the integrity of digital objects in our care.

ADS+ project page: <http://archaeologydataservice.ac.uk/research/ADSplus>

For the majority of ADS collections, versioning isn't an issue. For the most part the data that we ingest is in a finished and complete state. For some collections however, a regular program of updates and additions is agreed with the data producer. In such cases we add an 'edition number' to the directory name for that collection in order to keep track of the number of versions we have received. Unless a specific request has been made by the data producer, only the most recent version of the data that we hold will be made available to the data consumers. The process of assigning edition numbers to directories is documented in the ADS Repository Operations document.

ADS Repository Operations:

http://archaeologydataservice.ac.uk/attach/preservation/ADS_Repository_Operations_V2.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

Follow-up may be required when automated checking of fixity values is deployed.

12. The data repository ensures the authenticity of the digital objects and the metadata.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

We have a document on our internal wiki which gives guidelines to ADS curatorial staff on what to do if they have to edit or update archived data. Though as a rule we discourage any edits to data once the data has been deposited with us, there are some occasions where we need to edit the content. We will only do this with the explicit permission of the data producer and with a fully documented audit trail.

ADS guidelines on editing and updating archived data: <http://muninn.york.ac.uk/wiki/Wiki.jsp?page=EditingData> (internal access only)

Migration of data is a key part of our archiving work. Where file migrations need to take place, we have a series of documents that help ensure that it is done correctly and consistently. Firstly we have a checklist that curatorial staff must work through in order to ensure all steps of the process are carried out. This includes assessing the significant properties of the files in question and checking that these significant properties are preserved (checking is carried out on a sample of the data files – it is not always feasible to check all files).

Procedure checklists: <http://muninn.york.ac.uk/wiki/Wiki.jsp?page=ProcedureChecklists> (internal access only)

The processes that we go through in order to accession and archive a collection are described and documented in the Ingest Manual. A more detailed description of the structure of our Archival Information Packages can be found in the ADS Repository Operations document.

ADS Ingest Manual: <http://archaeologydataservice.ac.uk/advice/preservation>

ADS Repository Operations:

http://archaeologydataservice.ac.uk/attach/preservation/ADS_Repository_Operations_V2.pdf

All changes to files by our curatorial staff – whether edits to content, or file format migrations, are recorded in the Process metadata section of our Collections Management System. Descriptive metadata relating to the collection as a whole is also stored in our Collections Management System.

Collections Management System: <http://muninn.york.ac.uk/cms/> (internal access only).

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

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13. The technical infrastructure explicitly supports the tasks and functions described in internationally accepted archival standards like OAIS.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

The ADS has adopted the OAIS reference model. We carry out the six mandatory responsibilities and can map our activities to the OAIS data model. The following publication describes how we carry out each of the six mandatory responsibilities:

Mitcham, J. & Richards, J. (2010) (In press) "Digital archiving at the Archaeology Data Service: a quest for OAIS compliance", in eds E. Jerem & V. Szevere'nyi, (eds) On the road to reconstructing the past, Proc. 36th Int. Conf. on Computer Applications and Quantative Methods in Archaeology (CAA), Budapest, Hungary, 2008. (a copy of this article can be made available on request)

Our Preservation Policy and Repository Operations documentation also describes our work within the framework of OAIS.

Preservation Policy: <http://archaeologydataservice.ac.uk/attach/preservation/PreservationPolicyV1.3.1.pdf>

ADS Repository Operations:

http://archaeologydataservice.ac.uk/attach/preservation/ADS_Repository_Operations_V2.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

14. The data consumer complies with access regulations set by the data repository.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

Terms of access to all of our collections are defined by our Copyright and Liability Statements and Common Access Agreement. All users have to agree with these in order to access the archives. The terms state that the data should only be used for teaching, learning and research purposes, should not be used for commercial gain and that sources should be correctly acknowledged.

Copyright and Liability Statements and Common Access Agreement:
<http://archaeologydataservice.ac.uk/advice/termsOfUseAndAccess>

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

15. The data consumer conforms to and agrees with any codes of conduct that are generally accepted in higher education and scientific research for the exchange and proper use of knowledge and information.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

Terms of access to all of our collections are defined by our Copyright and Liability Statements and Common Access Agreement. All users have to agree with these in order to access the archives. The terms state that the data should only be used for teaching, learning and research purposes, should not be used for commercial gain and that sources should be correctly acknowledged.

Copyright and Liability Statements and Common Access Agreement:
<http://archaeologydataservice.ac.uk/advice/termsOfUseAndAccess>

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

16. The data consumer respects the applicable licenses of the data repository regarding the use of the research data.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Evidence:

The main issue here is being aware of breaches of terms and conditions. This is very hard to police. We do have one notable incident in which the terms of access to our collections was breached and we were forced to act accordingly. This has given us an action plan to follow for any future incidents of this nature. The action plan is documented in the following case study:

Copyright and intellectual property rights – a case study from the web face:
<http://archaeologydataservice.ac.uk/advice/copyrightInfringement>

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

Interesting case study from William Kilbride.