



Archaeology
Data Service

The Archaeology Data Service: enhancing digital skills for archaeologists

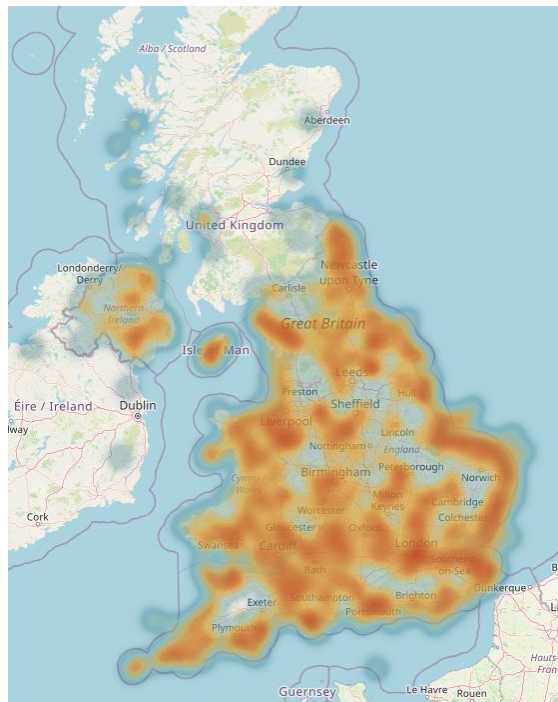
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Manager, ADS*

The Archaeology Data Service



The Archaeology Data Service

- Accredited digital archive for UK heritage data
- 27 years of experience
- Data from UK-based projects (Industry and Higher Education).
- Archive of more than 3.5 million unique digital objects in 312 unique formats
- Hosted by Department of Archaeology, University of York
- For more information see [Annual Reports](#)



Heat map of ADS records from the [Ariadne Portal](#)

Rationale

Archaeology generates a lot of data (borne digital)!

Excavation is inherently destructive.

Historic notions of 'Preservation by Record' feed into moral and legal obligation to ensure data is preserved **and accessible**.



Worcestershire Historic Environment and
Archaeology Service (2011) Wellington Quarry.
<https://doi.org/10.5284/1000392>

A brief history....

- **1st October 1996** - Founded as part of the Arts and Humanities Data Service
- **Late 90s** - Archiving services for research based projects in universities (AHRC, NERC, British Academy, Leverhulme Trust and more)
- **Late 90s/Early 2000s** - Funding model for commercial archaeology sector
- **March 2007** - AHRC withdraw funding from AHDS.
- **2008** - AHRC award 5-year transitional funding from 2008-13 to allow ADS to become self-sufficient.
- **2010** - ADS awarded Data Seal of Approval (only second UK repository to be internationally accredited).
- **April 2020** - ADS was awarded Core Trust Seal (only 6th accreditation granted in UK).
- **2021** - AHRC resumes digital infrastructure core funding for ADS (iDAH)

Introducing the ADS (today)

- Core activity is long term digital preservation of data.
- Datasets to support research and innovation.
- European Research interests
 - ARIADNE (2012–16) and ARIADNEplus (2019–23).
- Recommended repository for funding bodies (UKRI).
- Training and communications.



Introducing the ADS (people)

- **One** Director (Julian Richards)
- **One** Deputy Director
- **Three** Managers.
- **Four** Application Developers.
- **Eight** Curatorial + Technical staff (CaTs).
- **One** Internet Archaeology Editor.
- **One** Financial Administrator.



