



Introduction to data management planning

Joy Davidson

Digital Curation Centre



Funded by:



Digital Curation Centre (DCC)

The DCC Mission

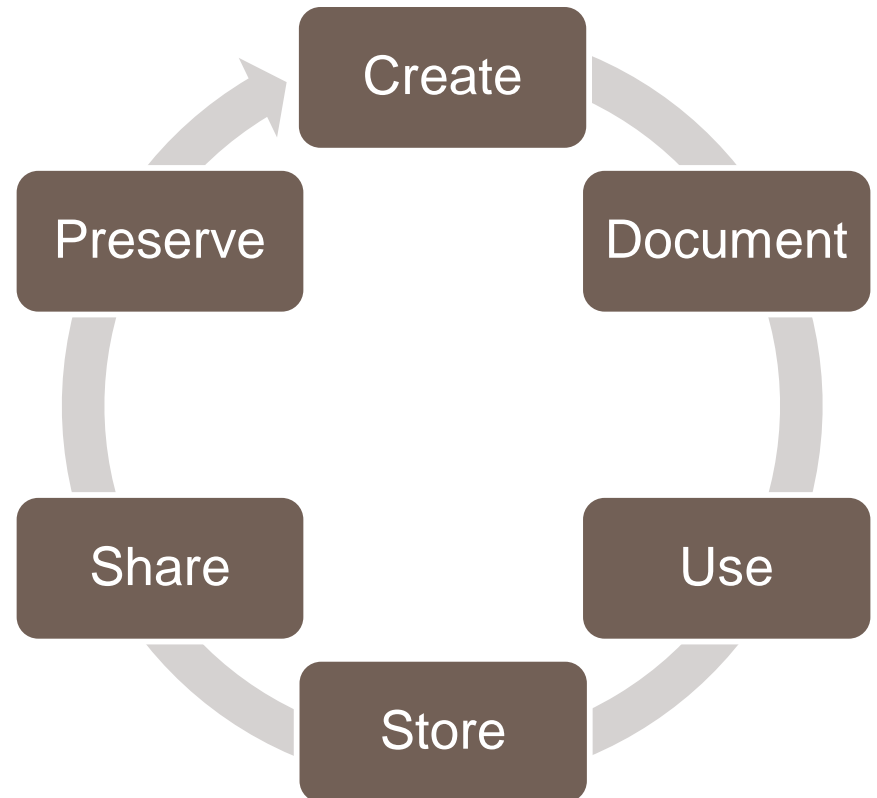
“Helping to build capacity, capability and skills in data management and curation across the UK’s higher education research community”

Phase 3 Business Plan



What is Research Data Management?

- Data Management Planning
- Creating data
- Documenting data
- Accessing / using data
- Storage and backup
- Selecting what to keep
- Sharing data
- Data licensing and citation
- Preserving data



Why manage research data?

Direct benefits for you

- To make your research easier!
- Stop yourself drowning in irrelevant stuff
- Have data organised so you know which versions are most up-to-date
- Make sure you can understand and reuse your data again later

