



FISH

MIDAS Heritage

Guides to Good Practice

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General overview of Standards and Guidelines

- FISH – Forum on Information Standards in Heritage
- MIDAS – MIDAS Heritage data standard
- Guides to Good Practice

Forum on Information Standards in Heritage



- Established in 1998
- Made up of members largely from the UK and Northern Ireland
- In 2012 FISH merged with the Historic Environment Information Resources Network (HEIRNET)

<http://fishforum.weebly.com/>

Membership

Representatives from:

- Historic England (form. EH)
- RCAHMS
- RCAHMW
- Council for British Archaeology (CBA)
- Archaeology Data Service (ADS)
- The National Trust
- Association of Local Government Archaeological Officers (ALGAO)
- Local government HERs



...plus over 400 individual members.

Activities

- Meets twice yearly
 - Spring Technical meeting – Technical discussion of projects.
 - Autumn Strategic meeting – presentation and discussion of strategic project work.
 - FISH Terminology Working Group (also meets twice a year) – supports thesauri development.
- Maintains two discussion lists: FISH General & FISH Technical.

Activities

FISH also maintains a number of standards and tools:

- FISH Terminology Lists
- MIDAS Heritage Data Standard
- FISH Toolkit

FISH Terminologies

A number of FISH Terminology lists are available to download (as PDF or CSV) from the FISH website

- Archaeological Sciences
- Building Materials
- Components
- Event Type
- FISH Archaeological Objects Thesaurus

FISH Terminologies

E.g. PDF

AGRICULTURE AND SUBSISTENCE

CLASS LIST

BEE SKEP
BEEHIVE
CROOK
CULTIVATION OBJECT
ARD
DIBBLE
DIGGING STICK
FORK (TOOL)
HARROW
HOE
PLOUGH
PRUNING HOOK
PRUNING KNIFE
SPADE
TURF CUTTER
WEEDING HOOK
FISHING OBJECT
EEL SPEAR
FISH GORGE
FISH HOOK
FISH SPEAR
LEISTER
FISH TRAP
FISHING BASKET
FISHING LINE
FISHING NET
FISHING REEL
FISHING ROD
FLOAT (WATER)
NET FLOAT
HARPOON
SINKER

FISH Terminologies

FISH Terminologies

E.g. CSV

CLA_GR_UID	THE_TE_UID	TERM	INDEX_TERM	SCOPE_NOTE
128	97232	WEAPON AND AMMUNITION CONTAINER	N	A holder for weapons, explosives and ammunition.
128	97233	SCIENTIFIC AND INDUSTRIAL CONTAINER	N	Containers used for industrial or scientific purposes.
128	97235	RELIGIOUS OR RITUAL CONTAINER	N	A container with a religious, ritual or funerary use.
128	97236	PERSONAL HYGIENE CONTAINER	N	This includes cosmetic containers.
128	97239	STORAGE BIN	Y	A container for the storing of substances.
128	97241	SHEATH	Y	A flexible holder for a bladed tool or weapon.
128	97250	VEHICLE COMPONENT	N	Parts which make up a vehicle.
128	97252	DIGGING EQUIPMENT	N	Equipment for digging earth, etc.
128	97253	LEAF ARROWHEAD	Y	A leaf or diamond-shaped arrowhead with shallow retouching at the edges
128	97284	Emblem	N	
128	97285	AESTEL	Y	An object to point at words whilst reading, eg the Alfred jewel.
128	97286	BULL	Y	The seal of a papal document
128	97287	CLOTHING FASTENING	N	An item used to join together clothing (includes footwear).
128	97288	PIN	Y	A small piece of metal or other material used to hold objects together.
128	97289	LATHE CORE	Y	An object worked on a lathe, usually the bi-product of such work.
128	97290	BY PRODUCT	N	A secondary or incidental product of a process.
128	97300	RELIGIOUS SCREEN	Y	A screen dividing one part of a church from another.
128	97301	RELIGIOUS PERSONAL ACCESSORY	N	An object carried about the person for religious purposes.
128	97302	SACRIFICIAL OR LIBATIONAL OBJECT	N	An object for making an offering to a deity. It includes objects concerned w
128	97303	MARRIAGE OBJECT	N	Objects concerned with marriage and weddings.
128	97305	CINERARY VESSEL	Y	A vessel for keeping the ashes of the dead after cremation.
128	97307	DIVINATIONAL OBJECT	N	An object used within a divinational process.