Expertise in multidimensional data



Data types

- Archaeology creates diverse range of data types
- ADS holds **312** unique data formats
- 3D data types – Terrestrial laser scanning, LIDAR (Light Detecting and Ranging), Satellite imagery, Photogrammetry, Virtual reality modelling, Polynomial Texture Mapping (PTM) and Reflectance Transformation Imaging (RTI)



3D data

- Growing collections (objects, structures and landscapes)
- Extensive work on data and metadata standards for 3D data (G2GP)
- 3D viewer development (using 3D-HOP)
- European collaboration (including CNR Pisa 3D Lab)
- Integration with online publication



Webb et al. (2021) *Tracing the Past: analysing the design and construction of English medieval vaults using digital techniques* [data-set]. York: Archaeology Data Service [distributor] <https://doi.org/10.5284/1084971>

- Sibling publisher (linked via archive to ADS)
- Mesolithic shale pendant - Starr Carr, North Yorkshire
- 3D and RTI viewer built into online publication



Guides to Good Practice

A brief history....

- 1998–2002 Initial development (hard copy and online!)
- Project based development
 - 2005–6 The Big Data project
 - 2006–9 Virtual Exploration of Underwater Sites (VENUS)
- 2009–11 Revised Guides to Good Practice Project – major project
- European Project development
 - 2012: ACE Project Case Studies
 - 2013–17: ARIADNE development

The screenshot shows the top navigation bar of the Archaeology Data Service (ADS) website. The navigation items are: **ads** Archaeology Data Service, **Search data**, **ADS-EASY Deposit data**, **Help & guidance**, **News & events**, **Blog**, and **About**. The main heading is **Help & guidance**. Below this, there are two columns. The left column is titled **DIGITAL ARCHIVING** and lists: About these guidelines, How to use these guides, What is digital archiving?, Archival strategies, and Open Archival Information System (OAIS). Below that is **THE PROJECT LIFECYCLE**. The right column is titled **Guides to Good Practice** and contains text: "The Guides to Good Practice have been produced as the result of a two-year collaborative project between the UK Archaeology Data Service and Digital Antiquity in the US. The project has encompassed important revisions of the existing six ADS *Guides* as well as the development of entirely new documents." To the right of this text is the **tDAR** logo, which stands for The Digital Archaeological Record, a project of Digital Antiquity.



Guides to Good Practice

- Aim to “provide information on the best way to create, manage, and document digital material’ produced via archaeology
- Produced in collaboration with Digital Antiquity (tDAR – The Digital Archaeological Record)
- Data collection, file types and metadata standards
- 3d datasets including:
 - [Laser scanning](#)
 - [Close-range photogrammetry](#)
 - [UAV survey](#)
 - [3d models](#)



SEADDA Cost Action



3D

Tools for this content type

Content definition: Tools that support the preservation of 3D data

	Access, Use and Reuse	Creation of Metadata (Automatic)	Creation of Metadata (Manual)	Storage	Indexing	Preservation Action	Other
3D-CP (3D Heritage Online: Preserver)	X						
ALINGSO		X		X	X	X	X
CN3D		X					X
CloudCompare			X	X	X	X	
MeshLab						X	
Palen	X						
Scans3D				X	X	X	
SketchUp	X						

Available best practice guides [edit]

