

# Long-term Data Preservation and Re-use: the work of the Archaeology Data Service

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Archaeology Data Service  
University of York

- Challenges:
  - Digital Preservation
  - Resource Discovery and Interoperability – finding & joining up fragmented and diverse data sets
- Opportunities:
  - Digital dissemination & electronic publication

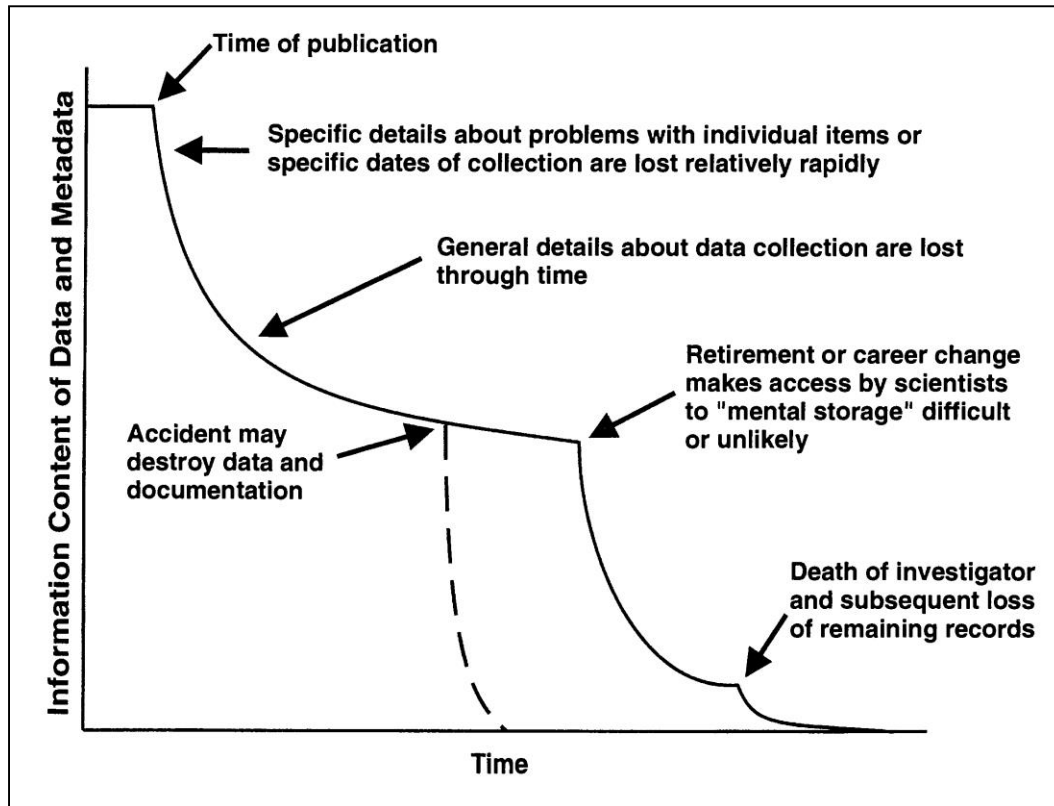
# Digital Data Challenges

- Digital data are as fragile as the archaeological record we excavate
- They are still archived as objects rather than computerised information



# Losing things: Digital Preservation

## Information entropy

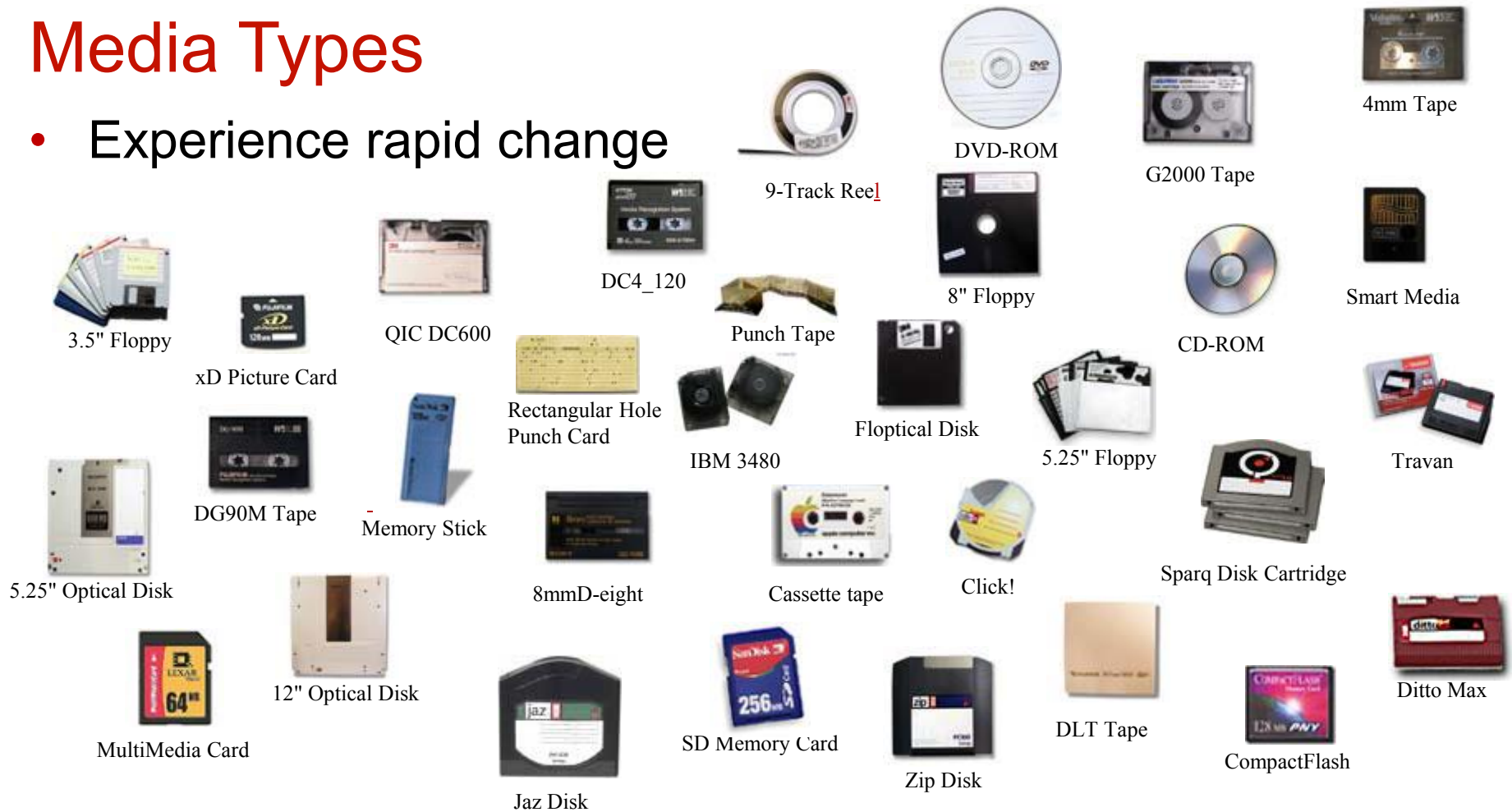


Michener, W.K., Brunt, J.W., Helly, J.J., Kirchner, T.B. and Stafford, S.G. 1997. Nongeospatial Metadata for the Ecological Sciences. *Ecological Applications*. 7: 330-342.

