

Real world reproducible research

June 4, 2017

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Research

“the full software environment,
code,
and data that produce the results”

- Buckheit and Donoho, 1995; Donoho, 2010, 385

Reproducible

- Computational work is reproducible if one can take the **data** and the **code** and produce the same set of results.
- Minimum Standard

The **data and **code** used to make a finding are available and they are **sufficient** for an independent researcher to **recreate** the finding**

-C. Gandrud, Reproducible Research with R and RStudio

Reproducible \neq Correct

- Code may have bugs.
- Methods may be poorly behaved.
- Could be experimental artifacts.

“a study can be reproducible and still be wrong.”

- Peng, 2014

Keys to Reproducibility

- Data
- Code
- Sufficient to recreate independently.

**The most important tool is
the **mindset**, when starting,
that the end product will be
reproducible.**

-Keith Baggerly