

Department of Geography, Environment & Society

Writing and Research Guide

What is Effective Writing?

Effective writing clearly communicates ideas to the readers. This usually includes a well structured and engaging sequence of ideas, including use of evidence to support these ideas. Effective writing includes addressing the appropriate audience, attributing credit to others through thorough citation, as well as a sense of the author's own voice, and correct writing mechanics such as grammar and spelling.

Using evidence

This section provides some basic guidelines to keep in mind for how to include evidence effectively within the context of your arguments and writing.

What is evidence?

Evidence supports the main points that make up your argument.

Types of evidence may vary widely, depending on the context, arguments, and audience of your writing. Different types of evidence frequently used in geography include: data interpreted and represented visually in the form of maps, tables, or graphs—either existing or creating your own; direct quotations from existing texts, policies, or interviews; and population data.

Your instructor should give you a sense of the kinds of evidence appropriate to a specific writing assignment, within the context of a course or your senior project.

Deciding what evidence to use

Ask yourself what kinds of information, facts, data, and perspectives from the literature might be useful for supporting your main ideas. What would make your idea persuasive? What kind of background is needed for your readers, and how can you provide this? In geography, the kinds of evidence and way that it is used will vary quite a bit depending on context, so be sure to understand the appropriate types of evidence for your assignment.

Discussing your evidence in the text

It is important to directly discuss in the text the evidence you include in your work. As you decide what evidence to include in your work, ask yourself:

What is the main point that I want the reader to understand by looking at the figure or direct quotation I include? How does this relate to my argument?

No matter what kind of evidence you are using, clearly spell out the connection between your argument and the evidence within the text. Do not leave it up to the reader to discover this connection on their own.

Citing Sources

Scholarly citation

- Citing sources in your writing for assignments is often considered as an afterthought, and usually only in the context of plagiarism. Using sources responsibly allows readers to check the accuracy of your paraphrase, summary or quotation, and also to explore the sources you use in their own research. Citation shows that you honor the work of other scholars. By recognizing and respecting others' work, your own contributions will be taken more seriously.

University of Minnesota plagiarism policy

- All courses in the geography department follow the university's policies on plagiarism and scholastic dishonesty. The [University of Minnesota Student Conduct Code](#) classifies scholastic dishonesty as a disciplinary offense actionable by the University. Scholastic dishonesty is defined as:
 - "Submission of false records of academic achievement; cheating on assignments or examinations; plagiarizing; altering, forging, or misusing a University academic record; taking, acquiring, or using test materials without faculty permission; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement."

Learn more about plagiarism and academic dishonesty from the [Office for Student Conduct and Academic Dishonesty](#).

Special Issues in Geography Writing

Using Figures

“Figure” is a general term, usually including: maps, graphs, images. In a research paper where you might use several maps, a graph, and a photograph, these should all be labeled as figures, and numbered according to their order in the paper.

- For most essays and research papers, it is helpful to include graphics directly in the body of the text, but they also can be placed at the end of a paper. In either case, all visuals must be labeled and cited accurately.
- Maps should include at least these elements: scale, a legend, and a direction arrow (usually pointing North). If you are using an existing map, double check that these are all there.
- Please include units of measurements, axes, and titles for columns and rows.
- Images should be large and clear enough to make a striking visual effect, and the photographer or source of the photo should be properly cited in the caption.

Making your own figures and tables

Maps and mapmaking are exceedingly important to the geography department. Depending on the assignment and course you may be required to make your own maps and tables, which if done effectively will enhance your argument or main point. Some geography and GIS courses focus entirely on making and using visual information; these courses will have specific and detailed assignments to guide you, as well as specific requirements. The following guidelines may not be adequate for courses in GIS, cartography, or other courses on spatial analysis and representation.

This section provides you with some general starting points about creating your own tables and figures. If in doubt, ask your instructors whether these are adequate for your assignment or project.

Maps

"To ask 'what is a good map?' is to ask how well it communicates with its audience."—Kenneth E. Foote and Shannon Crum, 1995.

Geographer Kenneth Foote has outlined some helpful questions to ask yourself when considering to include or make a map.

What is the motive, intent, or goal of the map?

This question focuses on what the reader should gain from the map or how the reader should respond. Is the map intended to convey information about spatial relationships? Is the map intended to sway or be involved in public opinion? The goal of the map will influence both the content and form of the map.

Who will read the map?

How much does your audience know about the subject of the map? How much background does your audience have in reading maps? Both of these aspects of audience should be considered in the way that you make a map, and in the way that you interpret and explain a map in the text.

Where will the map be used?

Context is important for how maps are understood by the reader.

What data is available for the composition of the map?

This might influence how a map is made because data may be incomplete or hard to communicate. Does the data need to be qualified? Do limitations need to be spelled out for the reader? Consider the potential limitations or inconsistencies in the data from the start of your project.

What resources are available in terms of both time and equipment?

How much time should you invest in this project, and do you have the equipment, software, and skills that you need to complete the project with enough time to do your best work? These factors can drastically affect your ability to work on a project that has time constraints, as most if not all class projects do.