# Losing things: Digital Preservation

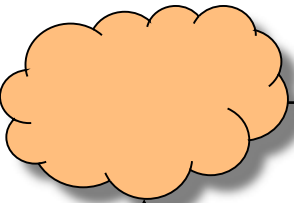
## Media Types

- Experience rapid change



OAIS

Research



SIP

Accession

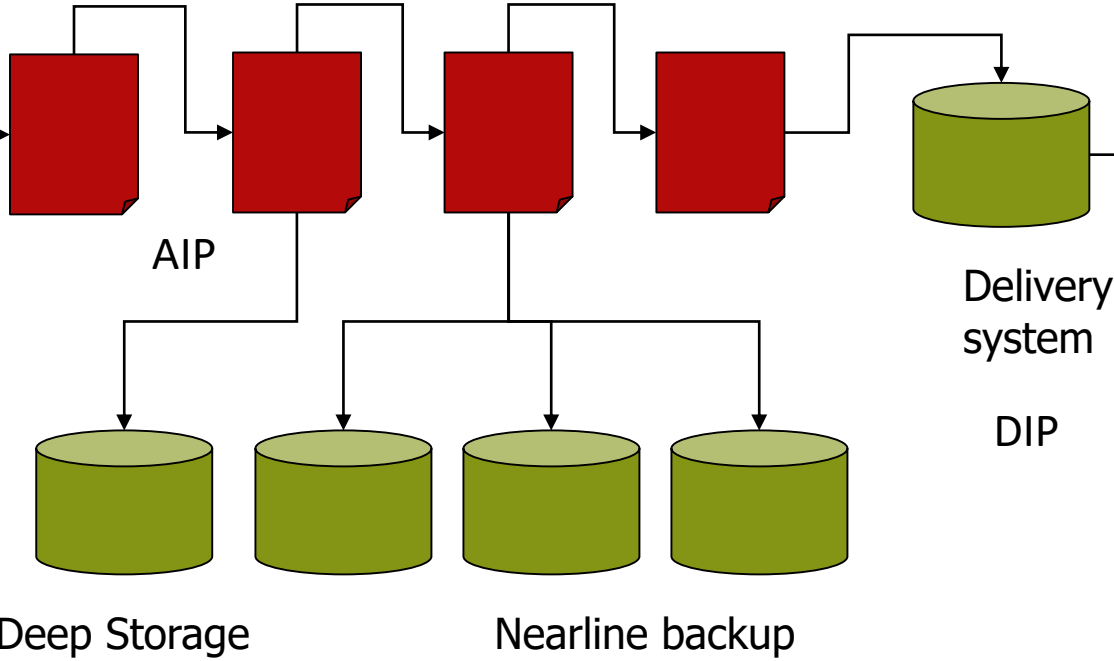
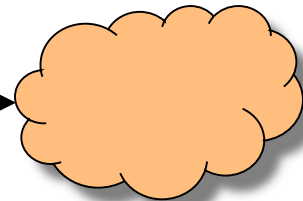
Delivery preparation

Release

Preservation

Interface

Publish



Picture from DLib

## The Archaeology Data Service


- Set up in 1996
- Based within the University of York
- 14 staff
- Business model based upon charging policy – one-off charge at point of deposit
- Holds Data Seal of Approval
- Received Digital Preservation Coalition's Decennial Award in 2012
- Oct 2016: 12Tb; 2,143,497 **files**; 21,327 recorded **processes**
- 1.4m records for archaeology of UK
- >40,000 fieldwork reports
- >1000 full project digital archives



## The Archaeology Data Service

“Supporting research, learning and teaching with free, high quality and dependable digital resources”

- Provides guidance and support to data creators
- Collects and preserves datasets
- Provides easy and free access to datasets

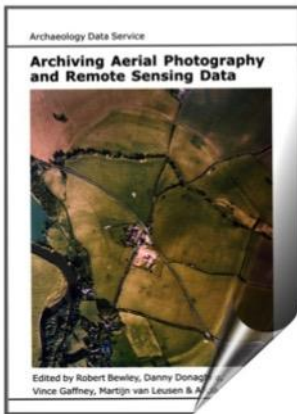


The screenshot shows the homepage of the Archaeology Data Service (ADS). At the top, there is a red navigation bar with the ADS logo and the text 'ARCHAEOLOGY DATA SERVICE'. Below this is a search bar and a menu with links: HOME, ARCHSEARCH, ARCHIVES, LEARNING, ADVICE, OUR RESEARCH, BLOG, ABOUT US, myADS, and LOGOUT. The main content area features three large buttons: 'EXPLORE', 'DISCOVER', and 'DEPOSIT'. Below these is a 'Featured collection' section with a large image of a geophysics survey and the text 'Whitley Castle Geophysics Survey'. To the left of the featured collection are three smaller boxes: 'EXPLORE', 'DISCOVER', and 'DEPOSIT'. Below these is a 'myADS Resources' section with the text 'Supporting research, learning and teaching with free, high quality and dependable digital resources'. Further down, there are sections for 'myADS Searches' and 'myADS Resources'. At the bottom, there are several news items with small images: 'April 2013: Internet Archaeology publishes full journal issue on metal-detecting', 'March 2013: Five new archives added to Southampton's Designated Archaeology Collections Programme', and 'March 2013: Archaeological and cultural heritage investigations on the site of the London 2012 Olympic and Paralympic Games'. At the very bottom, there are logos for 'INTERNET ARCHAEOLOGY 2013', 'THE QUEEN'S ANNIVERSARY PRIZE', and 'BA 2012'.



## Guides to Good Practice

- GIS
- CAD
- Geophysics
- AP and Remote Sensing
- Excavation and Fieldwork
- Virtual Reality



### Archaeology Data Service / Digital Antiquity Guides to Good Practice

[Log in](#)

- Home
- Full Table of Contents
- **Digital Archiving**
  - About these Guidelines
  - How to use these Guides
  - What is Digital Archiving?
  - Archival Strategies
- **The Project Lifecycle**
  - Planning for the Creation of Digital Data
  - Project Documentation
  - Project Metadata
  - Data Selection: Preservation Intervention Points
  - The Project Archive: Storage and Dissemination
  - Copyright and Intellectual Property Rights
- **Basic Components**
  - Documents and Texts

This new and revised series of 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 covering areas such as marine survey, laser scanning, close-range photogrammetry, digital audio and digital video. The project has involved previous Guides authors revising existing content alongside new authors, from both Europe and the US, also contributing to the development of the guides into new themes and areas.

The project has been undertaken in collaboration with the Digital Antiquity initiative, a US-based project with the aim of enhancing the preservation of and access to digital records of archaeological investigations. A major aim of the Guides is to provide the basis for archaeological project workflows that will create digital datasets that can be archived and shared effectively by Digital Antiquity's tDAR archive and repository in the US and by the Archaeology Data Service in the UK. The development of the *Guides* involves close collaboration with teams in the US at both the University of Arkansas and Arizona State University.

Other ADS projects have also fed into the revision and development of the Guides. ADS involvement in the European VENUS project has formed the basis of a guide focussed on marine survey. In addition, the incorporation of findings from the ADS Big Data project, together with the revision of the existing guide on aerial photography and remote sensing data, has seen a significant contribution to the guides from English Heritage funded projects.

Previous versions of the ADS/AHDS Guides to Good Practice have been archived and are still available on the old Guides to Good Practice page.

[View the full new Guides to Good Practice Table of Contents](#)



The Andrew W. Mellon Foundation



ENGLISH HERITAGE



# Depositing data with the ADS

▶ [ADS-EASY](#) | [OASIS](#) | [COSTING CALCULATOR](#) | [GUIDELINES FOR DEPOSITORS](#)

## Depositing Data at ADS

ADS is an internationally renowned digital archive and currently the only trusted digital repository in the UK that specialises in preserving historic environment data. Depositing your data with us ensures that they will be professionally curated in the long term and easily accessible for future reuse. Find out more about the benefits of data deposition in our guide to [why deposit](#) data.



ADS has developed several workflows to ease the ingestion of data into our archive and provide our users with cost effective solutions to depositing data.



ADS-easy is an online system which allows you to directly upload your data and create the required metadata for submission with ADS. ADS-easy can be used for small to



OASIS is an online data capture form for the recording of historic environment events in the UK. OASIS also facilitates the upload of unpublished reports which are

# OASIS – text report and summary – free service

## Main Menu

- [HOME](#)
- [PARTNERS](#)
- [HERALD](#)
- [DOCUMENT ARCHIVE](#)
- [PUBLICATIONS](#)
- [TECHNICAL INFORMATION](#)
- [CONTACTS](#)
- [FAQ](#)

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Current page: Main

Last visited:

---

Page Contributors: *Catherine Hardman, Keith May, Peter McKeague, OASIS, oasis*

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## OASIS

[Submit your project to OASIS](#).

### About

The OASIS project brings together a number of strategic partners: the Archaeology Data Service, Historic England, Historic Environment Scotland, and the Royal Commission on the Ancient and Historical Monuments of Wales under the umbrella of the University of York.

The overall aim of the OASIS project is to provide an on line index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork and a similar increase in fieldwork undertaken by volunteers. As part of this overall vision, the OASIS data capture form has been designed to help in the flow of information from data producers, such as contracting units and community groups, through to local and national data managers, such as HERs and NMRs. The resulting information will be validated by the relevant National Record for inclusion on Historic England's Excavation Index and the Historic Environment Scotland's [CANMORE](#) records)and passed onto the ADS for inclusion in its on line catalogue [ArchSearch](#). The inclusion of information in ArchSearch will enable users to search for the latest information pertaining to a particular site, type of monument and so on and either provide direct web links through to the grey literature reports or at least act as a pointer to the physical holding place of a report or archive. Grey literature reports are also being made available directly through the [ADS Library](#), where it is possible to search and retrieve reports based on a variety of different data fields. It is hoped that the OASIS project will facilitate the rapid flow of information from producer to user.

