



Dig Digital.

Work Digital. Think Archive. Create Access.

A guide to managing digital data generated from archaeological investigations

Infosheet #8 – digital data and museums

The use of digital technology is well established within archaeology, with born-digital data and digitised records being central to most current projects. Good-practice standards in archaeology stipulate that digital data created during an archaeological project is an intrinsic part of the archaeological archive and must be managed to the same standard as all parts of the working project archive. The ClfA *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (2014) requires that archaeological material is kept and curated as part of a stable, ordered and accessible archive.

For digital data this means being curated in a trusted digital repository with Core Trust Seal accreditation: “Digital archive material should be deposited with a trusted digital repository, where data migration and backup procedures are in place, and the integrity of the digital archive is maintained.” (ClfA 2014, para 3.5.5)

Museums without Core Trust Seal accreditation have not met the required standards to be considered a trusted digital repository, and therefore not equipped to store digital data in perpetuity. The Society for Museum Archaeology (SMA) *Standards and guidance in the care of archaeological collections* (2020) outlines how museums should treat digital material in their deposition standards: “Museums should specify that the born digital elements of an archive must be deposited with a Core Trust Seal accredited digital archive repository” (SMA 2020, 12)

This case study provides a basic introduction to the types of digital files that can be found in archaeological archives, outlines the role of the museum in the archive process (with regard to digital material) and signposts further information on deposition policies and accessing digital archives.

The Dig Digital resource is an Archaeological Archives Forum guidance document that supports ClfA Standards and guidance. It was created by DigVentures, in partnership with ClfA, and funded by Historic England.

You can find the full resource online at: <https://www.archaeologists.net/digdigital>



What's in a digital archive?

The types of records within a digital archive vary depending on the significance of the heritage asset(s) and the intensity of the investigation undertaken. Large-scale, open-area excavations or deeply stratified urban sites will often record significant archaeological remains, resulting in a rich digital archive. Such archives can contain excavation reports, specialist analysis and databases, digital photography, plans, sections and maps (CAD/GIS), context databases and matrices. Smaller-scale archaeological projects or investigations yielding little or no significant archaeological features or finds may generate much smaller digital archive with potentially fewer categories of data.

The scale of an archaeological project is not always an indicator of the digital archive produced. Other variables may affect the size and complexity of a digital archive, including the range of apparatus and digital techniques used (such as cameras, survey equipment), methods of recording (including born-digital recording systems and photogrammetry), data analysis techniques (GIS, databases), the nature and complexity of the finds assemblage (assemblage data, analysis data, conservation records, x-rays) and methods of dissemination and communication (from PDFs to virtual reality).

As with the material archive, the digital aspect of the working project archive should be subject to a selection process. The table below provides details of the types of data the preserved digital archive may contain.

Project reports	While a PDF/A version of the report is an excellent form of dissemination (and you may wish to request a copy to accompany the physical archive deposition), it is likely that the composite parts of the report (text, illustrations, tables, images, etc.) will also appear in the digital archive.
Specialist reports and data	The digital archive should include full specialist reports and accompanying datasets, such as spreadsheets and images, that can be accessed separately to the combined project report.
Images	The digital archive can contain many more images than will be included in the report or publication, and the accompanying metadata and registers will provide additional details.
Born-digital site records	Increasingly, archaeologists are employing the use of on-site digital recording. Born-digital records, including context data, plans and databases, will be deposited as accessible data files with the digital archive, with no need to provide an analogue version for deposition with the physical archive.
Digitised records	Many records created in analogue form are digitised during an archaeological project. While it is unnecessary to duplicate material included in the physical archive, it may be preferential to retain primary analogue records as master copies. These kinds of decisions should be made with relevant stakeholders (museum curator, project lead, digital repository, etc.).
Survey and geophysics data	Survey and geophysics data should be included in the digital archive in a format that maximises re-use. It is likely that processed images and an interpretation of the data will also be included in a combined report. In the case of geophysical survey, a separate report is also likely to be included in the archive.
GIS files	If the archaeological team created and used a GIS project, the digital archive should contain the raw data, such as 'shapefiles' and 'rasters', which would support re-use of the archive.
Laser scans, photogrammetry and 3D models	While scans or photogrammetry taken as part of the primary record may form part of the digital archive, orthoimages created to enhance public engagement may not always be included, so you may wish to request a copy.



The data management plan

A data management plan (DMP) is a planning tool that should be completed at the start of the project by the team managing the delivery. It is a live document and will be reviewed at key stages during project delivery. The DMP should be included as an appendix to key project documentation, such as the WSI or project design, the assessment report and updated project design, and as part of the final technical report. Ideally, it will also be deposited with the selected project archive. [See and download a Dig Digital template of a DMP.](#)

By treating the plan as a living document, it remains relevant and flexible to any changes that may occur through the project delivery stages. Any developments or changes are then recorded and visible to all project stakeholders – including the trusted digital repository and the museum receiving the physical archive.

The DMP provides an early document that the museum can access to understand the variety of data the team expects to collect and the intended location for the final digital archive.

