# Data Management Planning

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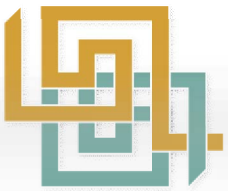
ARIADNE is funded by the European Commission's Seventh Framework Programme

# Overview

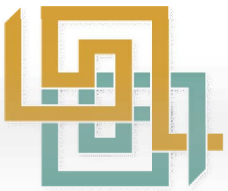
- What is data management planning?
- Why does it matter?
- What to include in a Data Management Plan (DMP)
- Intro to the DCC online Data Management Plan (DMP) system
- Group exercise
  - *Drafting a Data Management Plan*



# What is data management planning?

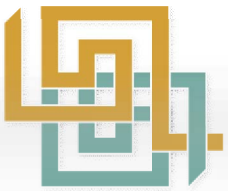
Data management plans are written at the start of a project to define:

- The project
- What data will be created or collected
- How the data will be documented and described
- Where it will be stored
- Who is responsible for data security and backups
- Which data will be shared and/or preserved
- How and with whom the data will be shared
- May have preliminary, interim and final planning phases



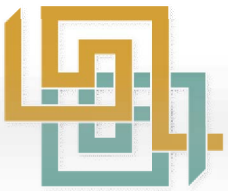
# Why does it matter?

- Advantages for research teams
  - Data is well organised, documented and in the correct formats
  - There's no need to re-format, re-organise or try to remember details of the data
  - It's easier to explain to new members of the team what work has been done
- Advantages for organisations
  - Uniform approach to data management by different teams
  - Clarity about which data was produced by whom
  - Researchers are responsible for managing their data well from the start

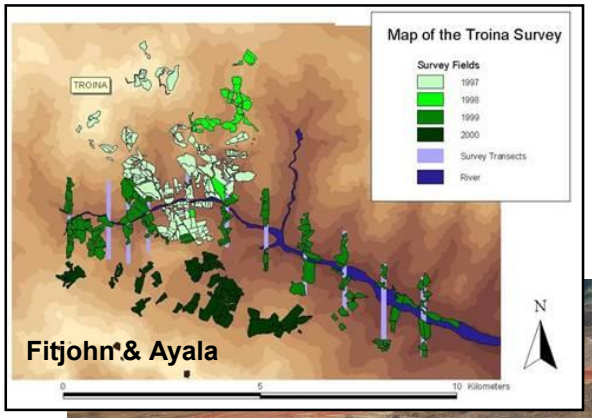


# What to include in a DMP

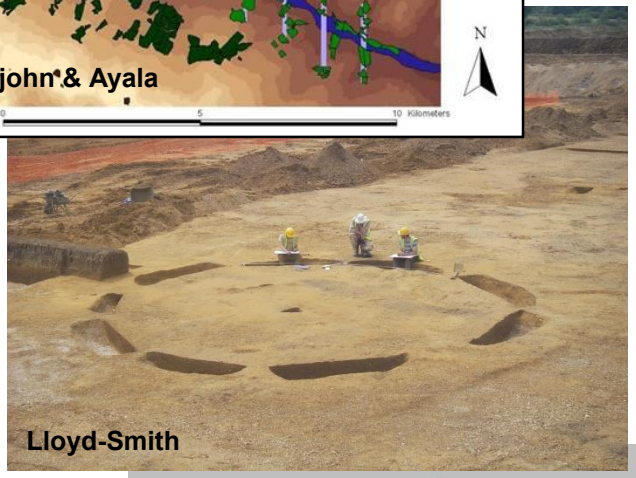
- Description of the project
- How the data was created or collected
  - Tools and methods
  - Standards and formats
  - Ethics and Intellectual Property Rights or restrictions
- Data documentation
- Storage
  - Short term management and backups
  - Longer term archiving and preservation
- Access
  - Plan for data sharing or dissemination



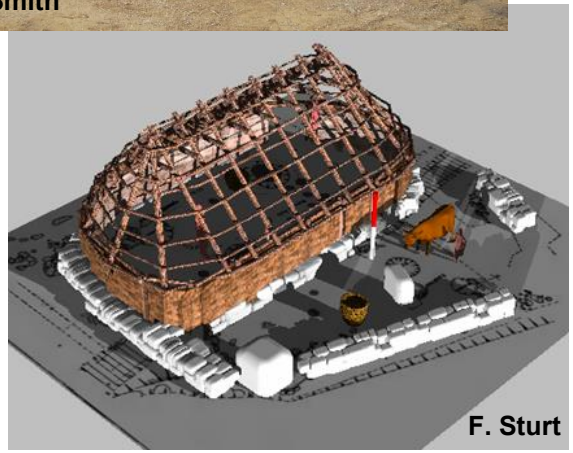
# What data will you create?