### Historic Environment Research Archives, Links and Data (HERALD): a new beginning for OASIS

The HERALD project is essentially the OASIS redevelopment project. The first stage of the project was a user needs study which surveyed the historic environment community to see how they might use OASIS in the future and what changes were needed for the system to bring it up to date. A summary of the HERALD project can be found on the [HERALD](#) page.

Stage 1 was completed in May 2015 and the report is now available in the [document archive](#) section.

# ADSeasy – chargeable service

▶ [ADS-EASY HOME](#) | [COSTING CALCULATOR](#) | [ABOUT](#) | [ADS-EASY HELP](#)

[\[Login to ADS-easy\]](#)



ADS-easy is an online system which allows you to directly upload your data and create the required metadata for submission with ADS. Using ADS-easy allows ADS to automatically ingest data into our Collections Management Systems allowing us to provide a cheaper service.

## When should you use ADS-easy?

ADS-easy is best used for small to medium sized archives of a maximum of 300 files of a standard type. ADS-easy can be used for projects that contain straightforward file types such as text, images, spreadsheets, databases, GIS and CAD files. ADS-easy can also accept geospatial files, but we currently exclude the

**ADS-easy has been updated!**  
The update has involved major revision to further streamline data input for users and to improve the data upload facilities.  
ADS welcomes all feedback on the update via [adseasy@archaeologydataservice.ac.uk](mailto:adseasy@archaeologydataservice.ac.uk)

## Browsers

\* Please note that this site works best with the Firefox, Chrome and Safari browsers

## Register

# Costing calculator

**The costing calculator allows potential depositors to assess the cost, and more effectively plan, for the archiving of data with the Archaeology Data Service using the ADS-easy system**

The costings created using the calculator should be regarded as a guide to the potential cost of deposition via ADS-easy and should not be treated as a statement of actual costs. This estimate will be current for the duration of the financial year in which it is calculated (April - March), i.e. an estimate made in January will only be valid until the end of March. **If your project requires a definitive costing (especially for AHRC and NERC funding applications) you are encouraged to [contact us](#) directly.**



[Find out more about charging and the costing calculator.](#)

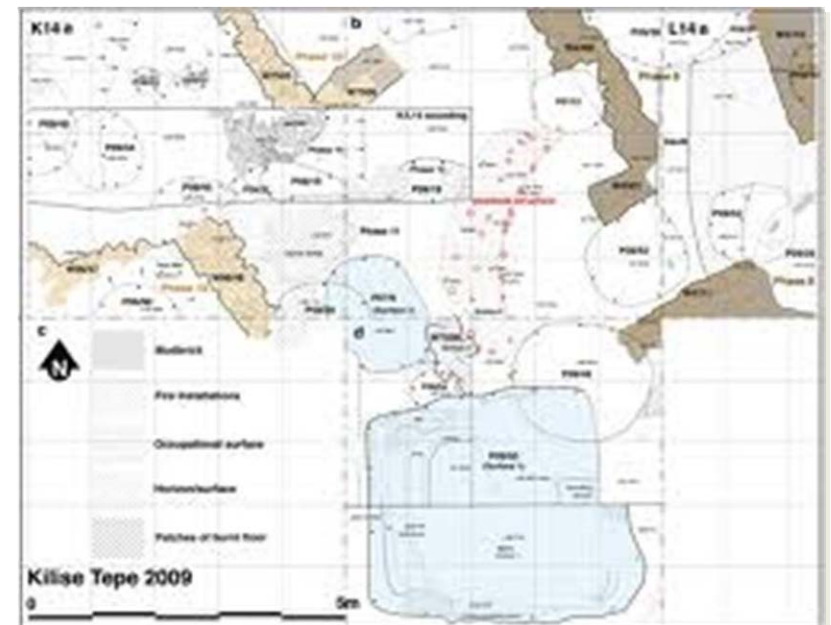
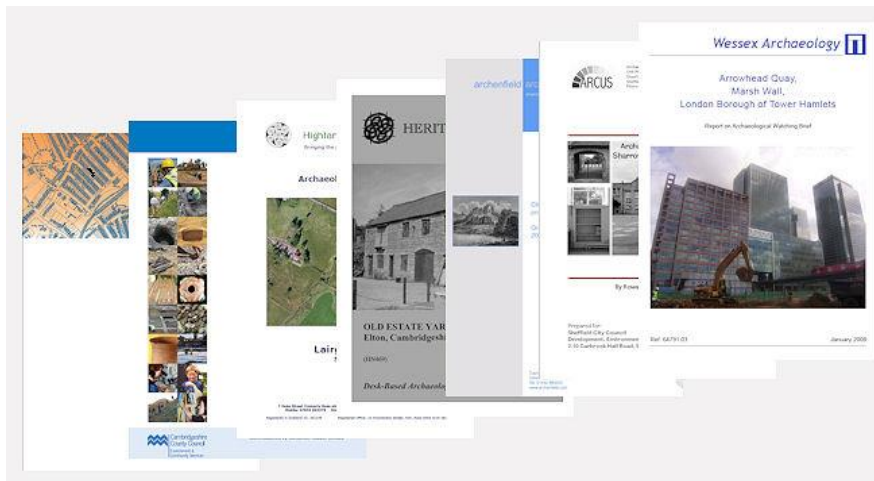
? Project Funding Type:  AHRC applicants  All other users

? Data Type:  File Extension:  Quantity:

Data Type	File Extension	Quantity (File)	Unit Price	Unit Price (Total)	Remove
No records found					

# Finding things: Resource Discovery

- Published data are limited
- Majority of data recorded in grey literature
- Data are not easily searchable
- Finding good quality data via search engines is hard
- Access to data is difficult



EXPLORE

DISCOVER

DEPOSIT

INNOVATE

Supporting research,  
learning and teaching  
with free, high quality and  
dependable digital  
resources

[About Us](#)

Welcome to the new ADS website. There are a number of new features of the website that will make it easier and more enjoyable to use. Please read the **'About'** this site section for more details. This site works best with the Firefox, Chrome and Safari browsers. Why not **register as a myADS** user to take full advantage of the additional features. On registration these personal myADS features become available.

### Workbook

Using the tools at the bottom of each page save your favourite resources and regular searches in the myADS Workbook.

### History

Your recent exploration of the site and the archives is automatically saved in your myADS History.

### Additional services

Registered ADS users can take advantage of a number of additional myADS services, such as tailored email alerts and download of configurable results sets.

## Featured collection

### Exeter Archaeology Archive Project



### March 2016: Call for Papers - Preservation and Re-Use of Digital Archaeological Research Data with Open Archival Information Systems

The ADS, IANUS, and DANS are pleased to invite submissions for the CHNT session on the preservation and re-use of data in Archaeology. This session will focus on the services and duties of existing repositories and archives and the implementation of the OAIS model within their day-to-day business of data curation, preservation and dissemination. Talks will address different aspects of how to pres... more



### February 2016: A Unique Engraved Shale Pendant from the Site of Star Carr

Internet Archaeology is pleased to announce the publication of A Unique Engraved Shale Pendant from the Site of Star Carr: the oldest Mesolithic art in Britain by Nicky Milner et al. The artwork on the pendant is the earliest known Mesolithic art in Britain; the barbed line motif is comparable to styles on the Continent, particularly in Denmark. When it was first uncovered the lines were barely v... more



# ArchSearch: Browse – 1.35m records

The screenshot displays the ArchSearch website interface. At the top left is the 'ads' logo for the 'ARCHAEOLOGY DATA SERVICE'. A search bar with a 'SEARCH' button is located at the top right. A navigation menu below the header includes links for HOME, ARCHSEARCH, ARCHIVES, DEPOSIT, LEARNING, ADVICE, RESEARCH, ABOUT US, BLOG, and LOGIN. On the left side, there is a vertical 'BROWSER BASIC' sidebar, and on the right, a vertical 'ADVANCED MAP' sidebar. The main content area features a 'KEYWORD' search box with a 'SEARCH' button and a 'RESET QUERY' button. Below the search box are three filter categories: 'WHAT', 'WHERE', and 'WHEN', each with a list of radio button options and their corresponding record counts. The search results section shows '1352437 Total results.' followed by three entries: 'ABBNEY FIELDS ABBEYMEAD', 'AINSBROOK SITE', and 'APPLEGARTH WEST OF ST ANDREWS CHURCHYARD'. Each entry includes a 'Historic England NRHE Excavation Index for England' icon, a brief description of the excavation, and the county name.

