Archaeological Synthesis: The role of digital repositories and the FAIR principles

Julian Richards, University of York (ADS)
Digital Access Challenges

- Finding and joining up fragmented datasets
- Interoperability across datasets
- Lack of suitable data standards
- Need for controlled vocabularies and ontologies
- Permanence – Digital Object Identifiers (DOIs)
- Identifying quality data
- Lack of clear rights statements
- Making heritage data findable for the creative sector and other non-specialists
• 2014: Leiden workshop
• Sept 2017: endorsed by G7 Science Ministers, Turin
ACCESSIBLE
1.35m records to 70 reports in 3 mouse clicks
Download the report; cite by Digital Object Identifier
Terms of use and access to data

ADS TERMS OF USE AND ACCESS TO DATA

November 2017

Unless a form of Creative Commons licence is clearly attached to a particular data collection and the Creative Commons logo is prominently displayed on that data collection’s introduction page the following terms of use and access apply.

ADS Terms of Use and Access Summary

You can

- Use material for research, learning and teaching purposes
- Adapt remix, transform, and build upon the material for research, learning and teaching purposes
- Share copy and redistribute the material in any medium or format

If you

- Acknowledge in any publication the original depositors, the funders of the data Collections (if different) and the ADS supplying the data materials

You can't

- Sell material to a third party

REUSABLE
Case study: Roman Rural Settlement

The Rural Settlement of Roman Britain: an online resource
Martyn Allen, Nathan Blick, Tom Brindle, Tim Evans, Michael Fuford, Neil Holbrook, Lisa Lodwick, Julian D Richards, Alex Smith, 2015 (updated 2018)

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\(^1\) 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)\(^2\) and from Historic England to Cotswold Archaeology.\(^3\)

This final phase (December 2016) publishes the complete settlement evidence from Roman England and Wales, together with the related finds, environmental and burial data. These are produced alongside a series of integrative studies on rural settlement, economy, and people and ritual, published by the Society for the Promotion of Roman Studies as Britannia Monographs. The first volume, on rural settlement, has now been published, while the two remaining volumes will be released in 2017 and 2018.
Roman Rural Settlement: Publications

The Rural Settlement of Roman Britain
Alexander Smith, Martyn Allen, Tom Brindle, and Michael Fulford

The Rural Economy of Roman Britain
Martyn Allen, Lisa Lodwick, Tom Brindle, Michael Fulford, and Alexander Smith
## The Rural Settlement of Roman Britain: an online resource

**Martyn Allen, Nathan Blick, Tom Brindle, Tim Evans, Michael Fulford, Neil Holbrook, Lisa Lodwick, Julian D Richards, Alex Smith, 2015 (updated 2018)**

### Downloads

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**Rural settlement of Roman Britain - database**

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**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  
England  
Tel: 0118 3788045

[Send e-mail enquiry]
## The Rural Settlement of Roman Britain: an online resource

**Authors:** Martyn Allen, Nathan Blick, Tom Brindle, Tim Evans, Michael Fulford, Neil Holbrook, Lisa Lodwick, Julian D Richards, Alex Smith, 2015 (updated 2018)

### Metadata

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**Period**

- **(England)**: LATE IRON AGE
- **(Wales)**: LATE IRON AGE

**Location**

- **World region**: British Isles and Ireland
- **Country**: England
- **Country**: Wales
- **TGN**: World, Europe, Great Britain [7098653]
- **TGN**: World, Roman Republic and Empire, Britannia [7030316]

**Grid reference**

- **Latitude**: 55.62
- **Longitude**: -5.93
- **Entire bounding box**: 49.74

**Library of Congress Subject Headings**

- Archaeology

**Monument Type Class**

- RELIGIOUS RITUAL AND FUNERARY
- DOMESTIC

**Project dates**

- **First Released**: 13-APR-2015
- **Last Modified**: 05-DEC-2016

**Associated Publications**


**Data types available**

- Image: 4790 objects
- Spreadsheet: 26 objects
- Text: 1996 objects
- 3D: 3 objects

---

If you can see any errors in this metadata please contact us with details.
Search the database
The database can be searched in two ways: a simple keyword search which locates instances of a specific string, for example "Frere" or "cremation", and a more detailed structured search which allow you to build custom queries based on all criteria recorded in the schema.

Keyword Search
The Keyword search uses the following fields: Site Summary, Organisation, Site Name, Burial Summary, Brooch Summary, Coins Summary, Other finds Summary, Plant Summary, Pottery Summary and Zooarchaeological Summary.

