Born digital data; a view from the archive

Olivia Foster, Archaeology Data Service
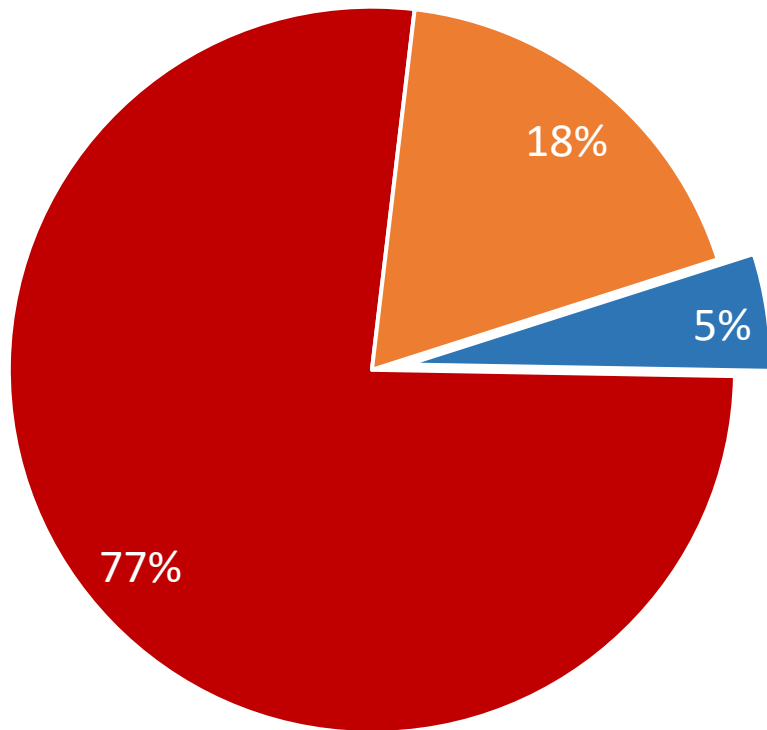
The Archaeology Data Service

" The aim of the Archaeology Data Service (ADS) is to collect, describe, catalogue, preserve, and provide user support for digital resources that are created as a product of archaeological research. "
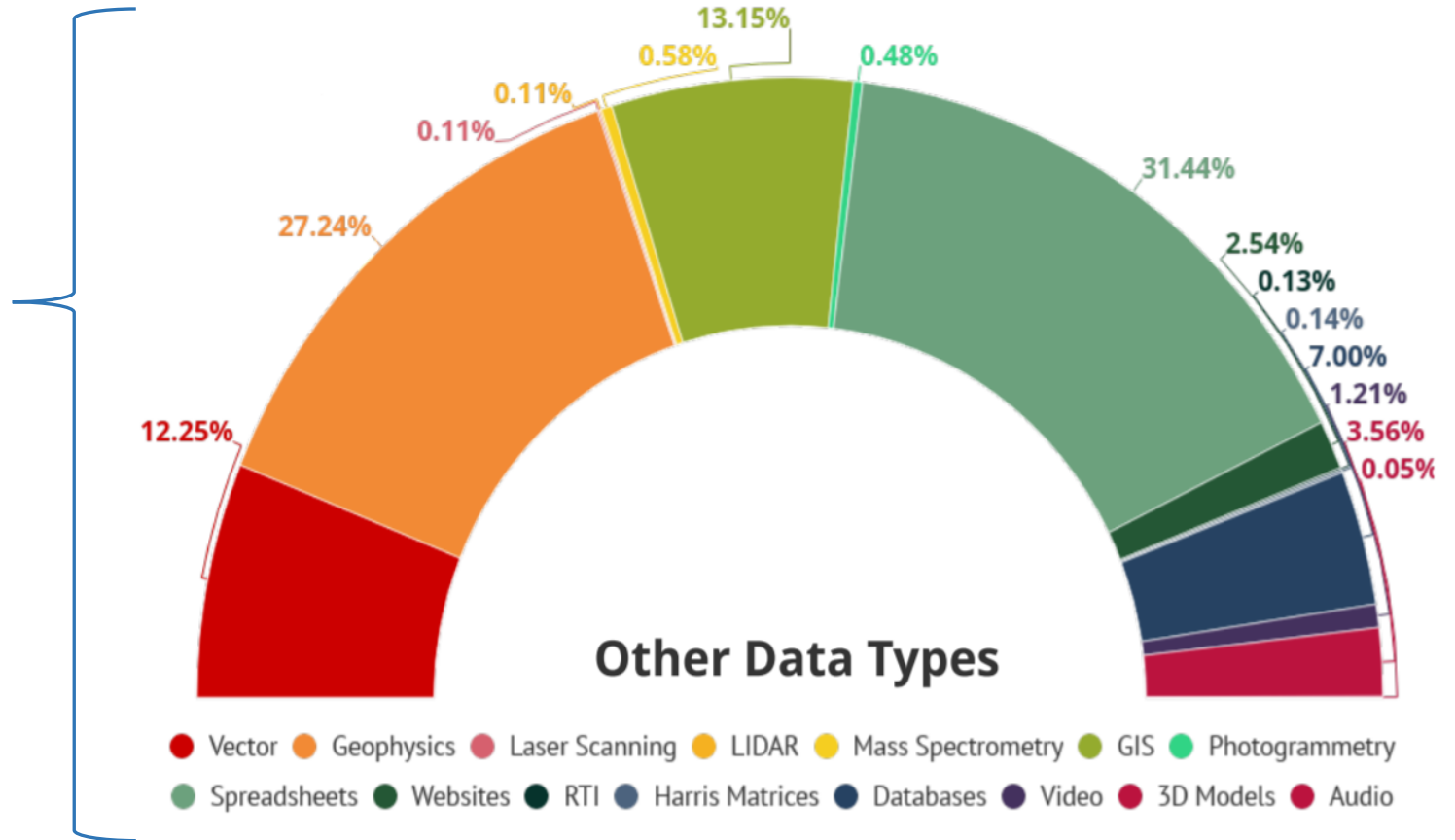
Born digital data; a view from the archive