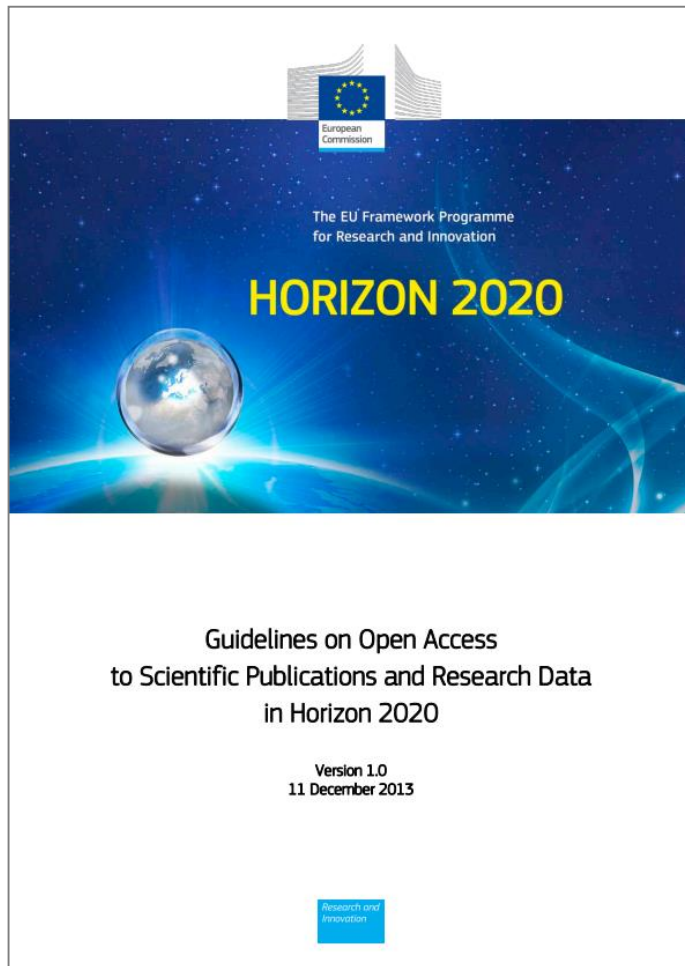
Research integrity

- To avoid accusations of fraud or bad science
- Evidence findings and enable validation
- Codes of practice on good research conduct
- Many research funders worldwide now require Data Management and Sharing Plans

Potential to share

- So others can reuse and build on your data
- To gain credit –higher citation rates when data are shared
- For greater impact and new collaborations
- Promote innovation and allow research in your field to advance faster

Funders have expectations about data sharing...

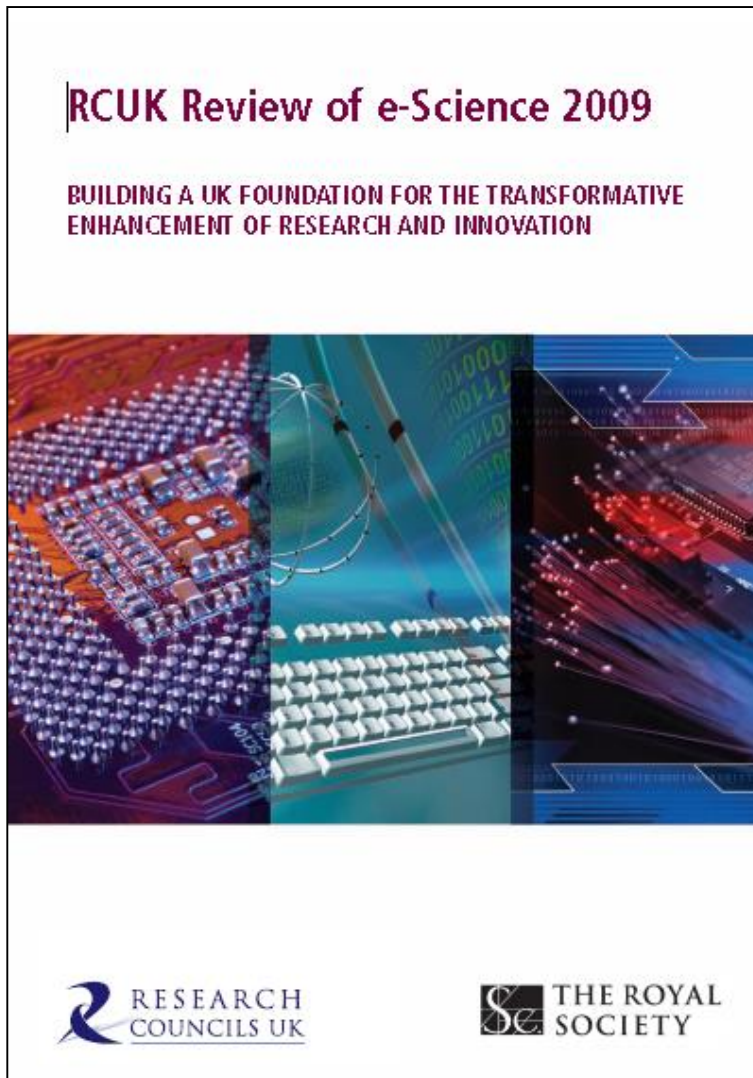


“The European Commission’s vision is that information already paid for by the public purse should not be paid for again each time it is accessed or used, and that it should benefit European companies and citizens to the full.”