Advanced Search

Results
Your search: Keyword search = corn
Has produced 196 results

Records 1 - 100 of 195

Pages: 1 | 2 | >
7034 Old Forge Nurseries, Falmer (East Sussex)
16029 Carterton (Site 2) (Oxfordshire)
11082 Thundersbarrow Hill (West Sussex)
7012 Ranscombe Hill, South Malling (East Sussex)
10041 Hurst Park, East Molesey (Surrey)
7010 Frost Hill (Site 44), Bullock Down (East Sussex)
5067 Manor Way, Pitfield (Bedfordshire)
6080 Clapham to Turvey Water Tower (Bedfordshire)
4047 Brandon Road, Swaffham (Norfolk)
9119 Area 19, Shore Pipeline, Isle of Grain (Kent)
26094 Tocester, Wood Burroote (Northamptonshire)
48022 Glasfryn, Tremadoc (Llidiard Ysbyty) (Gwynedd)
11013 Eastlands Farm, Burgess Hill (West Sussex)
11017 Balloe Road, Littishampton (West Sussex)
36038 Alstonfield Quarry (North Yorkshire)
34025 Hoxterstone Farm, Kidderminster Foreign (Worcestershire)
23006 Rectory Lane, Appleby Magna (Lichestershire)
36018 Cliffe House Farm, Crambe (North Yorkshire)
2135 A14 Ellington to Fen Ditton Site 3 (Cambriogaphire)
1026 North Shoebury (Essex)
6668 Bromham (Bedfordshire)
3079 M1 Motorway, Junction 8 Northbound (Hertfordshire)
4080 Alpha Business Park, Mundford Road, Thetford (Norfolk)
5014 Alcham Mill Hill, Hadleigh (Suffolk)
9028 Cottington Hill, cemetery (Kent)
27015 Empingham Site 5: Romano-British Masonry Building and Corn Drier (Rutland)
24140 Sleaford, St Giles Avenue (Lincolnshire)
20077 Pinford Lane, Castletown (Dorset)
38034 Thorntree Hill, Walton (West Yorkshire)
17110 Purton (Wiltshire)
19052 Toopham, Pool Close and Orchard Way (Devon)
25039 Broughon Lodge (Nottinghamshire)
36025 Bainesnes, RAF Caterick (pottery kiln) (North Yorkshire)
### Unpublished Sources

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### Published Sources

C E Breeze and E Anwyl (1909) Roman building at Glasfryn

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### Database ID

| ID | 46022 |

### Site Type (Major)

| Rural settlement |

### Site Type (Minor)

| *villa* |

### Non Domestic Structure

| *comdrier, bathhouse* |

### Region

| Upland Wales and the Marches |

### County

| Gwynedd |

### Location

- **Site:** Land to the northwest of Tremadog
- **Parish:** Tremadog
- **District:** Porthmadog
- **County:** Gwynedd
- **Country:** Wales
- **Grid Reference:** 255700, 340300 (Eastings, Northings)

### Subjects / Periods

- **Monument:** Corn Drying Oven Roman
- **Monument:** Hearth Roman
- **Monument:** Structure Roman
- **Monument:** Tramway Post Medieval

---

**Archaeological Excavation and Watching Brief**

GAT Project No. 1736
Report No. 639
August 2006

---

Ynddi Archæologig Gwlad y Cymru
Craig Bevan, Flournoy Garth, Bangor, Gwynedd, LL57 2RT
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 (updated 2016)

Legend and Layer control
Click on the Key icon to see information and symbols for base mapping layers used in this project

Base Layer
- Imperium Romanum
- BGS 1:625k Bedrock Lithology
- BGS 1:625k Superficial Lithology
- OS Terrain: 50m grid resolution
- OpenStreetMap
- Google Satellite

Overlays
- All sites
- Farms
- Farms: complex
- Farms: enclosed
- Farms: unenclosed
- Field system
- Roadside settlement
- Funerary site
- Romano-Celtic temple
- Shrine
- Iron production site
- Other industry site
- Pottery production site
- Salt production site
- Tile production site

Filter Sites by date
Use the search box to filter rural sites by a specific date, for example 43 or 410

Year:______________

Digital map of the Roman Empire courtesy of Digital Atlas of the Roman Empire (DARE) project under a CC-BY-SA licence

Export
Use the Export button below to create a PNG of your current map view (note: Internet Explorer does not support this function)

Export Map

Tips:
To save the map, right click on the image and select 'Save image as'
Legend and Layer control

Click on the Key icon to see information and symbols for base mapping layers used in this project.