FISH Terminologies

The Heritage Data website also makes some of these available as Linked Open Data (LOD) and SKOS RDF.

<http://heritagedata.org/>

Alongside a range of English, Scottish and Welsh vocabularies and thesauri.

MIDAS Heritage data standard

- A standard for recording heritage information
- It **suggests** the minimum level of information needed for recording heritage assets
- Covers the procedures involved in understanding, protecting and managing assets
- Guidelines on how to support effective sharing of knowledge, data retrieval and long-term preservation of data.

MIDAS Heritage is freely available to download.



*The UK HISTORIC
ENVIRONMENT
DATA STANDARD*

Version 1.1 (October 2012)



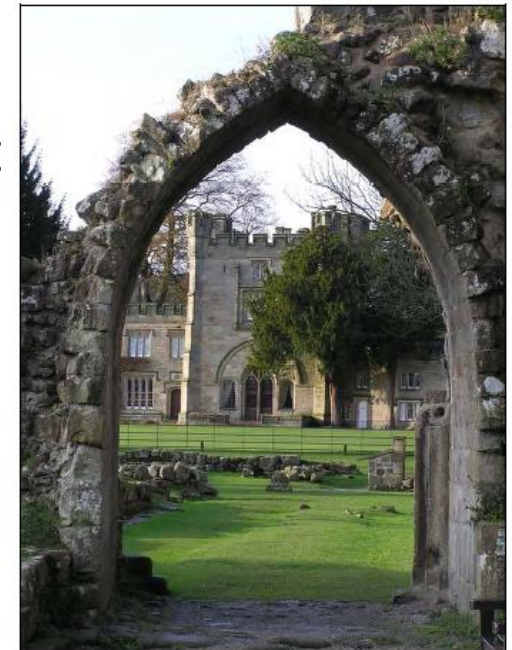
MIDAS Heritage



Version 1.1 (October 2012)

Three-level structure:

1. **Themes** - main subject areas at the broadest level
2. **Information Groups** - the specific standard which should be included in any entry covering a particular subject
3. **Units of Information** - the basic 'facts' or items that make up an entry.

