Scholarly Communications & Data Management Tip Sheet

The Research Data Lifecycle

The research data lifecycle encompasses the data-related activities that take place during a research project. Proper management of research data supports efficient research and safeguards data for future access and use.

Research data are the raw materials collected, processed and studied during a research project, forming the evidence necessary to substantiate research findings. Research data may be collected or generated by the research team, or an existing data set may be utilized.

Research data also includes details regarding how the data was generated and how results can be replicated. Examples include computer code, experimental methods, instruments used, and contextual information such as procedures for data collection and analysis.

Stages of the research data lifecycle

- **Plan & design** - Design research methods; identify data to be collected or used; and create a data management plan.
- **Collect & create** - Conduct experiments or observations; and document research procedures.
- **Process** - Clean data and prepare it for analysis.
- **Analyze** - Utilize statistical or qualitative tools to develop insights necessary to interpret data.
- **Preserve** - Prepare datasets for preservation by conducting quality assurance, convert files to open access formats, and set in place protections for sensitive data.
- **Share** - Deposit datasets to a long-term repository, such as ScholarWorks, which can develop a metadata record and assign a DOI for your datasets. Both will encourage the discovery, use, and impact of your work.
- **Reuse** - Data are now available for reuse. New insights may be developed as the data is analyzed in different ways, or data may be combined with another data set. In addition, research data may be used to advance public policy, education, and products and services.

For more information and to learn about how the Library's Research Data Management Team can help, visit us at: https://www.boisestate.edu/library/research-support/

Brought to you by the Albertsons Library Research Data Management Group, Boise State University, & Research Data Librarian Ellie Dworak (elliedworak@boisestate.edu).