Common map elements

Distance or scale:

Usually using a bar or line, this shows some equivalence between the map and the space it portrays. Distance and scale can be shown in verbal, numeric, or graphic form: 1 inch equals 1 mile.

Direction:

Most maps show north as being toward the top of the paper, but this is not always the case. Additionally, true north (the direction to the North Pole) differs from magnetic north (the magnetic north pole moves due to changing geophysical conditions of the earth's crust and core). Depending on the subject matter, these distinctions may be important.

Legend:

This lists symbols used on a map and what they depict. The symbols should appear exactly as they are found in the body of the map, and have clear and complete descriptions.

Not all maps require legends—sometimes this information could be put in a caption, or added as textual annotations directly on the body of the map.

Elements that are sensitive to context:

Title:

If your map is appearing within a publication such as a book, journal, or paper, captions usually take the place of a title. If your map is appearing on its own, a title is necessary and important in how the map is understood.

Projection:

This influences how maps represent area, distance, direction and shape. It should be noted when this is of importance to how the map will be interpreted. Some widely used locational reference systems such as the U.S. State Plane Coordinate system and Universal Transverse Mercator system are based on predefined projective geometries that are implicit in the use of the coordinate systems themselves.

Cartographer:

The authority lying behind the composition of a map can be of prime importance in some situations. Most maps note the name, initials, or corporate identity of the cartographer(s).

Date of production:

Some maps are sensitive to time, and it may be important for the reader to know when they were produced. This can be indicated as roughly by including the year, or as specifically as date and time to the second. Gauge how to handle this depending on what you are trying to convey to readers and the content of the map.

Inset maps:

It can be helpful to provide a “zoomed out” view of the area covered by a map. For example, if you portray an area of several blocks within a neighborhood, it may be helpful to show how this neighborhood is situated within a larger city or metropolitan area.

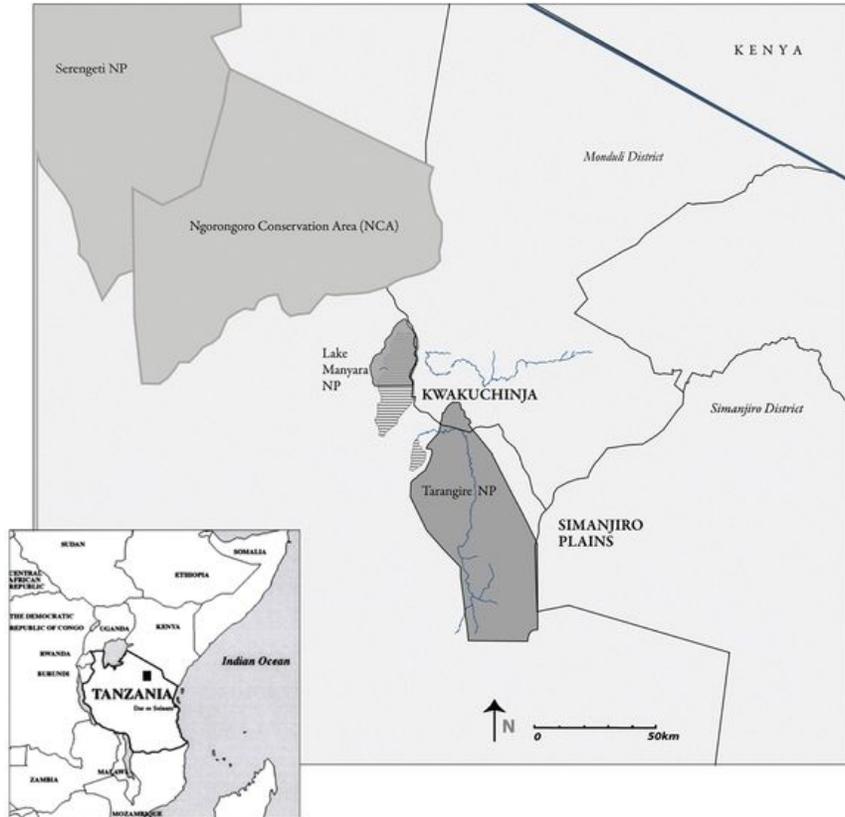


Figure 1. Map of the study area, the Tarangire Manyara Ecosystem (TME), in regional perspective. The TME itself encompasses Tarangire National Park, Lake Manyara National Park, Kwakuchinja, and the Simanjiro plains. Because the exact boundary is unknown and contested, I have not drawn one here. NP = National Park.

Goldman, Mara. 2009. Constructing Connectivity: Conservation Corridors and Conservation Politics in East African Rangelands. *Annals of the American Association of Geographers*. 99(2):335-359.

In this example, the author has provided a small inset map showing the context of the main large map. In the caption for the map, the author provides a description of what the map shows (the study area from the “regional perspective”, discussed further in their paper). The author also explains why a key boundary is left out of the map, also indicating the author has constructed the map herself.

Tables

Like maps, tables communicate information. A table can be very efficient at presenting quantitative data. They can easily present quantitative information for the reader in simple terms.

