Research Data Management (RDM) Initiatives at the University of Edinburgh
Pressure for change

- Research funders seeking to add value
- Publishers responding to demand
- Public wanting access to publicly funded data
- Universities reluctant to step up to challenge?

Wwarby on flickr
Overview & context

- Data Library services and projects
- Information Services initiatives
- Research Data Storage working group
- Research Data Management Policy consultation
- Next steps
Data Library Services and projects

- Data Library service
- Edinburgh DataShare
- JISC-funded projects
  - DISC-UK DataShare (2007-2009)
  - Data Audit Framework Implementation (2008)
  - Research Data MANTRA (2010-2011)
A **data library** refers to both the content and the services that foster use of collections of numeric, audio-visual, textual or geospatial data sets for secondary use in research.

Focus on **re-use** of data
Data Library Service at UoE

- finding...
- accessing ...
- using ...
- teaching ...

iStock Photo, ChartsBin and mkandlez on flickr
Web guidance

- More recent focus on support for managing one’s data
- Online suite of web pages for IS website developed in 2009
- [http://www.ed.ac.uk/is/data-management](http://www.ed.ac.uk/is/data-management)
Data repository service for staff

Welcome to Edinburgh DataShare

Edinburgh DataShare is a pilot digital repository of multi-disciplinary research datasets produced at the University of Edinburgh, hosted by the Data Library. If you would like to deposit your data, or have staff deposit items on your behalf please send an email to datashare@ed.ac.uk.

Search

Enter some text in the box below to search Edinburgh DataShare.

Communities in Edinburgh DataShare

Select a community to browse its collections.

- Information Services (IS)
- School of Engineering
- School of GeoSciences
- School of History, Classics and Archaeology
- School of Molecular and Clinical Medicine
- Scottish Alliance for Geoscience, Environment and Society (SAGES)

Links

- About Edinburgh DataShare
- Data Library Home
- Edinburgh Research Archive
- DISC-UK DataShare Project

Latest Items

- Survey of Scottish Witchcraft, 1563 - 1736 (17 Aug 2010)
- Scottish Election Results 1997 - 2009 (06 Oct 2009)
DISC-UK DataShare project

- Piloted institutional data repositories at Edinburgh, Oxford & Southampton Uni’s

- Three different models on 3 open source repository platforms
<table>
<thead>
<tr>
<th>Quality assured metadata; guidance available for depositors; suitably anonymised/consent for sharing obtained from subjects; thorough documentation about data creation and methodology included; permanent IDs; formats validated and suitable for distribution; migration-based preservation commitment</th>
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<tbody>
<tr>
<td>Network of distributed repositories: subject and/or institutionally based</td>
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<tr>
<th>Data files with minimal documentation (e.g. readme file describing each data file) downloadable from Internet</th>
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<td>Zip and ship</td>
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<tr>
<th>Metadata record of dataset on website or in repository; possibly with embargo and contact information to request access</th>
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<tr>
<td>Search and discovery enabled; restricted access</td>
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<tr>
<th>Networked drive, available to research group, version control</th>
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<td>Email dissemination by request</td>
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<th>Password protected, networked drive (backup procedures)</th>
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<td>Privileged access</td>
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<table>
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<th>Personal hard drives, un-networked</th>
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<td>Simple data storage</td>
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**DataShare exemplars aiming here**

**Institutional Repositories**

**Typical status quo**
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<th>Distributed high performance computing; analysis tools applied to data over secure international network; M2M interfaces</th>
<th>Data Grid</th>
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<tbody>
<tr>
<td>Peer review of datasets; seamless link to publications; role-based layers of access; data overlay journals</td>
<td>Data publishing</td>
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<tr>
<td>Graphs, charts, maps configurable online</td>
<td>Data visualisation</td>
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<tr>
<td>“Actionable” marked up dataset installed in a data browser tool subsetting capability</td>
<td>Data manipulation online</td>
</tr>
<tr>
<td>Original format plus XML markup of data or XML database; open standards used appropriate to domain; metadata or setup files may be bundled with dataset for importing elsewhere</td>
<td>Data enhanced for re-use</td>
</tr>
<tr>
<td>Quality assured metadata; guidance available for depositors; suitably anonymised/consent for sharing obtained from subjects; thorough documentation about data creation and methodology included; permanent IDs; formats validated and suitable for distribution; migration-based preservation commitment</td>
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Recommendation to JISC:
“JISC should develop a Data Audit Framework to enable all universities and colleges to carry out an audit of departmental data collections ...”

Findings from 5 DAF case studies

- Storage provision often insufficient
- Long retention periods needed for high value data
- Ad-hoc practices; no formal data mgmt plans
- Lack of standardised procedures in creating and storing data
- Minimal metadata; much effort expended in finding extant data on servers
Open online learning materials in RDM for postgrads and early career researchers

Grounded in three disciplines, working with graduate schools

Video stories from senior researchers to augment web-based ‘chapters’

Data handling exercises in four software analysis packages.
The Vice Principal for KM established two strategic working groups:

- WG on RDS (storage)
- WG on RDM (mgmt)

The RDS group identified types of data storage requirements and features that an effective University-wide storage service should offer.

The RDM group drafted a university policy for managing research data, taking account of increasing funding agency demands for compliance, the open access agenda, and the shared responsibilities of the university and principal investigators.

Photo courtesy Orange County Archives
Finding the storage ‘sweet spot’

- Globally accessible cross-platform file store
- Authentication, authorisation & access
- Backup and synching
- Archiving
- Federated data storage solution
- Centralisation & trust
- Network of support
Recent adoption of the Code of Practice for Research (UK Research Integrity Office, 2009) by the university’s research office, obligating the institution to provide support for retention and access to data underlying published research.

‘Climategate’ email review at East Anglia University highlighting the reputational risk and legal accountability associated with staff not being forthcoming in response to Freedom of Information (FOI) requests for data from the public.
Commitment to research excellence includes RDM throughout lifecycle

- The University should provide training, support and advice, as well as mechanisms and services for storage, backup, registration, deposit and retention
- New research proposals should explicitly address data capture, management, integrity, confidentiality, retention, sharing and publication

Responsibility for plan and sound data mgmt is with PIs
Research data management plans must ensure that research data is available for access and re-use where appropriate and under appropriate safeguards.

The legitimate interests of the subjects of research data must be protected.

Research data of future historical interest, and all research data that represent records of the University, including data that substantiate research findings, should be offered and assessed for deposit and retention in an appropriate national or international data service or domain repository, or a University repository.

Steve Rhode on flickr
This month, the leaders of the two working groups are meeting with the Vice Principal to review outcome of consultation and determine next steps.

Thank you!

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