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

Data management plans requested for those participating in Open Data pilot.

...but RDM is part of good research practice!



“Data sets are becoming the new instruments of science”

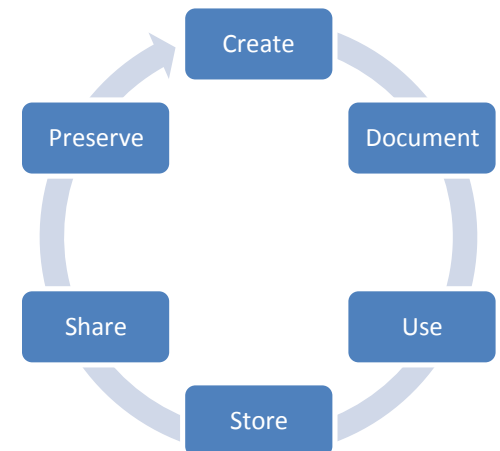
Dan Atkins, University of Michigan

Data management plans (DMPs)

What should be addressed in a DMP?

- What data will be created (format, types, volume...)
- Standards and methodologies to be used (incl. metadata)
- How ethics and Intellectual Property will be addressed
- Plans for data sharing and access
- Strategy for long-term preservation

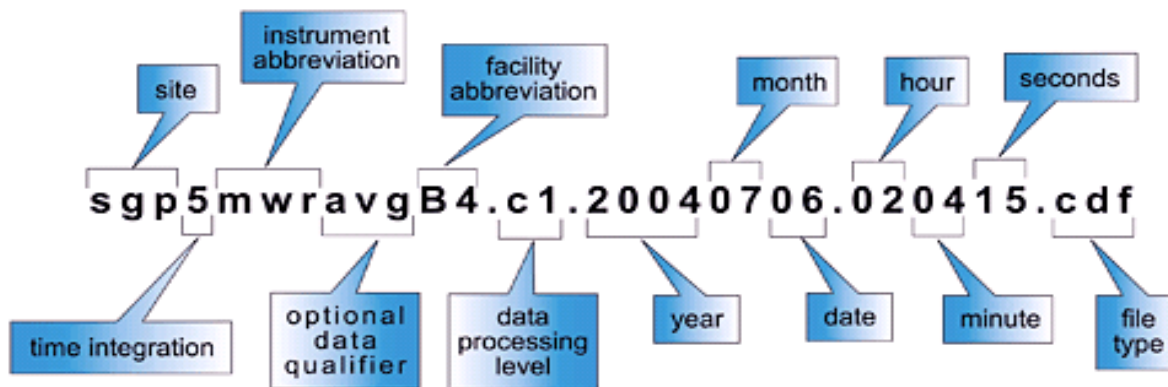
A DMP is a plan to share!



How will you name your files?

- Keep it simple!
- Agree methods with partners
- Include dates
- Avoid non-alphanumeric characters
- Use hyphens or underscores not spaces e.g. day-sheet, day_sheet
- Order the elements logically

An example netCDF data file name is depicted below:



Example from ARM Climate Research Facility www.arm.gov/data/docs/plan

How should you describe your data?

Search by Discipline



Biology



Earth Science



General Research Data



Physical Science



Social Science & Humanities



Where will you store the data during your research?

- Your own laptop
- University systems
- Cloud storage
- Combination

Your decision will be based on how sensitive your data are, how robust you need the storage to be, who needs access to the data, and when they need access to the data!