**ads** ARCHAEOLOGY DATA SERVICE

SEARCH

HOME ARCHSEARCH ARCHIVES DEPOSIT LEARNING ADVICE RESEARCH ABOUT US BLOG LOGIN

RESET QUERY

KEYWORD  SEARCH

1352437 Total results. [◀◀ 123... ▶▶](#)

**ABBNEY FIELDS ABBEYMEAD**  
 **Historic England NRHE Excavation Index for England**  
 Followed by excavation 14/86 (Event 652905). Observation of sewer trench.  
GLOUCESTERSHIRE

**AINSBROOK SITE**  
 **Historic England NRHE Excavation Index for England**  
 Evaluation and excavation of the site of a Viking period hoard recorded a disturbed burial with grave goods and a large Bronze Age enclosure. Metal detectorists had previously removed '7000' artefacts from the site, the location of which is kept secret.  
NORTH YORKSHIRE

**APPLEGARTH WEST OF ST ANDREWS CHURCHYARD**  
 **Historic England NRHE Excavation Index for England**  
 Two small trial trenches in the garden of a 1960s bungalow adjacent to the churchyard boundary wall on the west side of St Andrew's Church revealed traces of the Roman road from the Mendips to the River Avon, possibly RR540. There were also indications of a possible Roman roadside settlement, as well as earlier medieval activity pre-dating the laying out of the market place.  
BATH AND NORTH EAST SOMERSET

**BROWSER BASIC**

**ADVANCED MAP**

▼ WHAT

- ▶  Event 135966
- ▶  Evidence 258858
- ▶  Maritime 60455
- ▶  Monument Types 1162012
- ▶  Object Types 181295

▼ WHERE

- ▶  England 813033
- ▶  Northern Ireland 18468
- ▶  Scotland 348052
- ▶  Wales 151234
- ▶  Isle Of Man 1724

▼ WHEN

- ▶  Early Prehistoric 14014
- ▶  Later Prehistoric 96436
- ▶  Roman 73553
- ▶  Early Medieval 21190
- ▶  Medieval 143692
- ▶  Post Medieval 355801
- ▶  Modern 75766



# Down to 48 records in 3 clicks

**ads** ARCHAEOLOGY DATA SERVICE

HOME ARCHSEARCH ARCHIVES DEPOSIT LEARNING ADVICE RESEARCH ABOUT US BLOG LOGIN

WHAT Funerary Site WHERE Nottinghamshire WHEN Early Medieval RESET QUERY

KEYWORD 48 Total results. << 1 2 3 ... >>

**BROWSER BASIC**

- WHAT
  - Event 19
  - Evidence 32
  - Monument Types 48
    - Agriculture And Subsistence 7
    - Civil 2
    - Communications 1
    - Defence 6
    - Domestic 12
    - Industrial 2
    - Monument [By Form] 24
    - Religious Ritual And Funerary 41
      - Cross 1
      - Funerary Site 48**
      - Place Of Worship 10
      - Rock Art 2
    - Transport 3
    - Unassigned 14
    - Water Supply And Drainage 1
  - Object Types 23
- WHERE
  - England 48
    - Nottingham 2**

**ADVANCED MAP**

**121 MILLGATE**  
Historic England NRHE Excavation Index for England  
No description  
NOTTINGHAMSHIRE

**ALL SAINTS CHURCH COLLINGHAM**  
Historic England NRHE Excavation Index for England  
No description  
NOTTINGHAMSHIRE

**An Archaeological Watching Brief Carried Out During Groundworks at the Rear of 5658 Goose Gate Nottingham**  
ADS Grey Literature Library  
An Archaeological Watching Brief Carried Out During Groundworks at the Rear of 56-58 Goose Gate, Nottingham  
NOTTINGHAMSHIRE

**BARROWS HILL**  
Historic England National Inventory (NRHE)  
Alleged Danish burial ground.  
NOTTINGHAMSHIRE

## The Rural Settlement of Roman Britain: an online resource

Martyn Allen, Nathan Blick, Tom Brindle, [Tim Evans](#), Michael Fulford, Neil Holbrook, [Julian D Richards](#), Alex Smith, 2015

### Introduction

[Query](#)

[Map](#)

[Metadata](#)

[Usage Statistics](#)

[Feedback questionnaire](#)

Data copyright © University of Reading unless otherwise stated



### Primary contact

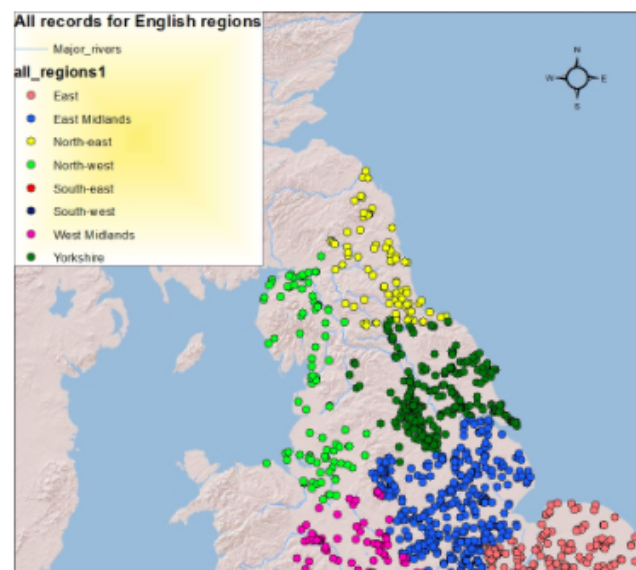
Prof Michael Fulford  
Professor of Archaeology  
School of Archaeology, Geography and  
Environmental Science  
University of Reading  
Whiteknights  
PO Box 218  
Reading  
RG6 6AA

### Introduction

This resource brings together the excavated evidence for the rural settlement of Roman Britain with the overarching aim to inform a comprehensive reassessment of the countryside of Roman Britain. It includes both traditionally published reports and 'grey literature' reports from developer-funded excavations since 1990.

The project arose from pilot projects undertaken by Cotswold Archaeology<sup>1</sup> and funded by Historic England and it began in 2012. It is funded by grants from the Leverhulme Trust to the Universities of Reading and York (ADS)<sup>2</sup> and from Historic England to Cotswold Archaeology.<sup>3</sup>

Phase 1 (April 2015) publishes the settlement evidence from Roman England. Subsequent phases will add Roman Wales (by December 2015) and the related finds, environmental and burial data (by 1st April 2017). These will be used alongside the specific site data in a series of integrative studies on rural settlement, economy, people and ritual to be published by the Society for the Promotion of Roman Studies as Britannia Monographs between 2016 and 2018.



## Council for British Research in the Levant Archaeological Monographs

### Council for British Research in the Levant, 2015 (updated 2016)

Monographs  
Usage Statistics  
Metadata

Data copyright © Council for British Research in the Levant unless otherwise stated



#### Primary contact

Council for British Research in the Levant  
CBRL London  
10 Carlton House Terrace  
London  
SW1Y 5AH

#### Introduction

The Council for British Research in the Levant (CBRL) is an independent, not-for-profit organisation that conducts, supports and promotes research in the history, culture, society and archaeology of Jordan, Israel, the Occupied Palestinian Territories, Syria, Lebanon and Cyprus. Registered as a charity in 1998 following the merger of the British Institute at Amman for Archaeology and History and the British School of Archaeology at Jerusalem, the CBRL broadened its remit to support all the disciplines supported by the British Academy. This led to a period of organic growth and the CBRL now has an administrative office in London and two research institutes in the region: the CBRL Kenyon Institute (KI) in East Jerusalem and the CBRL British Institute in Amman (BIA).



#### CBRL Publications

The CBRL publishes a peer-reviewed international journal, *Levant*, which deals with the history and archaeology of the region (<http://www.maneyonline.com/loi/lev>). The launch of a new journal, *Contemporary Levant*, is imminent and this will cover the recent past and present-day issues. In addition, the CBRL publishes monographs in the Levant Supplementary Series.

The Levant Supplementary Series is designed to present significant new contributions to the study of the humanities and social sciences, as relevant to the countries of the Levant; these have traditionally been published as hard-copy volumes. However, in line with our policy of seeking to promote the widest possible access to our research, we are making all existing volumes available in pdf format on a free-to-download, open access basis, three-years after the date of their initial publication. It is our intention that from 2016, all CBRL monographs will be published in digital format, and made freely downloadable from the ADS website.