**Base Layer**
- Imperium Romanum
- BGS 1:625k Bedrock Lithology
- BGS 1:625k Superficial Lithology
- OS Terrain: 50m grid resolution
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- Google Satellite

**Overlays**
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- Romano-Celtic temple
- Shrine
- Iron production site
- Other industry site
- Pottery production site
- Salt production site
- Tile production site
- Vicus
- Villa
- Village
- Samian pottery
- Amphora

Digital map of the Roman Empire courtesy of Digital Atlas of the Roman Empire (DARE) project under a CC-BY-SA licence.

Filter Sites by date

Use the search box to filter rural sites by a specific date, for example 43 or 410.

Year: [ ]
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 (Gipeswic).

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 (emporium / wiks) 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.
Archaeology Data Service Linked Open Data

These Linked Data are made available as a direct result of the STELLAR project, a joint project between the University of Glamorgan, the ADS and English Heritage. Linked Data is a growing part of the Web where data is published on the Web and then linked to other published data in much the same way that web pages are interlinked using hypertext. The term Linked Data is used to describe a method of exposing, sharing, and connecting data via URIs on the Web. For more information go to http://linkeddata.org/. The ADS cannot give advice or support on using RDF, SPARQL or SPARQL Endpoints. For a full description of the ADS datasets used in this initial evaluation version of an ADS Linked Data store please see the ADS STELLAR Research Page. The STELLAR tools and templates are available from the University of Glamorgan.

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**Metadata** [show]

This page shows information obtained from the SPARQL endpoint at http://data.archaeologydataservice.ac.uk/sparql/repositories/archives. You can query the endpoint directly with a SPARQL client or at our SPARQL query interface. This data is also available as RDF/XML and Turtle.

View the data in the following other browsers:

- Disco
- Tabulator

University of York legal statements | ADS terms and conditions
I'm an historian of the Roman Market Economy, and for the full transcript carried by amphorae produced in the region of the Baeticum (Spain) and that has been found in the region of the United Kingdom.

I would also like to look at the attributes of amphorae themselves, such as types and, possibly,
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
Economic Impact of ADS

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
Joining it all up
Joining up fragmented resources

**ARIADNE**

- Archaeological Survey of Ireland, 141,000 records
- ADS: 45,000 grey literature reports, over 1400 project archives; 1.3 million records
- ARACHNE: 500,000 objects / records and images
- ZRC-SAZU (Slovenia), 11,000 site records
- INRAP: 27,000 fieldwork reports
- FASTI online: 12,000 excavation reports of 3300 sites in 14 countries
- SIGECweb: 326,000 archaeological finds records
- Dendrochronology data (DCCD) of 5200 objects
- Your data
Achieving interoperability

- We have datasets in many languages and complying with many different standards
- ARIADNE uses the CIDOC CRM with extensions for archaeology to achieve integration
  - Existing datasets are mapped to the ARIADNE data model
  - WHAT: Subject concepts are mapped to the Getty A&AT
  - WHERE: WGS84
  - WHEN: Perio.do
Interoperability Framework

ARIADNE e-Infrastructure and Integrated Services

**L4: e-infra & integrated services**
ARIADNE Portal
Cross-search and other applications

**L3: Higher-level data managers**
Data Centers (nat./int., archaeology or general)

**L2: Institutions, institutional repositories/DBs**
Research Projects

**L1: Projects, research groups**
Institutional Repositories / DBs

Meta/data records => collect/transform2/RDF

ARIADNE Registry
Datasets, metadata schema, KOSs, mappings,..., CRM

Subject/Domain-based Repositories & Portals (nat./international)

Subject/Domain-based Referatories & Portals (nat./international)

ARIADNE aggregators (nat./thematic )?

Legend:
dep=deposit, coll=collect, acc=access;
D= Data, M=Metadata
STOP PRESS: ARIADNEplus 2018-22: €6.6m
• ARIADNE:
  – 24 partners
  – 18 countries

• ARIADNEplus:
  – 41 partners;
  – 27 countries, including Argentina, Japan & USA
Thank-you for listening

Follow us on Twitter:
@ADS_Update
@ARIADNE_Network

Follow us on Facebook:
http://www.facebook.com/archaeology.data.service

E-mail: julian.richards@york.ac.uk
Website: http://archaeologydataservice.ac.uk/
ARIADNE portal: http://portal.ariadne-infrastructure.eu