Which data need to be kept after the project ends?

Five steps to follow

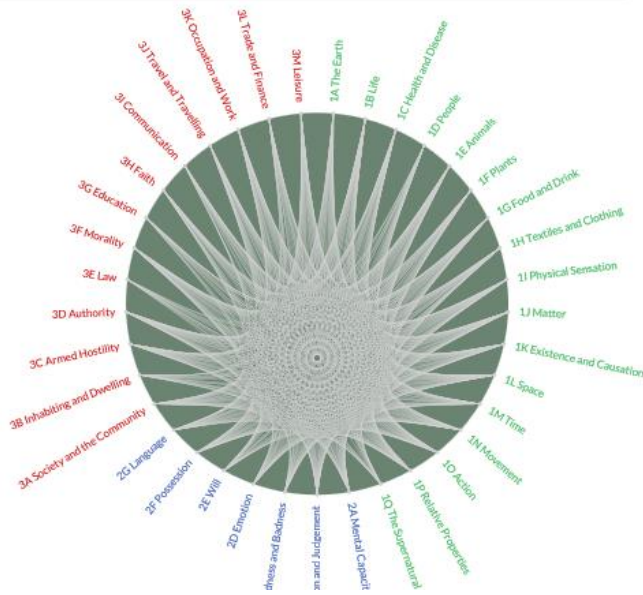
- ① **Could** this data be re-used
- ② **Must** it be kept as evidence or for legal reasons
- ③ **Should** it be kept for its potential value
- ④ **Consider costs** – do benefits outweigh cost?
- ⑤ **Evaluate criteria** to decide what to keep

5 steps to decide what data to keep

www.dcc.ac.uk/resources/how-guides/five-steps-decide-what-data-keep

Remember to consider physical data, software and models

- This circle represents all of knowledge in English: every word in every sense in the English language for over a millennium.
- The connections show metaphorical links in language and thought between different areas of meaning.
- Click on category names to highlight the connections from that category then click on individual yellow lines to get more detail about each connection.
- To open up the categories further, use the controls in the green box (particularly 'show x categories' on the home screen and the 'centre on' controls at more detailed levels).
- The Metaphor Map is a work in progress. All categories have links but not all categories have example words/dates yet. To view a list of categories which have had full date and word information added, please see [this page](#).



http://www.ukcrxcpmed.org.uk/Coventry_Warwick_CRF/PublishInImages/Tissue%20Bank%201.jpg



Software Management Plan Service Prototype

[Home](#) [About](#) [Help](#)

Welcome.

Software Management Plan Service has been developed by the **The Software Sustainability Institute** to help you write software management plans.

It is powered by **DMPonline** developed by the

Sign in

Email address *

Password *

[Forgot your password?](#)

Remember me

<http://mappingmetaphor.arts.gla.ac.uk/>

<https://ssi-dev.epcc.ed.ac.uk/>

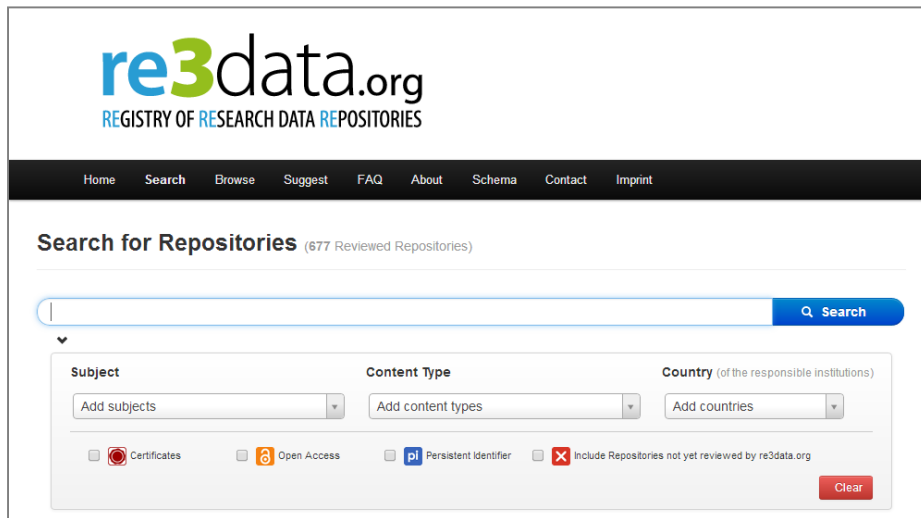
Can your data be shared with others?