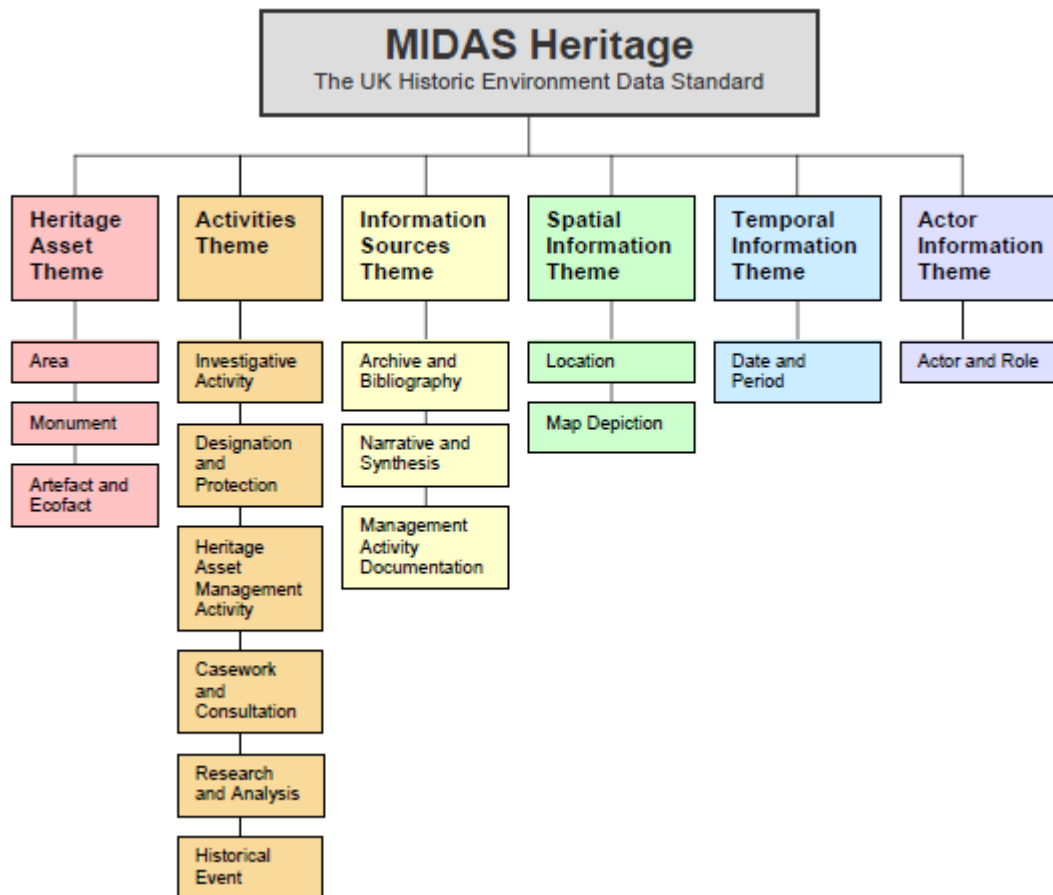


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Three-level structure e.g.:

Themes

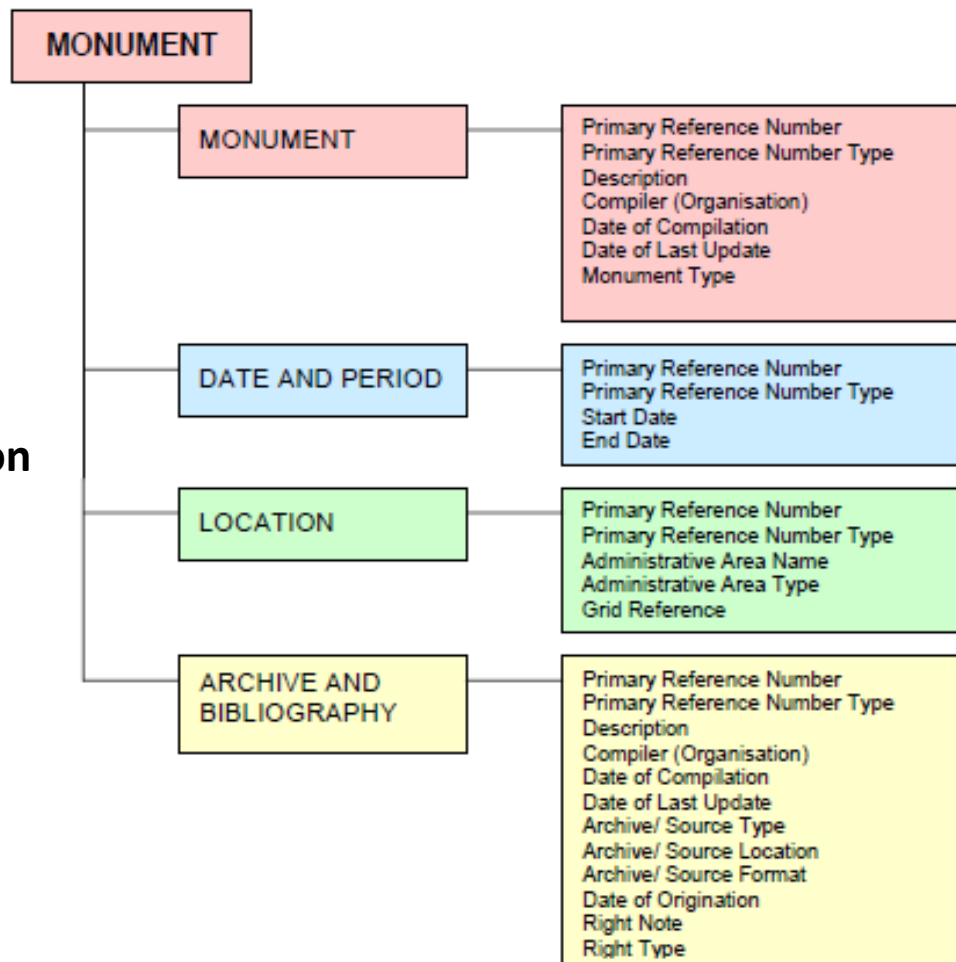
Information groups



MIDAS Heritage

Three-level structure e.g.:

Units of information



MIDAS Heritage

Guidance on each Unit

Date of Compilation

Definition	The date on which an inventory entry was first added to the inventory.
Guidance	Enter a date specific to a given calendar day. Adopt a consistent format for recording calendar dates throughout the inventory. Use with Compiler (Person) .
Controlled entry	Yes. A consistent format for recording calendar dates should be adopted.
Information group	<i>Heritage Asset (All); Activity (All); Information Source (All); Map Depiction; Actors and Role</i>
Examples	21-DEC-2008.

