Day 4: Words

Before Workshop

1a. Read Chapter 7 from *Style* (same chapter in the second edition)

1b. Read Chapter 6 from *Writing Science in Plain English*

Additional Reading

- Chapter 16 from Writing Science

2. Diagnose and fix word redundance in paragraphs from example papers

"The question of disease etiology is complex. It is likely that a multitude of causes is involved in the development of any particular disease. Where in the causal chain, among the myriad of variables, one chooses to examine and ascertain causation is often a question of where intervention is most efficacious. That, in turn, is often a political and not a scientific issue. An examination of the full range of variables potentially involved in disease etiology, with a synthesis of findings from all levels of analysis, provides the best opportunity for a full understanding of disease etiology."

We can attribute the development of disease to numerous variables and the complex ways in which they interact. Prevention and intervention efforts are most effective when these variables are clearly identified, teased apart, and well understood. This tends to be a political issue, removed from science. Researchers and policymakers must examine all factors that contribute to disease etiology and synthesize findings from all levels of analysis to gain holistic insight.

"But even more importantly, Twitter culture has exposed a part of academia that has traditionally always been hidden from view, namely the inception of new research activities. Now, ECRs can observe and even join the process of creating national or international research projects (for instance, [6] stems from a discussion at Twitter and Bik et al [1] write their work resulted from online interactions). Senior researchers openly share ideas through Twitter and this can lead to the development of new concepts which often move on to become fully-fledged research projects."

More importantly, Twitter culture has exposed the inception of new research activities—an often overshadowed, yet central aspect of academia. Now, ECRs observe and participate in national or international research projects. For instance, [6] originated from a discussion on Twitter and the work of Bik et al [1] resulted from online interactions. Senior researchers openly share ideas through Twitter, giving rise to innovation that sparks collaborative research projects.

3. Diagnose and fix redundant words in your manuscript

See manuscript.

4a. Read Chapter 15 from Writing Science

4b. Read Chapter 5 from Writing Science in Plain English

5. Identify technical terms versus jargon in a paragraph from an example paper.

> "Natural hazard losses exhibit an upward trend over time (Fig. 2). This is a function of increases in wealth and population (Cutter and Emrich 2005; Pielke et al. 2008) but is also attributed to better loss accounting in recent years. The escalating pattern of hazard losses is therefore partially an artifact of advances in reporting losses, but how much or how little this effect contributes to the skyrocketing losses in comparison to effects of population growth and increasing wealth in high hazard areas is unclear."

Technical terms:

- hazard losses: losses suffered from natural hazards
- loss accounting: in financial accounting, a loss is a decrease in net income that is outside the normal operations of the business
- high hazard: a hazard (any source of potential damage, harm or adverse health effects on something or someone) associated with high risk

Jargon:

- exhibit
- artifact
- skyrocketing
- function
- escalating

> Natural hazard losses trend upward over time (Fig. 2) due to increases in wealth and population (Cutter and Emrich 2005; Pielke et al. 2008) and recently improved loss accounting. The continual escalation in hazard losses is thus, in part, a result of advances in reporting losses. However, we do not know the extent to which this effect contributes to the rise in losses compared the effect of population growth and wealth expansion in high hazard areas.

6. Identify technical terms necessary in your manuscript.

- CRAN (The Comprehensive R Archive Network): large and traditional repository for R packages
- Bioconductor: traditional repository for R packages related to bioinformatics and computational biology
- GitHub: public version control system; popular multi-purpose development platform also used for distribution
- developer: computer programmer that develops software such as R packages
- R packages: extend the functionality of base R (tools)
- rOpenSci: a non-profit organization committed to promoting open science practices through technical and social infrastructure for the R community; an ecosystem of open-source tools with peer reviewed R packages

- open source: software for which the original source code is made freely available and may be redistributed and modified
- documentation: various types of instruction and informational 'manuals' about a package
- vignette: a long-form type of documentation with examples, code, problems, solutions, and explanations
- S3 or S4 objects: two main approaches developers use to implement object-oriented programming in R
- specific packages and function calls (`tidyverse`, etc.)
- computational reproducibility: implementing transparent systems within the open science framework such as sharing code used in analyses so others can recreate results using stated methods
- repository

7. Diagnose and fix jargon in your manuscript

See manuscript.

After workshop

See manuscript.

8. Ensure that you are using the right technical terms in your manuscript

9. Add definitions in your manuscript for technical terms that readers might not know

10. Diagnose and fix jargon and redundancy throughout your manuscript

11a. Read Chapter 10 of *Style* (Chapter 2 of the second edition)

11b. Chapter 8 of *Writing Science in Plain English*

12. Read Chapters 16 and 17 of *Writing Science*