RESEARCH DATA MANAGEMENT:
A BRIEF GUIDE

This brief guide presents a set of good data management practices that you can adopt, regardless of your data management skills and levels of expertise.

1.SAVE YOUR RAW DATA IN ORIGINAL FORMAT

- Don't overwrite your original data with a cleaned version.
- Protect your original data by locking them or making them read-only.
- Refer to this original data if things go wrong (as they often do).

2. BACKUP YOUR DATA

- Use the 3-2-1 rule: Save three copies of your data, on two different storage mediums, and one copy off site.
- Do not backup or store sensitive data on a commercial cloud (Dropbox, Google Drive, etc.)

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3. DESCRIBE YOUR DATA

- **Machine friendly:** Describe your dataset with a metadata standard for discovery.
- **Human friendly:** Describe your variables, so your colleagues will understand what you meant. Data without good metadata is useless. Give your variables clear names.
- Do not leave cells blank. Use numeric values clearly out of range to define missing data (e.g. "99999") or not applicable (e.g. "88888"), and describe these in your data dictionary.
- Convert your data to open, non-proprietary formats.
- Name your files well with basic metadata in file names.

4. PROCESS YOUR DATA

- Make each column a variable.
- Make each row an observation.
- Store units (e.g. kg or cm) as metadata (in their own column).
- Document each step processing your data in a README file.

5. ARCHIVE AND PRESERVE YOUR DATA

- Submit final data files to a repository assigning a persistent identifier (e.g. handles or DOIs).
- Provide good metadata for your study so others could find it (use your discipline's metadata standard, e.g. Darwin Core, DDI, etc.).

NEED HELP?

CONTACT UALBANY LIBRARIES DATA SERVICES
SCHOLCOMM@ALBANY.EDU