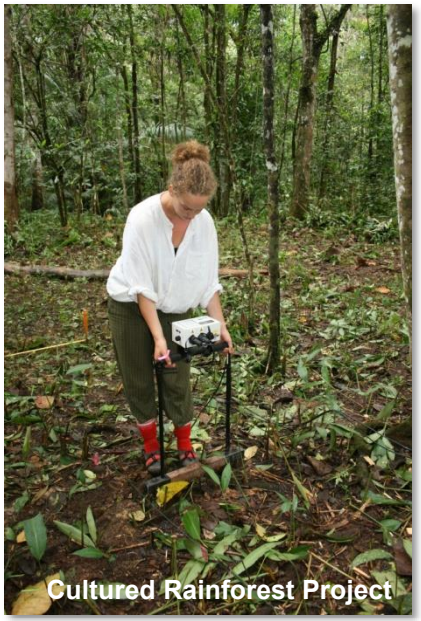







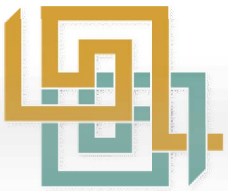


# Possible types of data

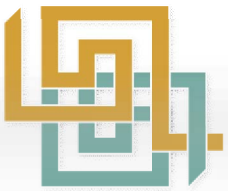
Can be anything created or manipulated on a computer:

- Text files
- Images – from digital scans of physical objects to photos
- 3D models
- Audio
- Video
- Spreadsheets & databases – numerical and textual data
- Survey data – from simple EDM surveys to Lidar scans and geophysical surveys
- Websites – even social media can be research data
- Etc…



# Creating data

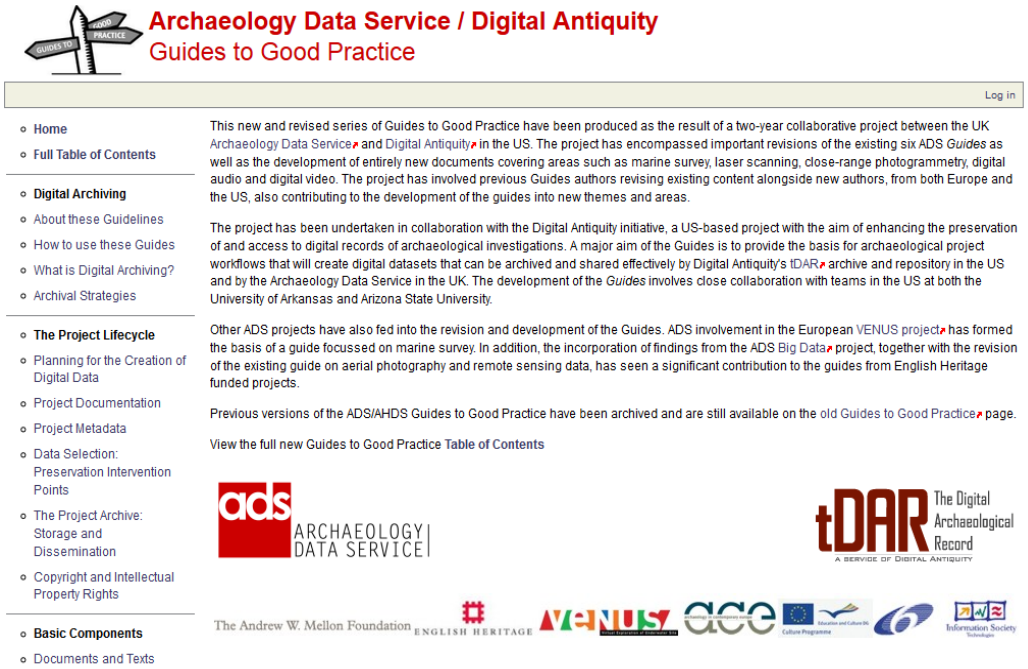
- What data will be created and how:
  - Are there any standards to follow?
  - Tools and software used for capturing and processing data
  - File formats – choose carefully some are better than others for long term preservation and use
  - Procedures for consistency and data quality
  - Ontologies, thesauri or controlled vocabularies used in creating metadata
- Any existing data collected or re-used
- Describe the nature, scale and scope of the data



