Taking care of your research data

Good research data management is an essential part of good research. It has two key goals:

- Smoothing the progress of the research process, by ensuring data is kept safe and that it's possible to make the best use of it
- Extending the life of data beyond the project, by ensuring it remains useful and accessible

Data includes:

- Structured data: tables, spreadsheets, relational databases
- Unstructured data: textual sources, images, recordings, and much more

Start early and think ahead

The sooner you start thinking about data management, the easier it tends to be.

- A good data management plan helps a project run smoothly
- The DMPonline tool offers templates and guidance for creating one: https://dmponline.dcc.ac.uk

Keep everything safe

We all know that it's important to store things safely, and to make sure they're properly backed up. It's worth keeping copies of your data in two or three different places – in case of fire or theft, for example.

- You may be entitled to space on a departmental server – consult your local IT support staff: https://help.it.ox.ac.uk/local-it-support-staff
- Nexus365 offers access to OneDrive and SharePoint for storing and sharing files, Teams for collaboration, and much more: https://help.it.ox.ac.uk/nexus365
- The Research File Service is another storage option for research data: https://help.it.ox.ac.uk/rfs
- The LabArchives electronic lab notebook service also offers unlimited storage space: https://help.it.ox.ac.uk/labarchives-electronic-lab-notebook-service
- The HFS backup service is available to University staff and postgraduates: https://help.it.ox.ac.uk/hfs
- It's important to ensure that appropriate security is in place – visit the Information Security website for advice: https://www.infosec.ox.ac.uk/secure-my-research-information

Get the right tools and processes in place

The right software and other tools for organising and analysing your data will help you get the most from it.

- The IT Services Research Support team can provide technical advice: researchsupport@it.ox.ac.uk
- The Sustainable Digital Scholarship team can provide advice on storing and structuring your data: sds@bodleian.ox.ac.uk
- Be wary of using third party tools to store or process research data unless they've been properly checked out – the Information Security Team has a Third Party Security Assessment process: https://www.infosec.ox.ac.uk/third-party-security-assessment
- Personal data needs to be handled in a way that complies with GDPR – see the Data Protection and Research web pages for more: https://researchsupport.admin.ox.ac.uk/policy/data
- To ensure it remains useful and intelligible, data also needs to be properly documented: this simply means recording whatever contextual information is needed to aid proper interpretation

Plan for post-project data curation and sharing

Data is a valuable resource. A lot of effort goes into producing a dataset, and it can often be useful beyond the lifetime of the project that created it.

While not all data is suitable for sharing without restrictions, it is good practice to work towards making your research as open, transparent, and reproducible as possible.

Consider ultimately preserving and sharing your data by depositing it in a repository or archive. This benefits the wider research community, and your data being cited helps boost your academic reputation. It's also worth checking whether your funder has any requirements in this area.

- ORA is Oxford's own institutional archive for research outputs, including data: https://libguides.bodleian.ox.ac.uk/ora-data
- FAIRsharing is a catalogue of databases, metadata standards, and policies: https://fairsharing.org
- Re3data offers an extensive catalogue of archives and repositories: https://www.re3data.org

Think about steps you could take towards making your data FAIR: **F**indable, **A**ccessible, **I**nteroperable, and **R**eusable. More information can be found on the Go Fair website: https://www.go-fair.org/fair-principles

Although data sharing is usually done towards the end of a project, it pays to plan for it from the beginning.

- Shared data needs to be consistently presented and properly documented
- If you're working with human participants (conducting interviews, for example), you'll need to get appropriate consent

It's a lot easier to think about this sort of thing when you first collect or compile the data, rather than having to go back and fill in the gaps later.

Help and advice

Plenty of assistance is available for Oxford researchers:

- The Research Data Oxford website is a central source of guidance and information: https://researchdata.ox.ac.uk
- For personalised advice, email the Research Data Oxford team: researchdata@ox.ac.uk
- The Bodleian Data Service provides advice on finding and using data in research: https://www.bodleian.ox.ac.uk/data
- Subject librarians can also help: https://www.bodleian.ox.ac.uk/ask/subject-librarians
- For advice about commercialisation and related intellectual property management, contact Oxford University Innovation: https://innovation.ox.ac.uk

Training

- The IT Learning Centre offers in-person and online teacher-led sessions: https://skills.it.ox.ac.uk
- The Bodleian iSkills programme offers a range of workshops and classes: https://www.bodleian.ox.ac.uk/ask/workshops
- The University's Research Practice Training includes an online module on data: https://www.ox.ac.uk/research/support-researchers/research-practice/research-practice-training

Visit the Research Data Oxford website for more: https://researchdata.ox.ac.uk