Best practices for file naming

Best practices for file naming

How you organize and name your files will have a big impact on your ability to find those files later and to understand what they contain. You should be **consistent and descriptive** in naming and organizing files so that it is obvious where to find specific data and what the files contain.

It's a good idea to set up a clear directory structure that includes information like the project title, a date, and some type of unique identifier. Individual directories may be set up by date, researcher, experimental run, or whatever makes sense for you and your research.

Download our File Naming Best Practices + Examplar handout (pdf)!

For more information on managing data, visit our FAQ. Interested in learning more about data best practices? Check out our workshop.

Information for file names

File names should allow you to identify a precise experiment from the name. Choose a format for naming your files and use it consistently.

You might consider including some of the following information in your file names, but you can include any information that will allow you to distinguish your files from one another.

- Project or experiment name or acronym
- Location/spatial coordinates
- Researcher name/initials
- Date or date range of experiment
- Type of data
- Conditions
- Version number of file
- Three-letter file extension for application-specific files

Another good idea is to include in the directory a readme.txt file that explains your naming format along with any abbreviations or codes you have used.

Other tips for file naming

- A good format for date designations is YYYYMMDD or YYMMDD. This format makes sure all of your files stay in chronological order, even over the span of many years.
- Try not to make file names too long, since long file names do not work well with all types of software.
- Special characters such as ~ ! @ # $ % ^ & * ( ) ` ; < > ? , [ ] { } ' " and | should be avoided.
- When using a sequential numbering system, using leading zeros for clarity and to make sure files sort in sequential order. For example, use "001, 002, ...010, 011 ... 100, 101, etc." instead of "1, 2, ...10, 11 ... 100, 101, etc."
- Do not use spaces. Some software will not recognize file names with spaces, and file names with spaces must be enclosed in quotes when using the command line. Other options include:
  - Underscores, e.g. file_name.xxx
  - Dashes, e.g. file-name.xxx
  - No separation, e.g. filename.xxx
  - Camel case, where the first letter of each section of text is capitalized, e.g. FileName.xxx

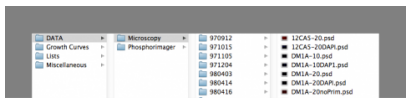
Renaming files

You may already have a lot of data collected for your project and wish to organize and rename these files for easier data management. If you have too many files to rename them all by hand, try one of the following applications for renaming your files:

- Bulk Rename Utility (Windows, free)

- Renamer 4 (Mac)
- PSRenamer (Linux, Mac, or Windows, free)

File naming case studies



This file naming case study includes real-life examples of problems you could encounter if you don't make good file naming choices!

Check out this case study of an organized and thorough method used by one research group to name a large set of image files.