

Polishing Your Writing Skills for State Government Agency Careers

Additional Questions from Question & Answer Session

Steve, can you comment on journal writing and the difference between style sheets / requirements for the various journals and tips how to navigate these differences?

S. Holbrook:

There are a couple of things to navigate here. One of the big differences between journal styles is the citation format. I strongly recommend getting a good citation manager program. I used EndNote for years and it served me well, but I have switched to PaperPile, as it integrates nicely with Google docs, which I use now for word processing. A good citation manager will both minimize errors and will make it much easier to switch journals – if your paper doesn't get accepted at Nature (numbered references), you may need to submit it to Geology (named references), and you don't want to go through the document by hand to do that. I also recommend reading the journal & style requirements carefully before submitting, particularly on things like word limits, figure limits, etc. This is one of the biggest differences – is your story short and punchy (maybe better for Geology or Nature Geoscience), or do you need space to build a long argument (maybe better for a long-format journal)? Will your results be of wide interest to many scientists (Nature, Science, PNAS), or are they mostly of interest to specialists? That should guide your choice of journal. And of course make sure that your story fits in with the topic of the journal – if your reference list doesn't cite any papers in the journal you're submitting to, ask yourself if that journal is a good fit.

Re: outlines. I've had mentors suggest drafting an outline & starting the writing process very early on in the research process, but that conflicts with building the paper around major points and details that only come with project completion. How do you fit your writing process into the bigger context of projects and work?

S. Holbrook:

I don't think this is an either/or proposition – it's a “yes, and...” situation. Some elements of your paper lend themselves very well to writing early on – for example, writing down your methods and analysis results as you conduct/receive them. (This is where paper-writing blends into note-keeping...) You will also find (of course) that your ideas on what paper(s) to write will evolve as a project moves forward and new results come in – so those “major points” may change along the way. At some point, though, one needs to decide on a paper to write, and just get down to it – and at that stage, I find the outline indispensable, and a great way to build out the paper in an organized and gradual fashion.

D. Spears:

I don't see a conflict. Even before a project is complete, you understand your hypothesis or research question, and that should form the foundation of the outline. A placeholder for eventual results would also neatly fit into an outline.

Is there a style manual specifically for government work? There are a lot of partial sentences and ideas delimited by many numbers and subsections... navigating this and understanding it is difficult at best. Are there resources targeted to government style and composition?

D. Spears:

There is not a style manual specifically for government work. In all cases, you are writing to convey a

Polishing Your Writing Skills for State Government Agency Careers

Additional Questions from Question & Answer Session

particular message to a particular audience within a particular mode of communication, for example map, technical report, or fact sheet. The audience and format will dictate the style.

I am a second year Geology student. I have an issue with straying from the main topic in an essay or in other words, writing too much. What do you suggest I do to fix this?

S. Holbrook:

First, I think your self-awareness on this point is a really good sign. Given that, take heart -- you're describing what everyone goes through in the first draft stage! This is what Anne Lamott called the "down draft" stage – just getting it down on paper. Most of writing is really rewriting and editing. So don't worry if you've written too much or strayed from the point – now take a scalpel to it and pare it down to its essentials. Josh Schimel (quoting Roy Peter Clark) refers to this editing process as the need to "prune the big limbs, then shake out the dead leaves." In other words, get rid of the stuff that doesn't need to be in there first (this might be entire paragraphs or sections) – then go through and cut out the lard at the sentence-editing level. (Read Schimel's book for more great advice on this.)

D. Spears:

Write often and request critical feedback. Ask professors and other students who are good writers to review your writing.

What are examples of state agencies for geoscientists that do not involve resource extraction?

D. Spears:

For the most part, state agencies do not extract resources, but many agencies regulate industries that extract resources. One of the primary roles of government is ensuring that industries operate in a manner that protects workers, citizens, and the environment. Geoscientists are a critical element of this protection.

Having said that, the primary role of state geological surveys is to develop and deliver earth science information that helps citizens and the economy. Resource-extractive industries may use the information products of a state geological survey, but those same products are also used to protect groundwater and reduce the risk from geologic hazards, for example.

Other state agencies not involved with resource extraction employ geoscientists. Almost every state has a "Department of Environmental Protection" or equivalent that protects groundwater and regulates waste disposal. State health departments commonly hire geoscientists to help in the design of wastewater treatment systems. Highway departments employ geoscientists to reduce the risk of geologic hazards such as rock falls.

Where could be a good place to improve the writing of abstracts? What makes a good abstract?

S. Holbrook:

Abstracts are really important, but, unfortunately, often poorly written. My advice here hearkens back to one of the main principles I raised in the webinar: make the reader's job easy. The abstract should

Polishing Your Writing Skills for State Government Agency Careers

Additional Questions from Question & Answer Session

ideally be the go-to summary that someone can read and understand (1) what technical or scientific problem you were addressing, (2) why this problem matters, (3) what general methods you used to tackle the problem, (4) what you found, and (5) what implications your results have. A common mistake in writing abstracts is thinking that it is a receptacle for vague statements. For example, don't say "Results will be presented about the impact of metamorphic foliation on subsurface permeability" (which is just a tease that makes the reader dig into the paper to find the results) -- rather, say "Our results suggest that metamorphic foliation controls subsurface permeability when it aligns with surface topography ." For more on writing abstracts, Stephen Heard, in The Scientist's Guide to Writing, has a good section on the topic. You can also find some general guidance (on this topic as well as many others) at university Writing Center websites (e.g., <https://writingcenter.unc.edu/tips-and-tools/abstracts/>). Finally, make sure you consult the guidelines for the journal you are submitting to – Nature, for example, has a very different set of expectations for the first paragraph (which is a kind of summary but not technically an abstract) than most other journals.

D. Spears:

You can find many helpful resources by searching on "How to write a good abstract." Here are a few:

<https://www.wikihow.com/Write-an-Abstract>

<https://writingcenter.gmu.edu/guides/writing-an-abstract>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3136027/>

What makes a good abstract?

1. It provides a concise overview of the major points of the paper.
2. It follows the rules of good writing such as those presented by Steve Holbrook in the GOLI webinar.
3. It adheres to the rules set out by the journal to which you're submitting it.

Can you provide advice on how to write regulations, policies, and/or guidance for a state government agency?

D. Spears:

This is a complicated topic. Simply put, laws are written by elected legislators, ideally with input from subject matter experts. Sometimes these experts are scientists. Therefore, as a geoscientist in government, you may be called upon to provide advice to legislators during the drafting of laws.

Rules, also known as regulations, are written by government agencies to enforce laws. Regulations are usually drafted with input from groups that have an interest in the topic. For example, mine safety regulations are drafted with input from worker protection advocates, mining companies, and citizens. Regulations typically undergo a robust public comment and revision process before they are implemented.

Policies are typically written by elected officials or political appointees to fulfill a political agenda. Policies do not have the force of law, but are intended to guide the actions of government. For

Polishing Your Writing Skills for State Government Agency Careers

Additional Questions from Question & Answer Session

example, the current U.S. administration has a pro-fossil-fuels policy, and that policy is guiding the actions of government agencies that enforce laws and write regulations.

**Is there a standard on how to spell the word that describes water contained in underground aquifers?
Is it spelled "groundwater" or "ground water"?**

D. Spears:

Both forms are used and accepted!