Date of Last Update

Definition	The date on which an inventory entry was most recently revised or updated.
Guidance	Enter a date specific to a given calendar day. Adopt a consistent format for recording calendar dates throughout the inventory. Use together with Compiler (Person) .
Controlled entry	Yes. A consistent format for recording calendar dates should be adopted.

MIDAS Heritage

MIDAS Heritage is **not** a single, self-contained, standard.

- Designed to be used in conjunction with separate standards for different data elements/content e.g.:
 - UK Gemini Discovery Metadata Standard (spatial)
 - CIDOC Conceptual Reference Model (concepts and relationships)
 - Terminology Lists e.g. FISH, EH/HE, etc.

MIDAS Heritage

MIDAS Heritage is **not** a single standard.

- Is a framework for recording, does not specify any particular implementation (electronic or otherwise).
- Does not specify software, field names, etc.

Examples of MIDAS Implementations

MIDAS XML – part of the FISH Toolkit

- W3C XML schema
- Covers all the information currently included in the MIDAS standard issued by FISH.
- <http://www.heritage-standards.org.uk/>

Others:

- CARARE metadata schema (+ POLIS DTD)
- OASIS data export
- HBSMR export via ADS to Heritage Gateway

FISH Interoperability Toolkit

A suite of tools aimed to assist the process of moving large amounts of data between historic environment information systems.

Produced on behalf of FISH with funding from English Heritage.

- First developed by Oxford ArchDigital in 2004
- Redeveloped in 2012 by Archaeology Data Service (ADS).

FISH Toolkit is hosted by ADS.

FISH Interoperability Toolkit

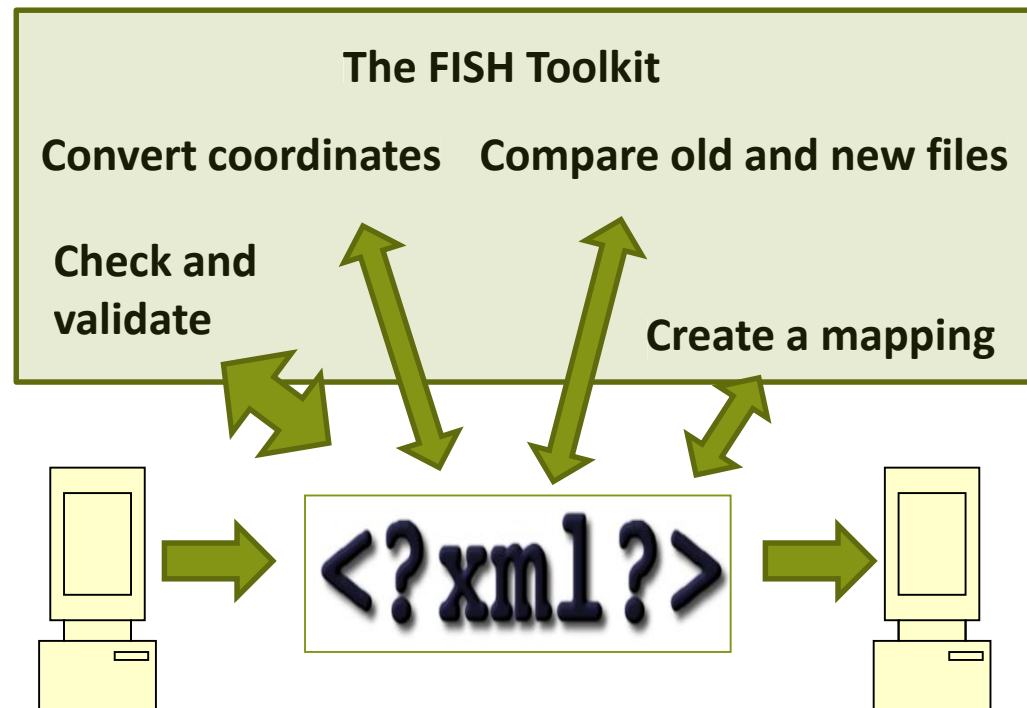
The toolkit consists of **four main components** which check, map, verify, and enhance content:

Existing MIDAS XML data:

1. The Toolkit Data Validator
2. The Concordance Tool
3. The Geospatial Tool

Converting data:

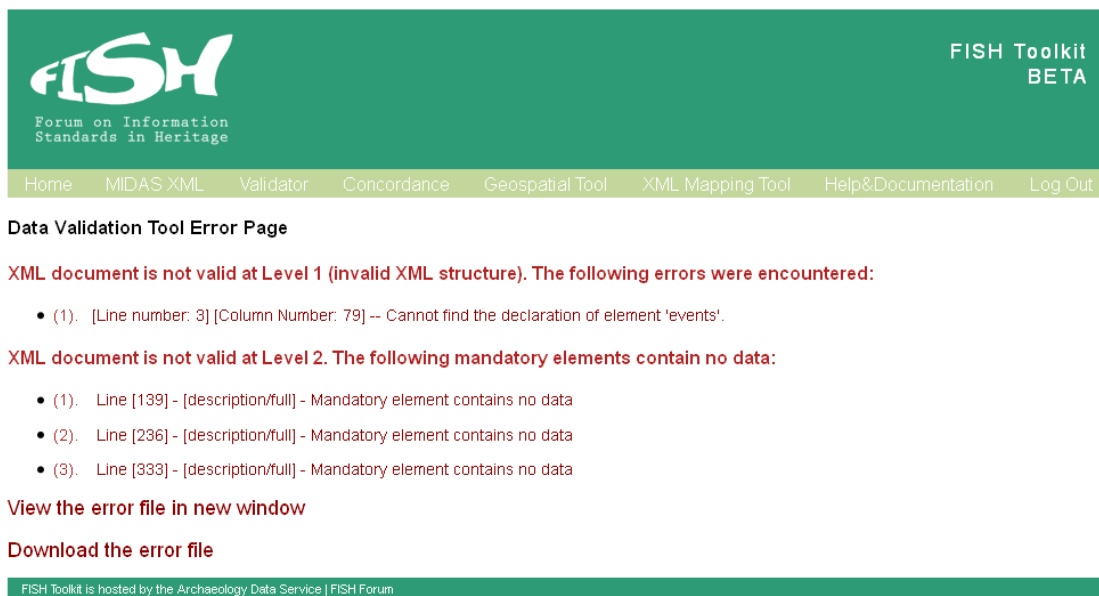
4. The XML Mapping Tool



1. Data Validator

Online application validates the content of MIDAS XML files

- Presence or absence of data required by standards e.g. English HER Level 1 Benchmark
- Reports on compliance and a watermark is embedded in a new XML file for download.



The screenshot shows the FISH Toolkit BETA interface. The header includes the FISH logo (Forum on Information Standards in Heritage) and navigation links: Home, MIDAS XML, Validator, Concordance, Geospatial Tool, XML Mapping Tool, Help&Documentation, and Log Out. The main content area displays a 'Data Validation Tool Error Page' with the following text:

XML document is not valid at Level 1 (invalid XML structure). The following errors were encountered:

- (1). [Line number: 3] [Column Number: 79] -- Cannot find the declaration of element 'events'.

XML document is not valid at Level 2. The following mandatory elements contain no data:

- (1). Line [139] - [description/full] - Mandatory element contains no data
- (2). Line [236] - [description/full] - Mandatory element contains no data
- (3). Line [333] - [description/full] - Mandatory element contains no data

View the error file in new window

Download the error file

FISH Toolkit is hosted by the Archaeology Data Service | FISH Forum

2. The Concordance Tool

- Parses two MIDAS XML files to find updated records.
- Reference and New XML files are checked for the updated or new content.
- Reporting consists of description and two automatically generated XML files.