- What we see as a digital archive

- Typical deposits and data types

- What does more comprehensive born digital site recording look like?

- How can born digital recording impact data re-use and access?
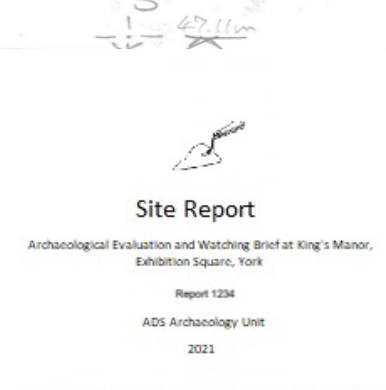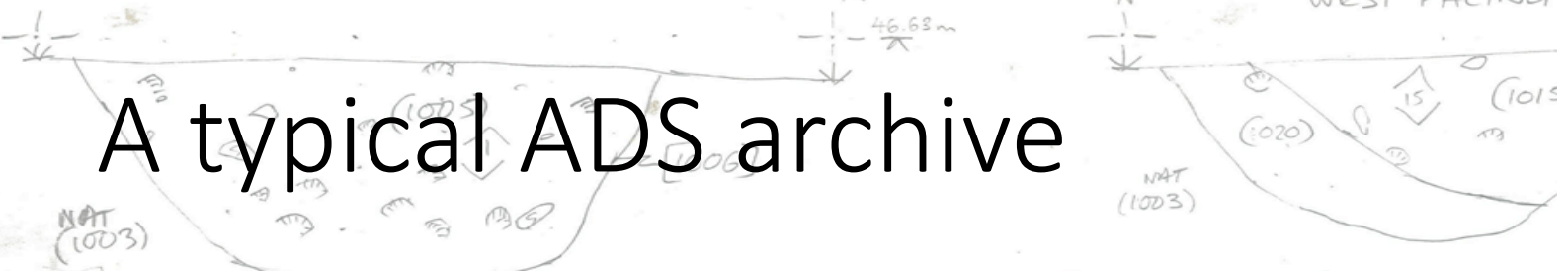
The ADS Archive by Data Type

Image — 77%
Text — 18%
Other data types — 5%

Other Data Types

Vector — 12.25%
Geophysics — 27.24%
Laser Scanning — 0.11%
LIDAR — 0.11%
Mass Spectrometry — 0.58%
GIS — 13.15%
Photogrammetry — 0.48%
Spreadsheets — 31.44%
Websites — 2.54%
RTI — 0.13%
Harris Matrices — 0.14%
Databases — 7.00%
Video — 1.21%
3D Models — 3.56%
Audio — 0.05%