- PI/researcher
- Data repository and support staff
- Research participants
- Commercial partners
- Secondary data user



How will it be shared?

- Does your publisher or funder suggest a repository?
- Are there data centres or community databases for your discipline?
- Does your university offer support for long-term preservation?



<http://service.re3data.org/search>

Zenodo

- Joint effort by OpenAIRE-CERN
- Multidisciplinary repository
- Multiple data types
- Citable data (DOI)
- Links funding, publications, data & software

www.zenodo.org

What do you want others to be able to do - or not do - with your data?

License Features
Your choices on this panel will update the other panels on this page.

Allow adaptations of your work to be shared?

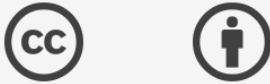
Yes No

Yes, as long as others share alike


Allow commercial uses of your work?

Yes No

Selected License
Attribution 4.0 International



This is a Free Culture License!



Help others attribute you!
This part is optional, but filling it out will add machine-readable metadata to the suggested HTML!

Title of work

Attribute work to name

Attribute work to URL


Source work URL

More permissions URL

Format of work

License mark

Have a web page?



This work is licensed under a Creative Commons Attribution 4.0 International License.

Copy this code to let your visitors know!

```
<a rel="license"
href="http://creativecommons.org/licenses/by/4.0/">
</a><br />This work is licensed under a <a rel="license"
href="http://creativecommons.org/licenses/by/4.0/">Creati
ve Commons Attribution 4.0 International License</a>
```

Normal Icon Compact Icon

 A Digital Curation Centre and JISC Legal 'working level' guide



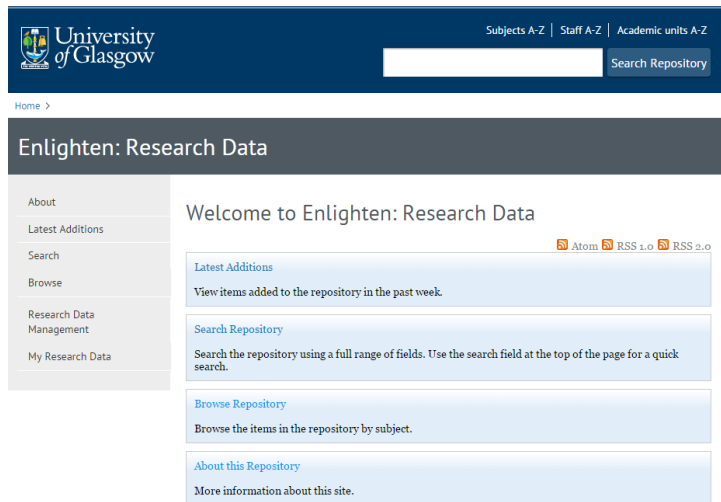
How to License Research Data

Alex Ball (DCC)

www.dcc.ac.uk/resources/how-guides/license-research-data

<http://creativecommons.org/choose/>

How will you make your data discoverable?



University of Glasgow

Subjects A-Z | Staff A-Z | Academic units A-Z

Search Repository

Home >

Enlighten: Research Data

Welcome to Enlighten: Research Data

Atom RSS 1.0 RSS 2.0

Latest Additions
View items added to the repository in the past week.

Search Repository
Search the repository using a full range of fields. Use the search field at the top of the page for a quick search.

Browse Repository
Browse the items in the repository by subject.

About this Repository
More information about this site.