#### List of Monographs

Order by: [Title](#) | [Date](#)

Clarke, J. (2005)

# Ipswich 1974-1990 Excavation Archive

Suffolk County Council Archaeological Service, 2015

- [Introduction](#)
- [Overview](#)
- [Site List](#)
- [Interactive Map](#)
- [Query](#)
- [Downloads](#)
- [Metadata](#)
- [Usage Statistics](#)

Data copyright © Suffolk County Council Archaeological Service unless otherwise stated



## Primary contact

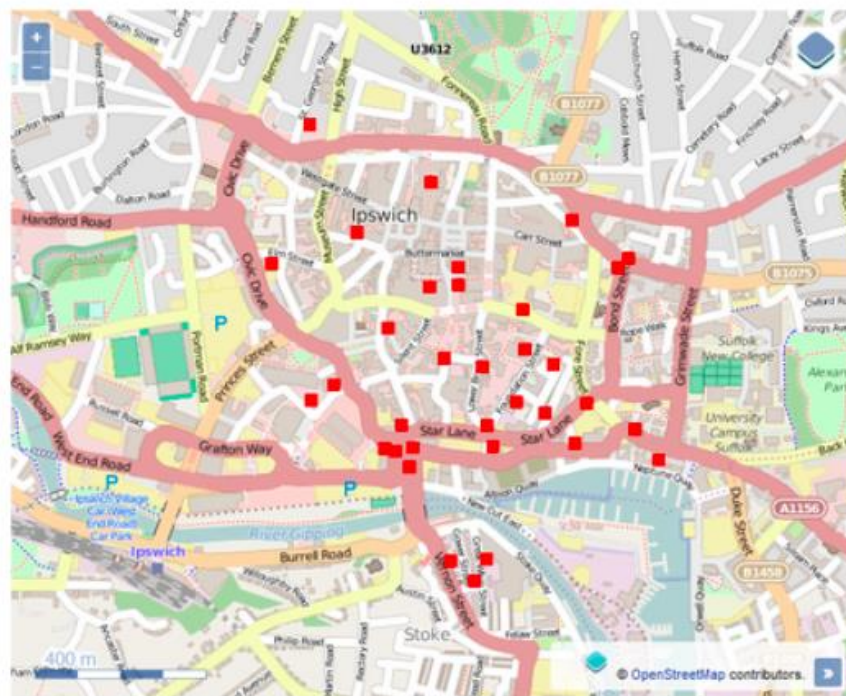
Suffolk County Council Archaeological Service  
9-10 Churchyard  
Bury St Edmunds

## Introduction

The modern town centre of Ipswich, centred at Ordnance Survey grid point TM 1590 4060, lies on the site of its Middle Saxon predecessor (Gippeswic).

Despite the recognition of the town's early foundation in the 1950s, little opportunity was taken to undertake archaeological excavation within the historic core until the 1970s. The recognition at this time that Middle Saxon Ipswich was one of only a handful of trading settlements displaying urban characteristics (emporia / wics) elevated the town's archaeological status to one of international importance.

Between 1974 and 1990 the 36 excavations on 34 sites archived here were carried out by the Suffolk Archaeological Unit (subsequently Suffolk County Council Archaeological Service) under the direction of Keith Wade. Much analysis had been done but further work towards publication was delayed and deferred



otherwise stated



ENGLISH HERITAGE

### Primary contact

Suffolk County Council Archaeological Service  
9-10 Churchyard  
Bury St Edmunds  
Ipswich  
IP33 1RX

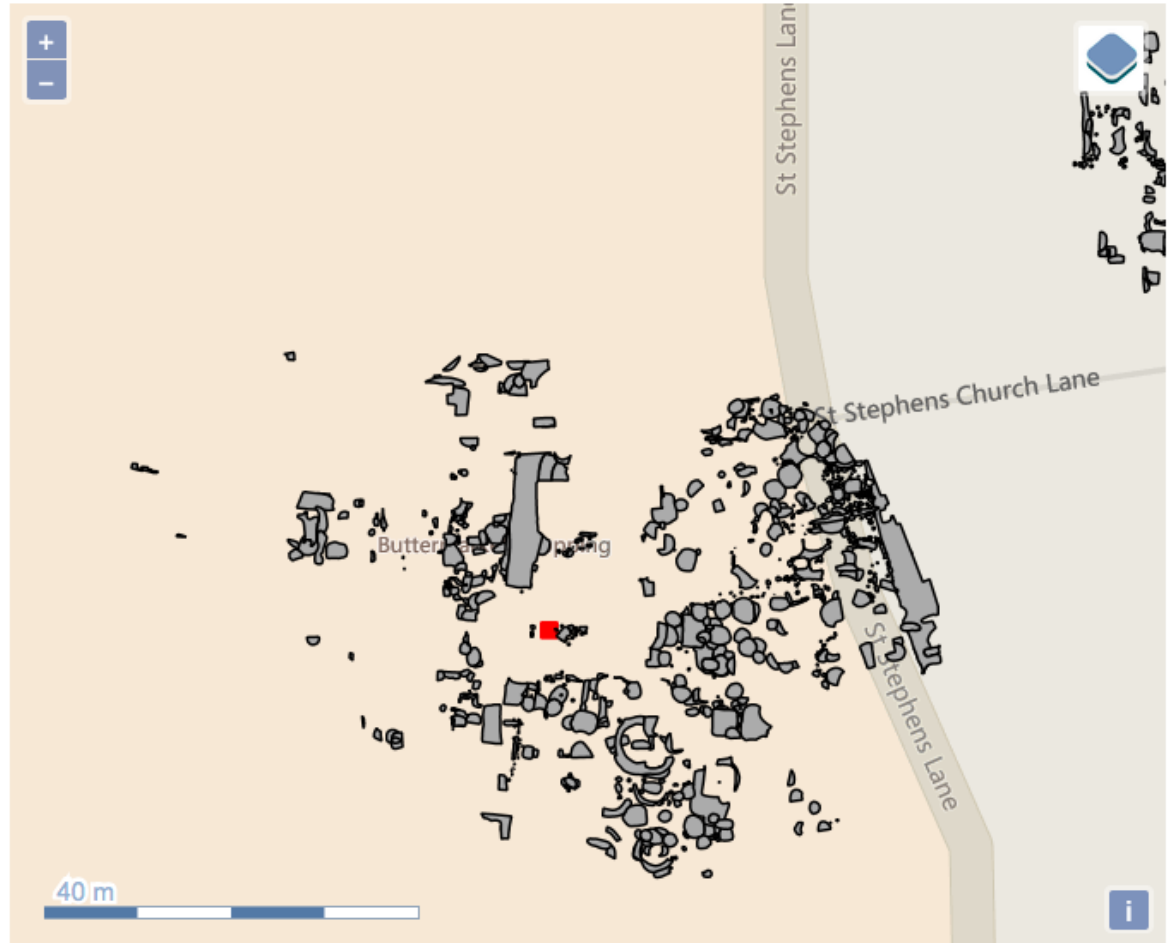
[Send e-mail enquiry](#)

### Resource identifiers

ADS Collection: 1644  
Collection doi:10.5284/1034376  
[How to cite using this DOI](#)



**Suffolk**  
County Council



The export to PNG feature requires a browser that supports the [link download](#) attribute.

Export PNG



- All Features
- Select Features:
  - Beam slot
  - Building
  - Burial
- Prehistoric
- Romano-British
- Saxon (c.600-1000)
  - Early Middle Saxon (c.600-700)
  - Middle Saxon (c.700-850)
  - Early Late Saxon (c.850-900)

## Library of Unpublished Fieldwork Reports

### Introduction

[Browse by contractor](#)

[Contractors A-Z](#)

[Search reports](#)



GREY LITERATURE  
LIBRARY

### Primary contact

Archaeology Data Service  
Dept. of Archaeology  
The King's Manor  
University of York  
Y01 7EP  
UK  
Tel: 01904 433954  
Fax: 01904 433939

[Send e-mail enquiry](#)