# Creating data

## Guides to Good Practice

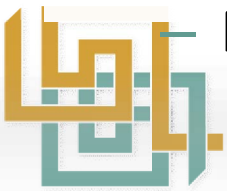
- Digital Data (general)
- GIS
- CAD
- Geophysics
- Aerial Photography
- Remote Sensing
- Fieldwork
- Virtual Reality


http://guides.archaeologydataservice.ac.uk/

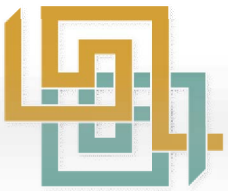
# Describing and documenting the data

- Data description (metadata) is essential for the future
  - A form of communication between the principle investigator and researchers re-using the data
- What metadata are needed?
  - Any standards for data archiving, data discovery or sharing to follow? Any controlled vocabularies?
  - What tools will be used for capturing metadata (Lab notebooks, Field recording sheet, Auto-saved files on instruments, Database, mobile application, etc.)
  - Formats
  - Procedures for consistency and retrievability



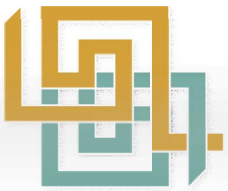
# Storing data during the project

- Where will you store the data in the short term?
  - Local PC, network., etc.
- Describe how it is organised:
  - Project and data identifiers
  - Folder structures
  - File naming conventions
  - File version control



# Data security and backup

- Identify who is responsible for data security and protection in your data management plan
- Describe your back up procedures
- How will you monitor compliance with the data management plan?

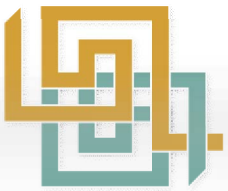


# Archiving

- Plan ahead in the early stages of the project
- Identify possible archives and get in contact
- Do they have any requirements?  Formats, metadata…
- Archives need permission from the owners of the IPR to preserve and distribute the data; most do not ask for a transfer of rights

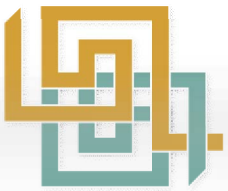
# Preserving for the long term

- Which data will be preserved?
  - Does the data contain any confidential personal information or high security data?
  - Are there any restrictions on access? For example
    - Privacy or ethical issues
    - Embargos for political, commercial or research reasons?
  - If there are restrictions on access, what is required to make the data available to others? Any access policies?



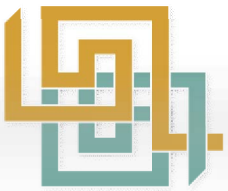
# Access and sharing your data

- How will your data be made available for re-use?
  - Will the archive or repository disseminate your data?
  - Self dissemination through a web-site?
- How will users cite your data?
- Are there any restrictions on access?
  - License for permitted uses: non-commercial, derivatives, etc.
  - Embargo until specified date
  - Contact to request permission



# Resources

- The Digital Curation Centre has a wide variety of resources online to help:
  - Checklists
  - Examples of Data Management plans from successfully funded proposals
  - An online data management planning form (DMP)



# Acknowledgements

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**Image credits**

Slide 6 Anti-clockwise from the top left image:
David Robinson: Chumash pictograph, South Central California, USA.
Matthew Fitzjohn and Gianna Ayala: Map of Torina survey., Italy.
Neol Tan: Digital photography at Angkor Wat. Cambodia.
Cultured Rainforest Project: R. Ferraby carrying out geophysical survey in Kelabit Highlands, Sarawak Photography: G. Barker.
Fraser Sturt: 3-D reconstruction.
Cultured Rainforest Project: Excavation at Ruma' Ma' on Dakah, Kelabit Highlands, Sarawak. Photograph: B. Nyiri
Lindsay Lloyd-Smith: Iron Age burial at Trumpington Meadows, Cambridge, England. Excavation by Cambridge Archaeology Unit.
Lindsay Lloyd-Smith: Henge-form at Old Wolverton quarry, Milton Keynes, England. Excavation by Cambridge Archaeology Unit.