	Reference File	New File
File Name	monument_example_testing_ref.xml	monument_example_testing_new.xml
File Size	10 (Kb)	15 (Kb)
File Date	14-10-2010	14-10-2010
Total Records	3	5
New Records	0	2
Updated Records	0	3

Download - Difference File [File name: 20110627140652 - xml_difference.xml]

* Difference File - is a XML file which contains only all new and updated records for the "Reference XML File" from the "New XML File".

Download - Merged File [File name: 20110627140652 - xml_difference_advance.xml]

* Merged File - is a "Reference XML File" with updated records from the "New XML File". And with added all new records from the "New XML File".

FISH Toolkit is hosted by the Archaeology Data Service | FISH Forum

3. The Geospatial Tool

Reads a valid MIDAS XML file, finds coordinates in OSGB36 format and adds additional spatial elements for the same coordinates in WGS84 format.

GeoSpatial Tool Result Page

Success

9 MIDAS XML elements were added. See the elements that were added below.

[\[Download\]](#)

The following conversions were done:

- Added <boundingBox> element with OSGB36 Lat/Long [EPSG:4277] coordinates
- Added <boundingBox> element with WGS84 Lat/Long [EPSG:4326] coordinates
- Added <quickpoint> element with OSGB36 Lat/Long [EPSG:4277] coordinates
- Added <quickpoint> element with WGS84 Lat/Long [EPSG:4326] coordinates
- Added <wkt> element with OSGB36 Lat/Long [EPSG:4277] coordinates
- Added <wkt> element with WGS84 Lat/Long [EPSG:4326] coordinates
- Added <wkt> element with OSGB36 Lat/Long [EPSG:4277] coordinates
- Added <wkt> element with WGS84 Lat/Long [EPSG:4326] coordinates

FISH Toolkit is hosted by the Archaeology Data Service | FISH Forum

4. The XML Mapping Tool

- Based on the MINT tool (used in CARARE).
- Allows upload of non-MIDAS XML schema and mapping to MIDAS XML via a visual drag-and-drop tool
- Mapping (stored as XSL) allows data to be transformed either within the tool or externally.
- “Map once” for all your data

4. The XML Mapping Tool

Mappings: test2

Define your mappings and when you are done click the 'Finished' button below to make them available to the rest of the users in your organization.

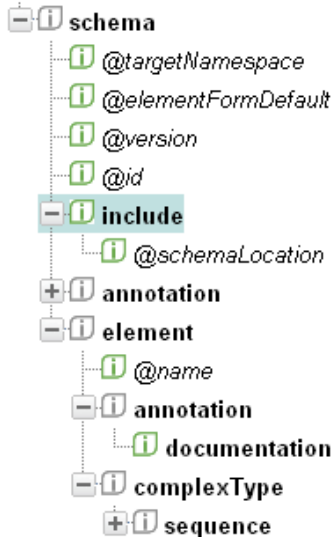
**Mapping relations are automatically saved every time you edit, delete or create a new one.*

Finished

Preview

Summary

Source Schema



Mappings

place:			
geometry:			
boundingBox:	unmapped		+ @ ?
spatialappellation:	structural		+ @ ?
quickpoint:			? ?
entity:	structural		+ @ ?
height:	unmapped		@ ?
area:	unmapped		+ @ ?
capturemethod:	unmapped		? ?
source:	unmapped		? ?
representations:			? ?
representation:	unmapped		+ @ ?

All parts of the FISH Toolkit are available at:

<http://archaeologydataservice.ac.uk/fishtoolkit/>



Guides to Good Practice

Guides to Good Practice (G2GP)



- Focussed on data creation, archiving, metadata, and documentation
- Aimed at a wide audience (i.e. depositors and data creators)
- **Do not** cover repository procedures (ADS Data Procedures)
- **Do not** deal specifically with how to deposit (ADS Guidelines for Depositors)

Initial stage of development (hard copy):

1998 GIS: A Guide to Good Practice

1998 Archiving Aerial Photography and Remote Sensing Data

1999 Digital Archives from Excavation and Fieldwork (+ Rev.)

2001 Geophysical Survey Data in Archaeology

2002 CAD

2002 Creating and Using Virtual Reality: a Guide for the Arts and Humanities

Aim of these guides:

- to provide practical guidance in applying recognised standards for the creation, preservation, and re-use of digital resources.
- Some are focussed on specific methods or techniques used by archaeologists whereas others have addressed broader archiving topics.
- All were available as hard copy guides and online.