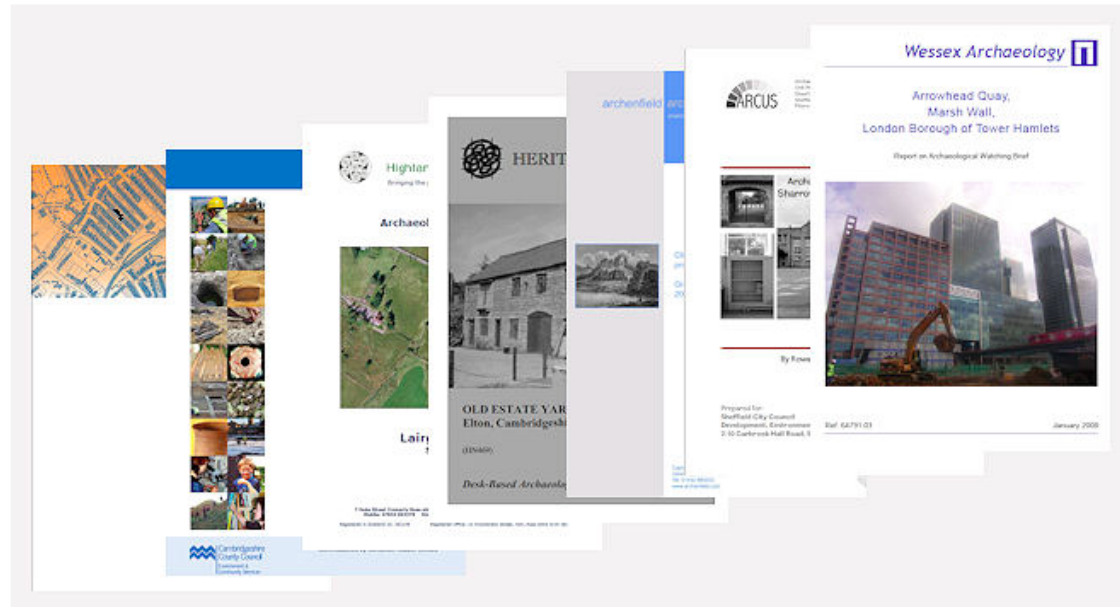
### Resource identifiers

ADS Collection: 1093

### Introduction

The aim of this resource is to make available unpublished fieldwork reports in an easily retrievable fashion. There are **currently 40816 reports available** and this number is increasing steadily through the OASIS project in England and Scotland.

Through this resource it is possible to list the reports by contractor, using the [browse by contractor](#) option and also to do a more advanced search filtering these reports by period, monument/artefact type and location using the [search](#) option. These unpublished reports cover archaeological interventions such as: watching briefs, excavation reports and building surveys. Desk-based assessments and specialist analysis are also included.



## Unpublished Fieldwork Reports (Grey Literature Library)

### Introduction

[Browse by contractor](#)

[Search reports](#)



GREY LITERATURE  
LIBRARY

### Primary contact

Archaeology Data Service



King's Manor

Exhibition Square

York

YO1 7EP

England

Tel:  01904 323954 

Fax: 01904 323939

[Send e-mail enquiry](#)

### Resource identifiers

[doi:10.5284/1000746](#)

[How to cite using this DOI](#)

### Details of Document

#### Bibliographic Reference and files

Blythe, K. (2005) *'The Limes, Ribchester'*, 2004-5/334. Oxford Archaeology North: Lancaster

Click on a button to open a file, or right click and use file --> save as from your browser menu to save the file to your computer. Alternatively, if the report is available online, click on the link to open the resource in a new window:

oxfordar2-35728\_1.pdf

PDF

1013  
Kb

[<< display document details >>](#)

#### Site details

##### Location

**Site name** The Limes, Ribchester  
**Parish** RIBCHESTER  
**District** RIBBLE VALLEY  
**County** LANCASHIRE  
**Country** ENGLAND  
**Grid reference** SD 65861 35410 (point)

##### Monuments and Finds

#### Other details

**Description** A4 Document  
**Associated identifier** oxfordar2-35728

## making the LEAP: linking electronic archives and publications



Arts & Humanities  
Research Council



The aim of the project is to investigate novel ways in which electronic publication over the Internet can provide broad access to research findings in the arts and humanities, and can also make underlying data available in such a way so that readers are enabled to 'drill down' seamlessly into online archives to test interpretations and develop their own conclusions.



Winner of the **British Archaeological Awards** - Best Archaeological Innovation 2008.

Highly Commended in **The Association of Learned and Professional Society Publishers Awards** - Publishing Innovation 2009.

[home](#)  
[project info](#)  
[faqs](#)  
[call for papers](#)

[exemplars](#)

[Whittlewood](#)

[TAESP](#)

[Silchester](#)

[Merv](#)

Strategy Programme.

"Making the LEAP" is funded by the Arts and Humanities Research Council (AHRC) under the ICT





ads ARCHAEOLOGY DATA SERVICE

HOME ARCHSEARCH ARCHIVES LEARNING ADVICE OUR RESEARCH BLOG ABOUT US LOGIN

ALL | JOURNALS AND SERIES | GREY LITERATURE | PROJECT ARCHIVES | BIBLIOGRAPHIES | THESEs

## The Urban Landscapes of Ancient Merv, Turkmenistan

Tim Williams, Sjoerd van der Linde, 2008

Introduction  
Overview  
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## The landscapes of Islamic Merv, Turkmenistan: Where to draw the line?

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### Summary

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This article outlines approaches for interpreting the Islamic city of Sultan Kala (Merv), c. 8th–13th centuries AD, based upon aerial photographic and satellite imagery. Hierarchies of assumptions (identification of individual wall lines; which frame spaces, rooms and courtyards; which are grouped as parts of specific buildings; which are part of urban blocks) and ontologies (information about these assumptions and the variable confidence of interpretation, from the position of lines to spatial function) provide a dynamic structure for the presentation of data, interpretation and theory.

The article establishes procedures and protocols within two sample areas (selected to represent the diverse features of the urban and suburban landscapes) to:

Explore the theory and methodology of documenting interpretation (and uncertainty) in the transcription of aerial photographic and satellite imagery  
Develop ontological approaches to structuring interpretations and assumptions, within a hermeneutic model.  
Provide a textual and graphic narrative of the development of the areas.  
Establish an online forum (weblog) to contribute to the long-term project.  
Explore the use of other forms of electronic archive material, in particular, how imagery and audio files can be used to develop the discussion of landscapes and buildings.



Preparation of this electronic publication and associated [archive](#) was assisted by a [grant](#) from the AHRC under the ICT Strategy programme.

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### Features

This article will appeal to: those interested in the presentation of data, interpretation and theory  
Keywords: Merv; Silk Route; Turkmenistan; interpretation; uncertainty; aerial photographs; satellite  
Find more publications on [the Silk Route](#) in the British and Irish Archaeological Bibliography (BIAB)

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© Internet Archaeology/Author(s) URL: [http://intarch.ac.uk/journal/issue25/merv\\_index.html](http://intarch.ac.uk/journal/issue25/merv_index.html)  
Last updated: Wed Apr 02 2008

### Introduction

Ancient Merv, in Turkmenistan, is one of the most complex and well-preserved urban centres on the Silk Roads of Central Asia. A succession of major cities at Merv started in the 6th century BC and continued until the Mongol sack of 1221AD, although Mongol occupation, a resurgent Timurid city of the 15th century, and expansion in the 19th century continues the urban sequence. Together the walled urban areas covered more than 1000 ha.

The Institute of Archaeology, University College London, has had a long collaboration with the Turkmenistan Ministry of Culture, focused on archaeological research and approaches to the conservation and management of the Ancient Merv Archaeological Park, which since 1999 has been a World Heritage Site.

The collection of monument photographs (dating from 1890 onwards) was first compiled by Georgina Hermann, former director of the International Merv Project, who published some of them in 'Monuments of Merv. Traditional Buildings of the Karakum'<sup>1</sup>. In 2002 an expanded version of the photographic collection was published in 'The Monuments of Merv - A scanned archive of photographs and plans'<sup>2</sup>, which included a CD-ROM with low resolution digital versions of the photographs. Since 2001 the Ancient Merv Project has added new images of the monuments, showing their current condition and conservation work, and more detailed metadata for the photographs has been assembled. More information on the Ancient Merv Project can be found at the [UCL website](#).

This digital archive was undertaken in conjunction with an electronic publication through the Linking Electronic Archives and Publications (LEAP) project. The corresponding article is 'The urban landscapes of Ancient Merv, Turkmenistan: Where to draw the line?' by Tim Williams & Sjoerd van der Linde, which can be found in [Internet Archaeology 25](#).

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<sup>1</sup>Hermann, G. 1999. *Monuments of Merv. Traditional Buildings of the Karakum*. London: Society of Antiquaries London

<sup>2</sup>Hermann, G. Coffey H., Laidlaw S. and K. Kurbanakhatov 2002. *The Monuments of Merv - A scanned archive of photographs and plans*. London: University College London and British Institute of Persian Studies

### The Urban Landscapes of Ancient Merv, Turkmenistan

Tim Williams, Sjoerd van der Linde, 2008

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Image files | GIS files | Documents | Movies | Oral Interviews

#### Downloads

This section contains the shapefiles and aerial photos of the GIS as well as documentation. The aerial photos are very large so previews have been provided of a common area of the images to offer a comparison of quality and processing employed.