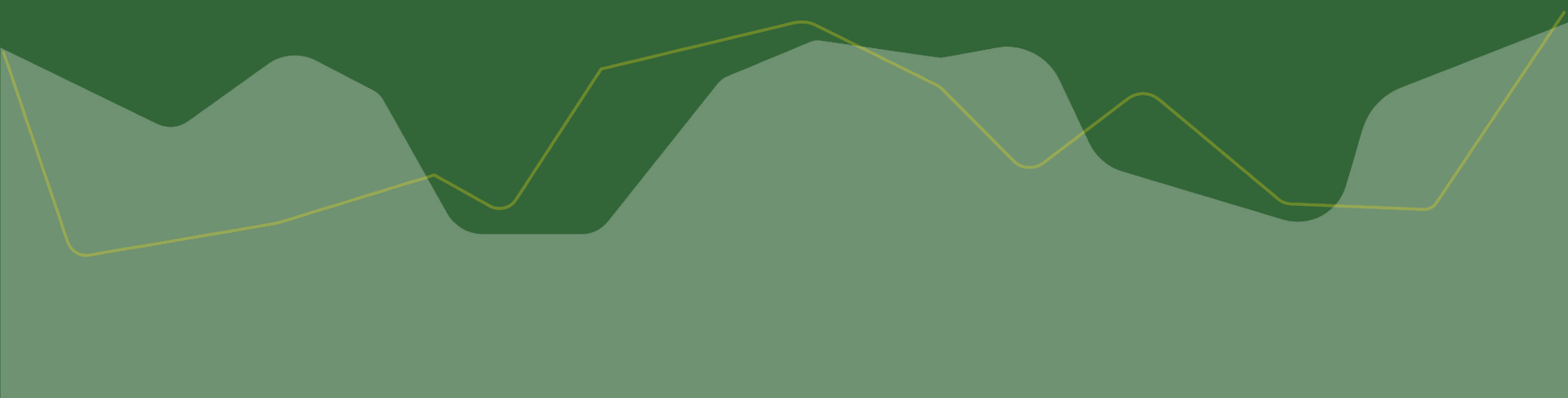
- [Archaeological Systems and the Digital Preservation Coalition - Preserving 3D Data Types Series: 3D-CP](#) (doi:10.7207/awc21-148)
- [Archaeology Data Service: Digital Heritage - Guides to Good Practice: 3D Models in Archaeology: A Guide to Good Practice](#) (https://guides.archaeologydataservice.ac.uk/gps/3d_Toc#)
- [IAHRIS - IT-Infrastructure, 3D and Virtual Reality \(Virtual only, but with further sources linked\)](#) (<https://iahris.eur-dit.dlr.de/infrastructure/3d/>)
- [Jennifer Moore, Adam Kourouyis, and Hannah Scates-Keeley - 3D Data Creation to Curators: Community Standards for 3D Data Preservation](#), 2022. <https://doi.org/10.21203/rs.3.rs-1234567>

Good overview of current practice and open issues [edit]

- [Julie L. Hardoy, Jennifer Jonsson, Jamie Wiltsberg, Nathan Hall, Matt Cook, Zack Lischer-Katz, Zhenxi Xie, and Robert McDonald - 3D Data Repository Features, Best Practices, and Implications for Preservation Models: Findings from a National Forum](#): <https://cdli.org/index.php/ta/ta/issue/view/2451/2323456#>

- SEADDA (Saving European Archaeology from the Digital Dark Age) COST Acton
 - Working Group 2 (Planning for Archiving)
 - DPC (Digital Preservation Coalition) COPTR (Community Owned digital Preservation Tool Registry)
 - COPTR edit-a-thon for 3D data - 16th November 2022