In addition to the initial Guides...

Other past Guidance work...

The Big Data project:

- Concluded in 2006.
- Aimed to explore the preservation, dissemination and reuse potential of exceptionally large datasets (largely from remote sensing).
- Used three case studies to examine issues of storing, documenting and disseminating large datasets (e.g. Lidar, bathymetry).
- Produced a **final report** aimed at raising awareness of the issues of large datasets and providing guidance.
- Also provided a **set of recommendations** for future research.

Other past Guidance work...

Virtual Exploration of Underwater Sites (VENUS):

- Ran from **July 2006** through to **June 2009**.
- Aimed to develop scientific methodologies and deliver technological tools for the virtual exploration of deep underwater archaeology sites.
- ADS deliverables:
 - **Exemplar archive**
 - A **VENUS Guide** covering a range of common marine remote sensing techniques

Revision of the G2GPs

Major project to revise and expand the Guides

- 2009-11
- Carried out in support of the Digital Antiquity initiative working closely with teams in the US (Uni. of Arkansas and Arizona State University).
- Opportunity to update existing ADS Guides but also to work with US project partners to expand the scope.
- Develop the basis of workflows for Digital Antiquity's tDAR repository and the Archaeology Data Service.

Revision of the G2GPs

Scope of the New Guides

Aerial Survey

Geophysics

GIS

CAD

Virtual Reality

Excavation & Fieldwork

**Revised
and
Updated**

Marine Remote Sensing

Laser Scanning

Photogrammetry

**New
Guides**

Revision of the G2GPs

Scope of the New Guides

Archival strategies
Selection and Retention
Preservation Intervention Points
'Big Data'
Creating Datasets
Copyright

**Integrated
Archive &
Project
Level
Sections**

Documents and Texts
Databases and Spreadsheets
Raster and Vector Images
Digital Video and Digital Audio

**'Common
Components'**

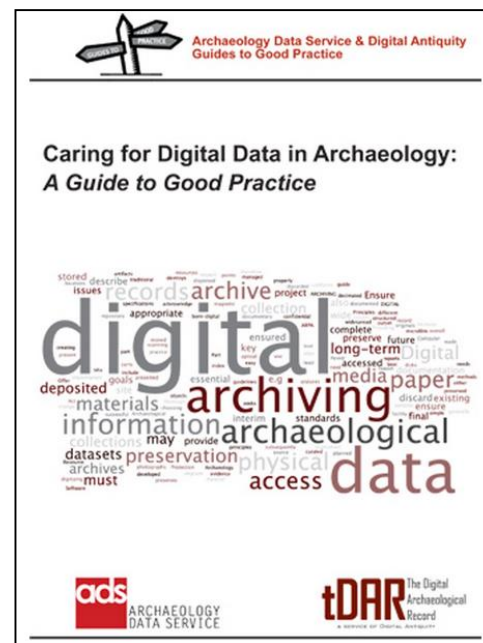
Wiki Approach

- Collaborative approach
- Simultaneous and instant access for contributors
- Built in versioning and styling
- Purely online / electronic publication
- Instant publication
- Easy linking to other online resources
- Easy maintenance and revision

Caring for Digital Data in Archaeology

Also came full circle, resulting in the publication of a new hard copy guide.

(And a revised copy of the Geophysical Survey guide).



Further Development

Further development: ACE Case Studies

- Archaeology in Contemporary Europe project funded a number of bursaries during 2012
- Two-week placements at ADS
- Case studies based on datasets brought with the bursary holder.
- Apply ADS procedures and document the processes.
- INRAP (France) and Aristotle Uni. Of Thessaloniki (Greece) produced detailed case studies.

Further Development

Further development: ARIADNE project

- Currently underway and due to complete in 2017.
- Initial phase has allowed assessment of European partner guidelines and procedures.
- Assessment has developed a plan for new guides and case studies.
 - Dendrochronology(DANS)
 - RTI / PTM
 - 3D data and preservation

Guides to Good Practice:
<http://guides.archaeologydataservice.ac.uk>