Museums and digital archives

Long-term preservation of digital archives requires specialist resources, knowledge, capacity, and technical solutions to facilitate the storage, curation and accessibility of data in perpetuity. Best-practice standards in the care of archaeological archives stipulate that digital material should be kept and curated by a trusted digital repository with Core Trust Seal accreditation. More than a label for some digital archive repositories, a trusted digital repository is an accredited service.

Museums without Core Trust Seal accreditation are not trusted digital repositories and are not equipped to store digital data in perpetuity. However, museums can commit to the long-term preservation and accessibility of digital archives through involvement in the archaeological archiving process and stipulation of requirements in deposition policies or guidelines.

The ClfA [*Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*](#) require the project team to contact the appropriate repository for both physical and digital archives during pre-project planning stage (ClfA 2014, para 3.10.2) and this is where consideration of the digital elements of the working project archive should begin. A key platform supporting these discussions during early project planning is [OASIS](#). OASIS now supports communication between the record creator (such as a commercial company), the HER and the museum. Messages can be sent through the admin section of the form and notification will be sent to the recipients accordingly. Conversations regarding archiving can be held in this way and messages saved in the system for future reference. OASIS can therefore be used in an active and dynamic way to manage the archiving process throughout the project lifecycle. It should be noted that OASIS is not supported in Wales, but a project record should be initiated for archaeological research in England, Scotland and Northern Ireland. Project teams in Wales are advised to inform the relevant HER of any projects undertaken in their areas.

To support project planning, the museum curator should make available their standards for the submission of an archaeological archive, and it is recommended that those standards refer to ClfA Standards and guidance. The project team will expect museum guidelines for archive deposition to require that digital data is deposited with a trusted digital repository, and that the location of the digital data archive is signposted in the appropriate place (such as the OASIS record).



Where museums or repositories would like to retain a copy of digital archives (such as to accompany artefactual assemblages, provide background data for their own access or enhance public engagement) this should be seen as in addition to storage at a trusted digital repository and no additional charge should be levied against this. Requests for copies of the data can be made directly to the project team or through the OASIS messaging system.

Deposition policies

All museums that collect archaeological archives should develop a deposition policy and procedure (also known as 'Deposition guidelines' or 'Conditions of acceptance of archaeological archives') that prescribe the process for the collection of these archives, the form in which they should be physically presented, the documentation required, and a schedule of fees associated with the process.

To support museums, the SMA provide model wording in their downloadable document *Conditions for the Acceptance of Archaeological Archives* about the digital archiving process for inclusion within a deposition policy. This can simply be copied and included in a museum collection/deposition policy and amended with the institution's details as necessary. The document details the requirement for deposition with a trusted digital repository, a summary of the digital archiving process, implementation of data management plans, licensing agreements, and a requirement to consult with the museum on selection of the digital archive.

Accessing digital archives – OASIS

OASIS is an online database providing an index to historic environment investigations undertaken in England, Scotland and Northern Ireland. In Wales, project teams should inform the relevant HER of projects undertaken in their areas.

OASIS is hosted by the ADS (an accredited digital archive repository) on behalf of Historic England, Historic Environment Scotland and Northern Ireland's Historic Environment Division's excavation licensing team.

The SMA has worked closely with the ADS to ensure that OASIS works well for museums and takes account of their needs and requirements, supporting discussions between the museum and the lead project team from the outset of the investigation. The accessibility of OASIS for museums facilitates the embedding of FAIR guiding principles in archive workflows, which ensures that research project data remains Findable, Accessible, Interoperable and Reusable:

- Findable: making data and metadata easy to find
- Accessible: articulating how data can be accessed
- Interoperable: making sure data can be integrated with other data applications and workflows
- Reusable: well-described data and metadata will optimise its re-use

OASIS can therefore signpost documentary and material archives, as well as provide a link to digital archives deposited with a trusted digital repository such as ADS or HES. You can find [training and resources aimed at museum and archive teams on the OASIS website](#).



Accessing digital archives – the ADS library

The ADS manage and curate a digital library holding a variety of historic environment research data that is publicly accessible and free to use. The ADS library doesn't just hold grey literature reports; it also holds information about archives. The [main archives page on the ADS](#) can be searched in several ways including by region, project name or date.

The library can host pages dedicated to a particular museum to showcase the archives held by or associated with that museum. Museums can also add information about deposition policies, collecting areas and accession numbers, as well as access digital records such as specialists reports and datasets, or download image files and survey data.

Using archaeological archives – SMA

The Society for Museum Archaeology has compiled and published a series of informative and inspiring case studies exploring the wide range of purposes and engagement activities that archaeological collections can be used for. Published in 2021, they show how different museums have re-used archaeological collections and unlocked their potential, maximising public benefit in meaningful and innovative ways. This type of activity can deliver both societal and museum priorities, including those relevant to participatory best practice, creativity, inclusion, representation and diversity, amongst others. They demonstrate how archaeological collections can be made both accessible and relevant to a wide variety of people and how for some the outcomes will be archaeological or academic, but for others they may be creative or social.

The SMA's *Communicating Archaeology* case studies were developed as part of the SMART Project – the Society for Museum Archaeology Resources and Training Project, funded by Arts Council England.

You can find the case studies as well as many other resources, including video seminars covering archive management and use beyond display, on the [SMART webpage](#).