Training – past and future



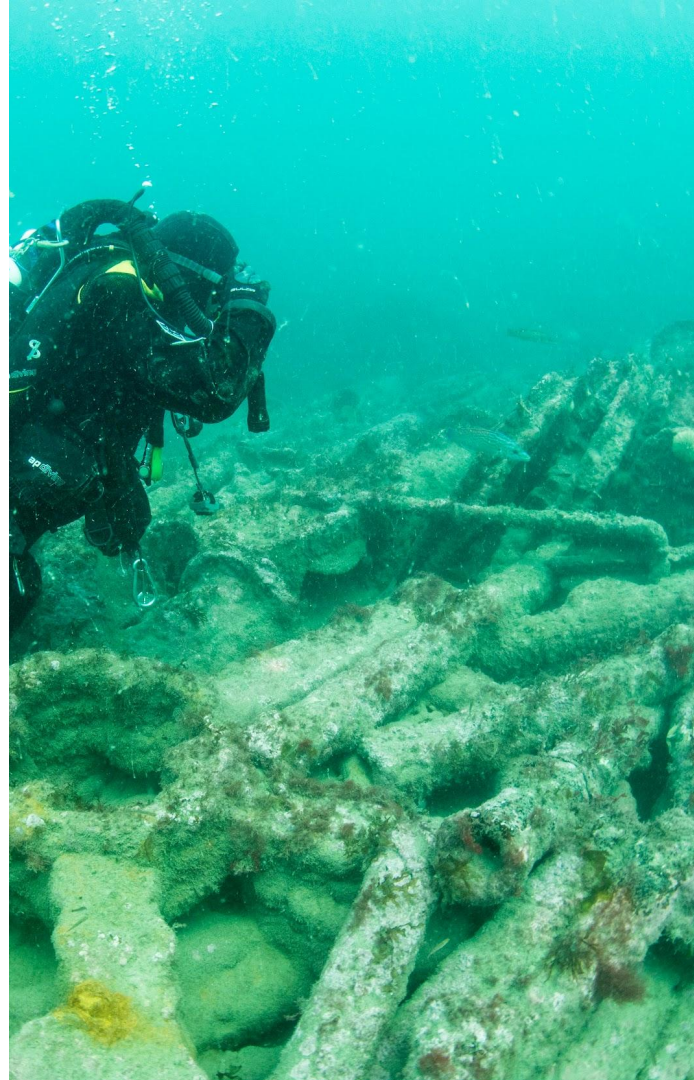
Training topics

- The importance of preserving digital research data in a Trusted repository
- Data management plans and research grant applications
- The FAIR and CARE data principles
- Selection and Retention of research datasets
- Depositing data with the ADS including special interfaces



Training methods

- Different audiences (academic, commercial)
- Bespoke content using key topics
- Online and in person sessions (including visits to organisations/institutions)
- Mixed method pedagogical approach (lectures, hands-on sessions, discussions etc.)
- Resources available open access



Continuing Professional Development (CPD)

- Professional bodies – Chartered Institute for Archaeologists (CIfA)
- e.g. ‘Data management for archaeology – CIfA CPD workshop’
 - Importance of good data management
 - Critically analyse archaeological data set
 - Available advice and standards
- Special Interests Group – [Archives](#)
- Dig Digital – <https://www.archaeologists.net/digdigital> (advice, planning)

<https://archaeologydataservice.ac.uk/help-guidance/continuing-professional-development/past-workshops/data-management-for-archaeology/>

Ariadne Transnational Access

ARIADNEplus
a data infrastructure serving the archaeological community worldwide
LEARN MORE ABOUT THE PROJECT

Integrate and effectively serve a research community that studies the past to better understand the present with the tools and the methodology of the future, in the service of culture and society

23 European countries	41 Partners	4 International partners	14 Associate partners
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- Funded through the [ARIADNEplus Project](#)
- Participants from across Europe (UK, Germany, France, Portugal, Spain, Italy) from different organisations (Academia, National agencies)
- ADS focused on Data Stewardship; Topics include the ADS, Data Management, Digital Preservation, Quality Assurance, Data Reuse
- Four week course (online) – mixed methods including lectures, discussion sessions, background reading, presentations.

Looking to the future

- AHRC National Infrastructure for digital innovation and curation for arts and humanities (iDAH) funding
- Digital Archive Audit:
 - Targeted 435 AHRC grant holders between 2012–2021
 - Approx 35% deposited with ADS (or appropriate archive)
 - Over 50% interested in training opportunities
- Funded role: Training and Communications Manager
- Task: Deliver training courses in data management

Future plans

- Varied pedagogy - mixed methods approach
- (Re)develop resources to correspond to key learning topics - open access via ADS website
- Collaboration with other iDAH organisations (e.g. British Library)
- Link into existing open access resources e.g. [The Turing Way](#), [DARIAH](#), [Data Carpentry](#)
- Continued bespoke approach - training must suit audiences
- Disciplinary perspective useful but broader interdisciplinary topics should be considered



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Thank you!

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@ADS_Update



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