Scientific Blogs Writing Guidelines – Not Done Yet!

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Rationale

Communication is one of the key outcomes of an educated person. And in environmental issues, communication is critical to developing ways to engage and address a range of environmental issue. Using digital media has become an increasinly popular way to express our ideas and even used to communicate science – and for many an easy way to critize science outside the peer review process.

Blogs can be used to communicate scientific information, even technical and complex concepts into digestable forms. However, as type of 'translation', the process is not easy. It requires an interative process to hone our use of language to develop an accessible and compelling narrative.

Learning Objectives

This assignment is based on the EA learning outcome for writing and communicating:

- Understand the real-world processes and implications of environmental problem-solving and decision making.
- Speak and write clearly and persuasively.

What is a Blog? and how can it be used effectively to communicate science?

Usually a blog[1], is a series of digtial editorials. In many cases, these are use to promote a certain opinion or communicate information or act as a personal reflection.

[1] Must be the ugliest word in the English language.

In our case, we use the blog to communicate and discuss contraversial issues in science with a hope to provide a nuanced and sophisticated view.

Characteristics of a Blog

The are several characteristics of a blog. The list below is a good summary – please note that are not to be used to structure the order of the blog. I'll discuss that below.

1. Introduction, body and conclusion like other news stories

2. The use of data that can be used to confront various preconceptions about some environmental issue.

3. An objective explanation of the issue, especially complex issues

4. Opinions from the opposing viewpoint that refute directly the same issues the writer addresses

Writing a Blog

Give a concise background on the issue, but just enough to understand the objective of the blog. I see that as a teaser, how to engage your reader so they can 'buy in' to your project.

Next, try to outline a general approach that you have taken. For example, what is your goal or objective, what questions do you want to answer, and finally, if you have hypotheses, you might describe them as a way to provide some 'prediction' that the reader might be interested in.

For example: Based on recent fires in Idaho, the objective of this blog is to describe how climate change might be influencing the regional fire regime. Thus, I'd like to know, to what extent has fire frequency and intensity changed in recent years. Based my observations, I predict that fires have been increasing over time and that increasing summer temperpatures are correlated.

After you describe your objectives and approach, I suggest you describe the data sources and data characteristics that you can use to answer the question(s) and test your hypotheses.

It's tricky to decide how much information to cover in these sections, that might be 'termed' as methods. We need enough for others to follow, but space is precious and our readers time is far from infinite. Thus, I suggest you side on a minimalize approach.

For example: To test my predictions, I obtained NOAA curated temperature and precipation records from Boise (Station: ID033204) from 1885 to 2017. This station has been moved three times during the recoreded period, but have passed through the strict NOAA QA/QC process. Although there were several months of missing precipation data. Thus, to avoid the bias of missing data for monthly totals, if any day's precipation was missing, the entire month was coded as missing.

Data processing, graphics, and analyses used the R programming environment (CRAN 2017).

Reporting statistics is one of the hardest things to do in a scientific blog. We want to 'invite readers' and not turn them off with terse, complext terminalogy. And nothing can do this faster than having to report the results of statistical tests. There are several approaches:

Explain All the Gory Detail

Explain Just Enough

Don't Explain Anything

On headers

When we begin a scientific blog, it's convenient to start with general headers that look like lab reports, "Introdcution", "Materials and Methods", "Results", "Discussion", and "Conclusion". But I am not convinced that the general public reader will find these very compelling. In fact, I am not sure that the separation between the methods and the results is all at that useful in an online context.

Thus, I suggest you start with these as headers and as you develop your blog, create more compelling headers.

For example, instead of "Methods", "Obtaining 110 Years of Boise Weather Data". This allows the reader to know what the methods is doing and this will also allow you to describe the quality and quantity of the data.

For the next section, you'll want to discuss your own results. When you begin reporting your results, think of it as a chance to introduce your data – so, if you have a figure, write some text about the results – and then cite the figure.

For example, Forest fires have increased each year (Figure 3). This is much better than Figure 3 shows how forest fires have increased each year.

Build your argument

A scientific expresses your point of view while a great one manages to persuade others to join your camp. To persuade people, you need a sound argument based on facts, evidence, and analogies, not vitriol and diatribe.

Once you have stated your thesis, acknowledge contradictory opinions and explain why you disagree with them. Use facts, statistics, evidence, quotations, and theoretical explanations for criticizing your opponents' views and cite your sources. Rejecting them outright without any explanation screams of cowardice and unprofessional ethics. Using external sources without citing them leaves you vulnerable to accusations that you made up the data or using the data inappropriately. Thus, cite all your sources AND use highly respected sources.

To build a foolproof argument, you will need to achieve a balance between content and style. Not only will you need substantial data, you will also need to structure it coherently. Writing with precision

and clarity is a learned process and as anyone can tell you, it like a complex puzzle with lots of pieces. But unlike a puzzle, there is not perfect place for each piece – and pieces change shape you as you try to use them. So, try to have an open mind as you are working to refine your blog.

Writing Suggestions: Style in Science Writing

Passive Voice and Passive Constructions

Limit the passive voice.

Dates are rarely possessive

Unless the year owns information, report years as 1990s not 1990's.

Pronouns and Contractions

Avoid them...