A typical ADS archive

PDF

PDF

JPG

- Blend of born digital and digitised material
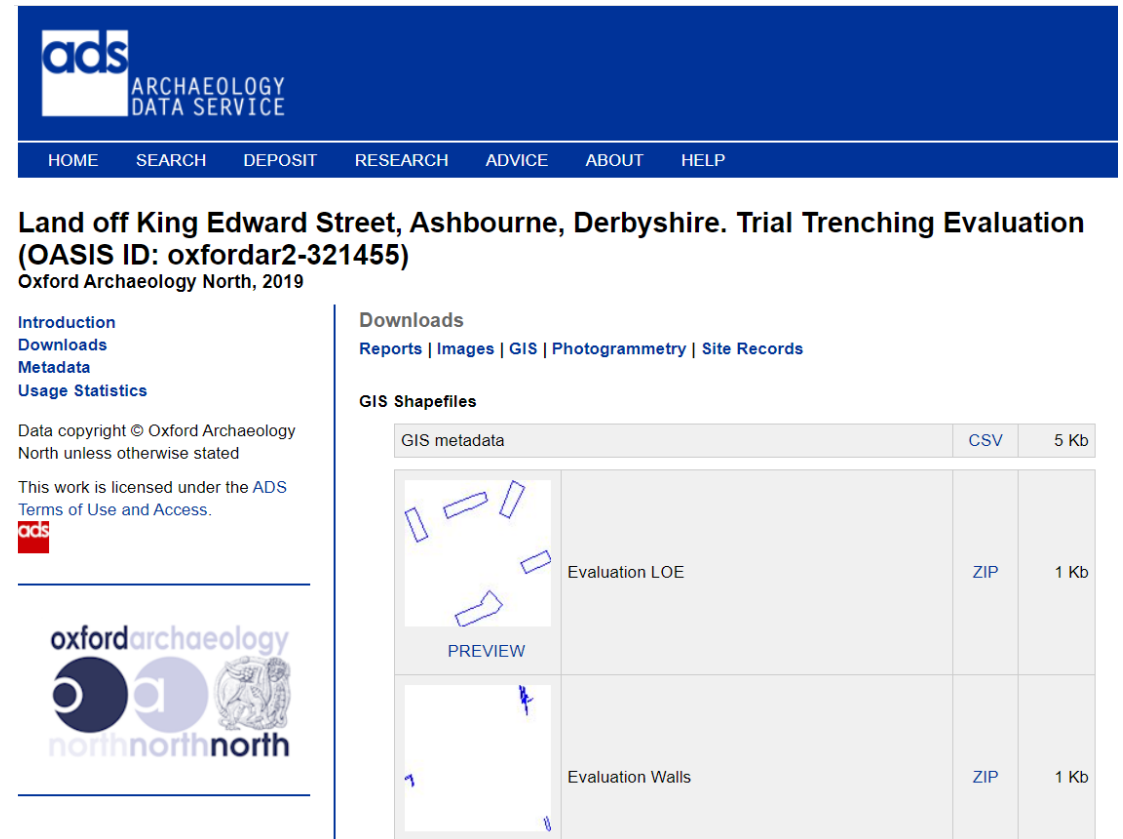- What does more comprehensive born digital site recording look like?

What does more comprehensive born digital site recording look like?

Oxford Archaeology North (2019) *Land off King Edward Street, Ashbourne, Derbyshire. Trial Trenching Evaluation (OASIS ID: oxfordar2-321455)* [data-set]. York: Archaeology Data Service [distributor] https://doi.org/10.5284/1052203

- GIS point and line data
- Photogrammetry (GeoTIFF)

Oxford Archaeology North (2019) *Land off King Edward Street, Ashbourne, Derbyshire. Trial Trenching Evaluation (OASIS ID: oxfordar2-321455)* [data-set]. York: Archaeology Data Service [distributor] https://doi.org/10.5284/1052203

Creating born digital data

Land off King Edward Street, Ashbourne, Derbyshire
Archaeological Evaluation, Excavation and Watching Brief Report

June 2018
Client: Orion Heritage Ltd
Issue No: 2018-19/1923
OA Reference No: L11134
NGR: SK 1797 4647

2.2.3   All trenches were excavated in a stratigraphic manner. The trenches were located by use of a differential <mark>Global Positioning System (dGPS)</mark>, accurate to within 0.02-0.03m, and altitude information was established with respect to Ordnance Survey Datum.

2.2.4   During the excavation phase, aerial photographs were obtained using an <mark>Unmanned Aerial Vehicle (UAV; a small remote-controlled helicopter)</mark>, in order to establish a photogrammetric survey of the site. Control was established for this survey by the placement of survey control targets across the site, located using the GPS. Photogrammetric processing of resulting digital images was undertaken using Agisoft software which provided detailed modelling using the overlaps of the photographs, and created a detailed DTM (Digital Terrain Model) of the site. The photographs were then digitally draped over the model to create an accurate three-dimensional representation of the ground surface. The primary output, however, was an accurate two-dimensional image that was used to provide plan information and generate appropriately scaled drawings.