Enlighten: Research Data supports OAI 2.0 with a base URL of <http://researchdata.gla.ac.uk/cgi/oai2>

<http://researchdata.gla.ac.uk/>



<https://www.researchfish.com/>



Home

Digital Curation Centre | Because good research needs good data
www.dcc.ac.uk

RESEARCH COUNCILS UK

Gateway to Research

Technology Strategy Board
Driving Innovation

Welcome to the RCUK gateway to publicly funded research

Search for and analyse information on the latest innovative research in the UK

Please enter a search term.

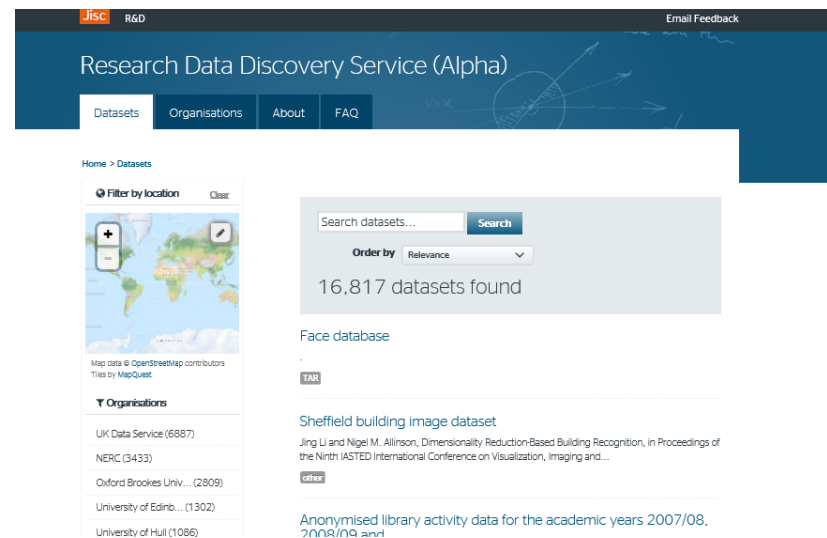
Search Help

Data
The data on this website provides information about publications, people, organisations and outcomes relating to research projects

APIs
The data is accessible programmatically using one of three application programming interfaces GIR, GIR-2 and CERIF

OGL
All content is available under the Open Government Licence v2.0, except where otherwise stated

<http://gtr.rcuk.ac.uk/>



Jisc R&D

Email Feedback

Research Data Discovery Service (Alpha)

Datasets Organisations About FAQ

Home > Datasets

Filter by location Clear

Search datasets... Search

Order by Relevance

16,817 datasets found

Face database

TAR

Sheffield building image dataset
Jing Lu and Nigel M. Allinson, Dimensionality Reduction-Based Building Recognition, in Proceedings of the Ninth IASTED International Conference on Visualization, Imaging and...

other

Anonymised library activity data for the academic years 2007/08, 2008/09 and

Map data © OpenStreetMap contributors
Tiles by MapQuest

Organisations

- UK Data Service (6887)
- NERC (3433)
- Oxford Brookes Univ... (2809)
- University of Edinb... (1302)
- University of Hull (1086)

<http://ckan.data.alpha.jisc.ac.uk/dataset>

Update your plan!

Withdrawal of services for young adults

Plan details

Initial DMP (within first 6 months)

Mid-term Review DMP

Final review DMP

Share

Export

This page gives you an overview of your plan. It tells what your plan is based on and gives an overview of the questions that you will be asked.

Project name	Withdrawal of services for young adults
ID	-
Grant number	-
Principal Investigator/Researcher	Sarah Jones
Project data contact	-
Description	-

This plan is based on:

Funder	European Commission (Horizon 2020)
Institution	University of Glasgow

... most do not update the DMP throughout the life of the project.

Good practice when creating DMPs

- Start early
- Cost in sufficient effort to application
- Write the plan collaboratively
- Be realistic
- Update DMP


Good RDM helps you comply with mandates but also leads to...