#### GIS files

Documentation:

GIS Layers	PDF	71 Kb
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#### Raster and World Files:

The raster images here are very large and may take a considerable time to download for some users with slower internet connections. Use the preview of the image on the left to see the quality and processing effects to determine if the image is desired before downloading. The complete TIFF and World File are zipped up and can be downloaded by clicking on the ZIP box on the right. Information on the images and the processing used can also be found in the 'GIS Layers' documentation above.

	AP Dom-Joined and enhanced	ZIP	80 Mb
	ikonos	ZIP	45 Mb
	AP Ceri-Joined	ZIP	64 Mb
	Russian map	ZIP	4 Mb
	AP Dom-Joined	ZIP	86 Mb
	AP Ceri-cut contrasted	ZIP	25 Mb

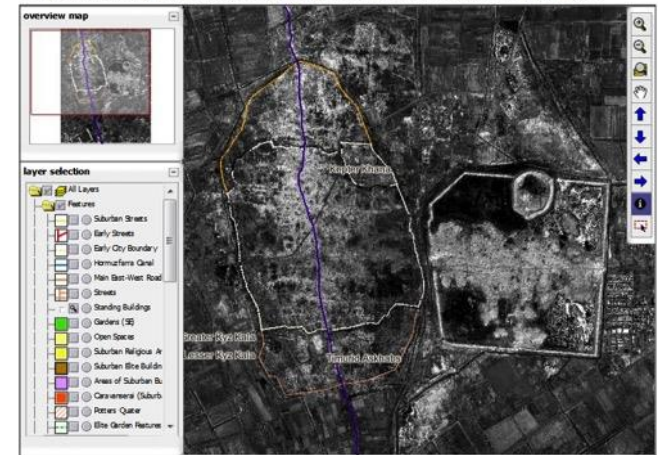
## 3. A short introduction to the city of Sultan Kala

With the coming of Islam, in the 7th century AD, Merv became the capital of Khurasan (the 'eastern land') (for an overview of the history see Kennedy [1999](#); Williams [forthcoming](#)). In the 740s the 'Abbasid revolution began here, and while Baghdad was established as the capital of the new empire, Merv's status grew, as the capital of Khurasan, from east of the Great Desert to the frontiers of India. In the same decade, the governor, Abu Muslim, commissioned a mosque to be built alongside the Madjan Canal, which flowed about a kilometre to the west of the old city of Gaur Kala. Thus began the new city of Marv al-Shahijan (Merv the great: today Sultan Kala) ([Fig. 7](#) - opens GIS). It is tempting to see the mosque as part of the planning for the heart of the new city, and by the 9th century it lay at the centre of a thriving metropolis. The city was planned, with a street system and a carefully managed water supply with numerous canals and reservoirs in each district (Williams [forthcoming](#)). It seems likely that the new status of Merv, coupled with new ideas and beliefs that identified the need for public

Figure 6: A short introductory film about Merv



Switch to the [Turkmen](#) version



## Heathrow Terminal 5 Excavation Archive (Data Paper)

### Framework Archaeology (comp) Re-use potential

Wessex Archaeology, Portway House, Old Sarum Park

Cite this as: Framework Archaeology (2014). Heathrow Terminal 5 Excavation Archive (Data Paper). Internet Archaeology, (36). <http://dx.doi.org/10.11141/ia.36.8>

#### Dataset Location

The dataset has been deposited with the A

#### Referee

[Referee statement](#) by Nicholas J. Cooper

#### Dataset Content

The digital archive for excavations at Heathrow Terminal 5 was created for the purposes of the archive it has been assumed necessary to reconstruct a working geographical context for the phases of excavation on the project from the 1950s to the 2000s. As a result the archaeological stratigraphy has been digitised into the GIS shapfiles as described in the [Stratigraphic](#)

The dataset was constructed with two main approaches to re-use in mind:

- Supportive: in that it provides the detailed raw data to support both the interpretations arrived at by Framework Archaeology and those of others wishing to re-interpret the history of the landscape at Heathrow.
- Comparative: as far as possible Framework Archaeology attempts to structure all its digital archives identically so that data from Heathrow (Framework Archaeology) and data recovered from Stansted (Framework Archaeology) can be compared. This approach possible allows the data to be re-worked to support comparisons with data derived from other sites.

#### Referee Statement

Nicholas J. Cooper, University of Leicester Archaeological Services LE1 7RH

Cite this as: Cooper, N.J. 'Referee Statement' in Framework Archaeology (2014). Heathrow Terminal 5 Excavation Archive (Data Paper). Internet Archaeology, (36). <http://dx.doi.org/10.11141/ia.36.8>

This data paper flags up the publication of the third level of information relating to the Terminal 5 excavations undertaken by Framework Archaeology at Heathrow and joins their other major archived projects at Stansted. The publication of the full digital archive provides an opportunity to explore the entire and updated record of the excavations that was previously only partially available on the Free Viewer CDs accompanying the two published site narrative volumes in 2006 and 2010.

Framework Archaeology was founded on the principle of undertaking 'academically-driven projects within the commercial environment' which place the previous inhabitants at the heart of the story; ditches did not continue in an easterly direction on their own but, instead, were dug by people who, as a community, made choices about living in a landscape, which consequently evolved around them over time. The mechanism driving this principle was to develop a hand-held on-site recording system that would allow interpretation to evolve in an informed way during the excavation itself and right through the post-excavation phase. At the heart of the digital archive is therefore a GIS package accompanied by stratigraphic, finds and environmental datasets, allowing the user to reconstruct the excavation of the site and potentially re-interpret it. Considerable time has therefore been devoted to making the system work effectively and this greatly enhances its usability.



## Framework Archaeology Heathrow Terminal 5 Excavation Archive (Data Paper)

- Introduction
- Overview
- Query
- Downloads
- Metadata
- Usage Statistics

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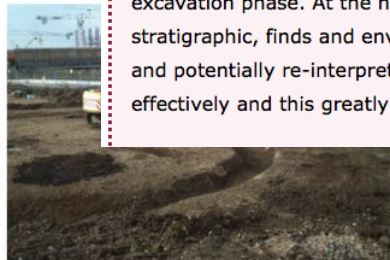
**Primary contact**  
Wessex Archaeology  
Portway House  
Old Sarum Park

Open "archaeologydataservice.ac.uk" in a new tab

#### Introduction

Framework Archaeology is a Joint Venture agreement between Framework Archaeology (WA) to provide archaeological services to BAA. G projects, the joint venture enables Framework Archaeology to deliver archaeological services to BAA's archaeological consultants, Gill Andrews and John Barrett. This is concerned with understanding how people inhabited past landscapes: archaeology as a study of people rather than deposits or objects. This approach provides Framework Archaeology with a wider skills base.

Framework Archaeology is committed to a particular archaeological philosophy developed by BAA's archaeological consultants, Gill Andrews and John Barrett. This is concerned with understanding how people inhabited past landscapes: archaeology as a study of people rather than deposits or objects. This approach is at the heart of the Archaeological Policy adopted by the BAA Main Board. Framework projects are thus academically driven but undertaken within a commercial environment. In order to fulfil the approach a Framework Archaeology recording system has been developed and is now in operation on all Framework Projects. It places great emphasis on interpretation in addition to recording, and developing a historical narrative as the site is excavated (Andrews, Barrett & Lewis 2000).



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### Resource identifiers

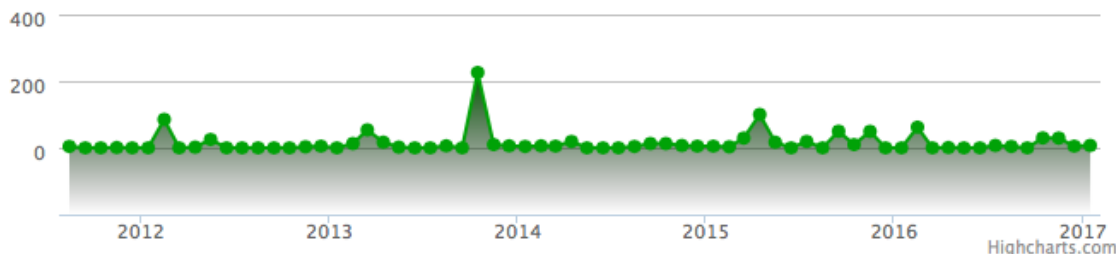
**ADS Collection: 312**  
**DOI:** <https://doi.org/10.5284/1000339>  
 How to cite using this DOI

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If a visitor comes to the website for the first time, or if they visit a page (or download a file) more than 30 minutes after their last page view, this will be recorded as a new visit. A unique visitor making multiple visits per day will register as several visits.