Dunn, P., Lupton, A. and Tinsley, A. (2018). Land off King Edward Street, Ashbourne, Derbyshire Archaeological Evaluation, Excavation and Watching Brief Report. Lancaster: Oxford Archaeology (North). https://doi.org/10.5284/1052998

GIS point and line data overlayed with photogrammetry

Walls beneath concrete levels

Strip and record levels

Walls beneath concrete

Strip and record walls

Attribute table for levels data

	EASTING_LO	NORTHING_L	ORTHO_HEIG	POINT_CODE	POINT_ID
1	418002.660600	346473.093830	118.22	LVL	0099
2	417993.975370	346472.455050	118.67	LVL	0097
3	417995.106710	346473.419850	118.62	LVL	0096
4	417997.265500	346474.579160	118.44	LVL	0095
5	418001.602800	346475.376430	118.45	LVL	0094
6	417999.342990	346472.644980	118.58	LVL	0093
7	417999.566260	346473.777190	117.67	LVL	0092
8	418000.798610	346475.244920	118.14	LVL	0091
9	417997.879610	346474.614830	118.11	LVL	0090

Walls_Beneath_Concrete_Levels — Features Total: 9, Filtered: 9, Selected: 0

Show All Features

Oxford Archaeology North (2019) *Land off King Edward Street, Ashbourne, Derbyshire. Trial Trenching Evaluation (OASIS ID: oxfordar2-321455)* [data-set]. York: Archaeology Data Service [distributor] https://doi.org/10.5284/1052203

Re-use and access

- Data interoperability – data that speaks to each other

- Big data – potential to stick things together

- Ease and efficiency of re-use

- Machine readable data

  - Data mining

  - Queryable

  - Accessibility
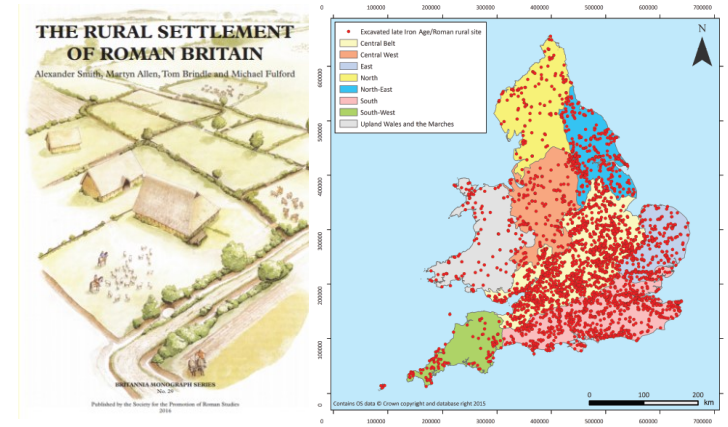
Martyn Allen, Nathan Blick, Tom Brindle, Tim Evans, Michael Fulford, Neil Holbrook, Lisa Lodwick, Julian D Richards, Alex Smith (2018) The Rural Settlement of Roman Britain: an online resource [data-set]. York: Archaeology Data Service [distributor] https://doi.org/10.5284/1030449
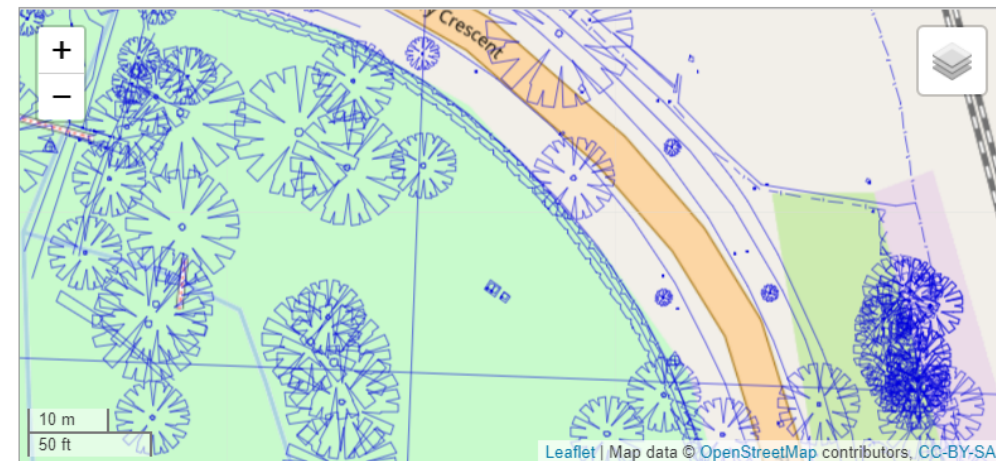
Museum of London Archaeology (2019) The Prittlewell princely burial: excavations at Priory Crescent, Southend-on-Sea, Essex 2003 [data-set]. York: Archaeology Data Service [distributor] https://doi.org/10.5284/1050095

Is comprehensive born digital recording always necessary?

Illustration credit: Ainsley Seago.

Data Standards?

Metadata standards?

Thank you