- More visible research outputs and increased impact - even for negative results
- Easier outputs reporting
- Better and more reproducible research!




Refer to free guides and briefing papers

A Digital Curation Centre and Australian National Data Service 'working level' guide




How to Appraise & Select Research Data for Curation

Angus Whyte (DCC) and Andrew Wilson (ANDS)

 Digital Curation Centre, Australian National Data Service 2010. Licensed under Creative Commons BY-NC-SA 2.0 Scotland: <http://creativecommons.org/licenses/by-nc-sa/2.0/scotland/>

AWARENESS LEVEL

A Digital Curation Centre Briefing Paper
1st September 2011



Making the Case for Research Data Management

Angus Whyte (DCC) and Jonathan Tedds (Univ)

- Introduction
- Drivers
- Building the Services
- Identifying Benefits and Challenges
- Creating the Environment
- Looking to the Future
- Conclusions
- Sources for Further Reading

Higher Education research managers need to coordinate an ever-broader range of research outputs and outcomes. In this briefing we show how institutions have taken a lead in establishing research data policies and services that will support them. We show how these are giving measurable improvements in research capability, and in the institutions' ability to respond to policy-makers and regulators. Institutions require coherent frameworks to establish the organisation, resources and technology capable of generating these benefits. This in itself presents challenges in achieving coherent change across the many disparate components within an institution. The pressure to do so with fewer resources means that JISC-led initiatives like the Managing Research Data programme and the Shared Services and the Cloud Programme come at an opportune time.

The prospects for sharing resources to gain efficiencies and more effective collaboration are extending beyond established areas such as IT Services, Library and Research Support. Just as academics are producing digital research assets in greater volume and variety, data management services are joining computer as resources that can be pooled more effectively. Benefits may also be found by considering other parts of the research cycle that can be served through repository services already established to manage research articles.

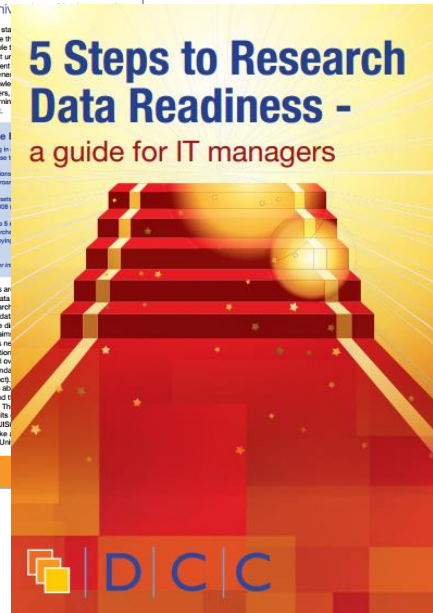
Tools, services and data researchers manage are more widely available. Effective management new ways to find and producing new knowledge range of stakeholders in teaching and learning policy development.

37% Projected saving in Classic Dept databases
80% Increase in citations with mailing list merger
500% Growth in dataset Data Service 2008-2008


One-day delay out to 8 or more days with manual synchronization, by desktop capture system (DCC)

See sources for further info

Researchers' needs are areas of research data preservation. Research of the organization of data cycle through to the available results. It aims results, and permits re-use on existing information that what is handled or remains fit for second- to 10 years post-project secondary use. It is also are fit to archive, and remain fit for reuse. The data management, its focus these in the JISC programme, and take one institution, the UK



5 Steps to Research Data Readiness - a guide for IT managers



DCC 'QUICKSTART' LEAFLET

FIVE STEPS TO DEVELOPING A RESEARCH DATA POLICY



DCC Checklist for a Data Management Plan



Make use of free tools



<https://dmponline.dcc.ac.uk>

Thanks for listening!

joy.davidson@glasgow.ac.uk

www.dcc.ac.uk

Follow us on twitter:

@jd162a

@digitalcuration and #ukdcc



D|C|C

because good research needs good data