### File downloads

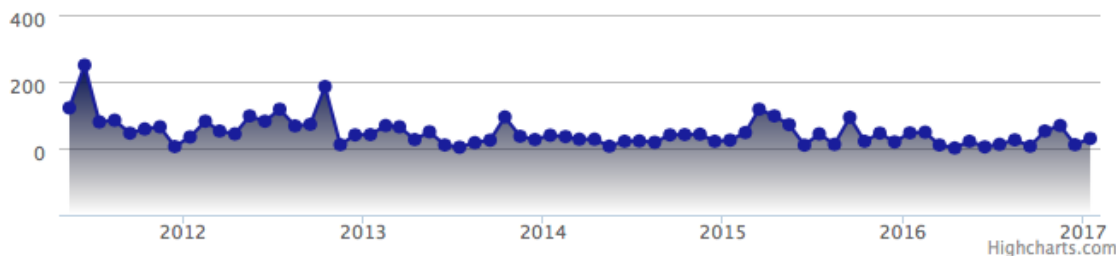
Click and drag in the plot area to zoom in



A download is a click on a link to something other than a web page, file extensions include: csv, doc, docx, gif, jar, jpg, jpeg, mp3, mp4, mov, odb, odt, pdf, png, ppt, pptx, txt, wav, wma, wmv, wpd, xls, xlsx, xml, zip but this is not an exhaustive list.

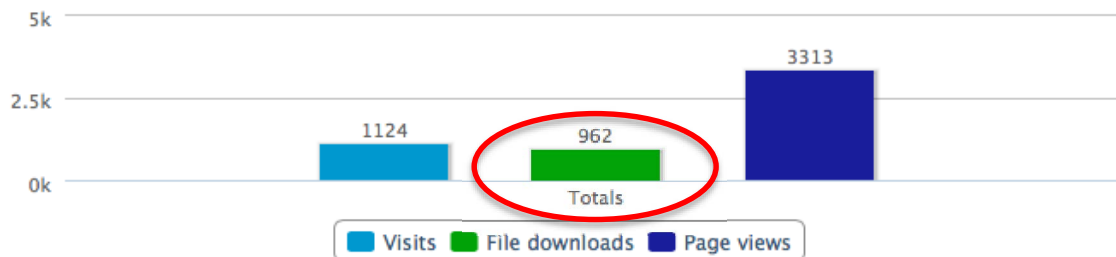
### Page views within the archive

Click and drag in the plot area to zoom in



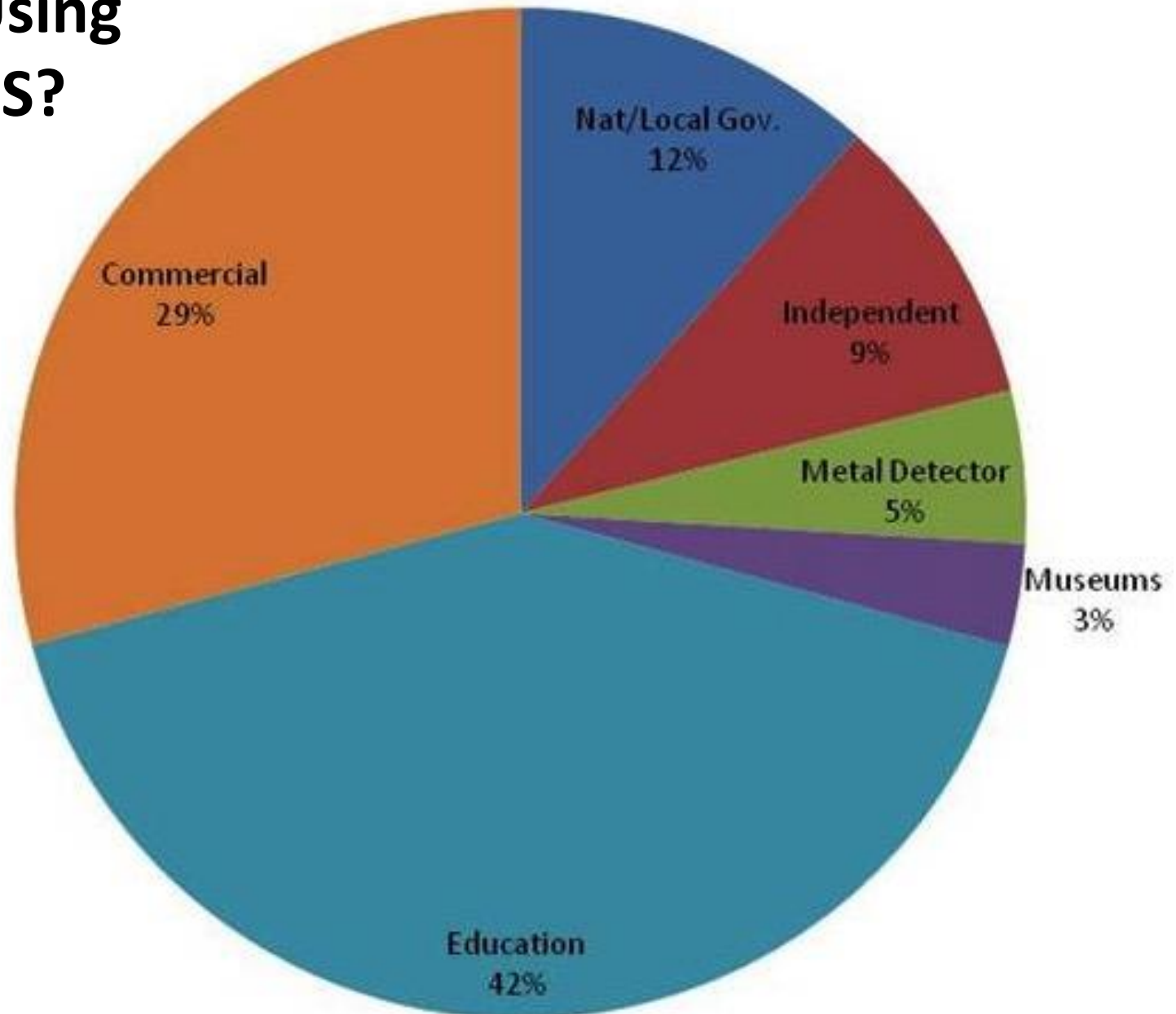
Pages viewed is the number of HTML pages or scripts that visitors have looked at. A "page" is a hit that is not an image, JavaScript or CSS file and which was not loaded by a search engine robot.

### Totals since May 2011



Statistics start from May 2011 but if the values are zero to start with they are not shown. Zero values after the start of use for the archive are shown.

# Who is Using the ADS?



# Data Re-Use

- Data collection is expensive!
  - Fowler: estimated only able to take account of 5% of information gained in last 20 years
  - Bradley: British & Irish Prehistory – 3 person years
  - Richards: Viking and Anglo-Saxon Landscape and Economy Project – using Portable Antiquities Scheme data – 2 person years of data cleaning
  - Fulford: Roman Rural Settlement project – 6 person years of data collection

# Research Value

## ADS: % respondents

- 84% - ADS has had an impact on data sharing
- 79% - reduced time required for data access and processing
- 51% - New intellectual opportunities
- 56% - Permitted new types of research
- 94% - Data very or quite important for their research



JISC

Data centres: their use, value and impact



Figure 16: Impact on culture of data sharing, by data centre

	ADS	BADC	CDS	ESDS	NGDC
To a large extent	84%	69%	72%	54%	68%
To a small extent	16%	29%	27%	40%	30%
Not at all	0%	2%	1%	7%	3%
N=	61	601	164	244	37

Source: Technopolis ranking based on survey of data centre users, January 2010

# Economic Impact

Beagrie/ Houghton 2014:

- Investment value £1.2m pa
  - £698,000 pa funding from sponsors
  - £465,000 pa indirectly contributed by depositors
- Direct use value £1.4m pa
- But efficiency impacts £13m-£58m per annum
- Research efficiency gains = 7 hours per person per week
- **£1 investment provides up to £8.30 return**



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# Conclusions

- Digital data preservation has a cost – but data collection / data loss is more expensive
- Digital data is re-used – and studies show research and economic return
- Sustainable business models for data archives are possible
- New models for publication/ dissemination

## Thank-you for listening



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