Keep these basic guidelines in mind when putting together a table:

- Tables are made up of columns and rows of information
- Headings for columns and rows should be descriptive and always include the units of measurement

- If the table is meant to stand alone, give the table a title that concisely summarizes the contents
- If the table is meant to be read along with text (for example, as part of a paper or report), do not give the table a title, and instead number the table relative to other tables in your paper, and provide a caption with the following elements
 - Descriptive summary of key point(s)
 - Proper citation for all data used, if not data collected by you

Table 1. Contextualized flood flows of February 2004 in the Kiwitea, Pohangina, and Oroua river channels

River (gauging site) [area km ²]	Flood flows (m ³ s ⁻¹)						
	Flood of 16 Feb 2004 (95% CI)	Average recurrence interval ^a (yr)	Previous maximum flood (m ³ s ⁻¹)	Date of previous maximum	Mean annual flood (Q _{2.33}) ^b	Ratio 100 yr : 2.33 yr flood	Years of record
Kiwitea (Spur Road) [224]	358 (± 98)	100	166	2 Sept 1988	72	5.03	29
Oroua (Almadale) [329]	450 (± 80)	115	412	12 May 1958	172	2.56	46
Pohangina (Mais) [547]	1111 (± 213)	38	1046	15 Feb 1992	466	2.91	36

Source: Based on Fuller and Heerdegen (2005).

^aGEV (Generalized Extreme Value) or Gumbel distribution (2-parameter or EV2).

^bBased on EV2 and including the 15–16 February flood event: Details of these distributions are available in Fuller and Heerdegen (2005).

Fuller, Ian. 2007. Geomorphic Work during a “150-Year” Storm: Contrasting Behaviors of River Channels in a New Zealand Catchment. *Annals of the American Association of Geographers*. 97(4):665-676.

The above table follows the guidelines that any table should stick to. The left column lists rivers studied and includes details about each in parentheses and brackets. The rest of the columns list flood flows data about those rivers, with units of measure shown. This table is also correctly cited as shown above.

Research Guidelines and Resources

Coming up with a Topic

Any assignment, whether major or minor, is usually easier and more enjoyable if it is focused on a topic about which you are interested and excited. One of the questions to think about when coming up with a topic, then, is first and foremost: What interests you? What do you care about, in the context of the assignment or course? Taking this as a starting point will lead to fruitful possibilities for the topic of your assignment.

- Brainstorming also can help. Jot down informal notes without worrying about grammar or complete sentences. Make lists. Focus narrowly, or use association to come up with potential linkages between ideas.
- Diagrams, maps, sketches can help generate ideas and allow for making connections between ideas.
- Freewriting is another part of research and writing that is also a quick and informal way to develop an idea. In contrast to the lists or phrases that often make up brainstorming, freewriting is an opportunity to write and elaborate more fully – while still taking liberties with grammar or specific sentence structure.
- Visit the [Center for Writing](#) to get help with developing ideas and research topics.
- Talk with someone about your ideas. Instructors, professors and TAs, maybe be the best people to check in with about your developing topic. Other students in your course or major can also be a help with idea development.

Getting Started with Research

As you start your research, you will want to keep in mind the types of sources expected in your assignment, and keep track of the kinds of sources you find.

U of M Library resources

Especially when working on a research paper or project, you have to find sources—such as those characterized above—to build your central argument.

The ability to find the information you need, and to carry out research, are fundamental skills. The [University of Minnesota Libraries](#) give you access to all types of information. As opposed to using a general search engine such as Google, the library can provide more focused, narrow, and potentially more relevant searches.

You can search the library quite generally, or search within specific databases or particular journals. Databases organized by subject can be very helpful. Along with a variety of other fields, the library has such databases and [other resources specifically organized for geography](#).

Is the source scholarly?

One of the first questions to think about is whether or not a source may be considered “scholarly”. Scholarly, or academic, sources are not the only sources acceptable for work at the university level. But they do make up the majority of research and writing within which professors and graduate students situate their own work, and often make up the bulk of assigned readings and coursework for undergraduates.

The University has a short guide to sift through sources—[Popular or Scholarly?](#) This tool can help you manage resources and make decisions about research to include in your writing.

Refining Your Topic

A topic you are considering may be so broad that it will be hard to successfully write about it based on the expectations for the assignment. Sometimes your topic will be too narrow, depending on the expectations of your instructor as outlined in the assignment. You may get feedback to either narrow or expand your topic – but how do you do this?

Narrowing your topic

Look for specific examples, places, and factors to narrow your topic.

Consider focusing on particular and important aspects of the larger context. A specific example can provide a way to focus your topic so that you can develop a better set of questions to get your research underway. Creating a more manageable, specific topic is a way to assure your thesis is completable.

Developing a Thesis

In many assignments, you are asked to develop an argument. This can also be thought of as a claim or assertion about your topic, and is called the thesis of your paper. You will develop several key supporting points to your thesis based on your interpretation and explanation of the evidence you present, in order to defend your assertion about the topic. The thesis is communicated by the thesis statement—a sentence that states your assertion and suggests your interpretation and analysis. Most often the thesis statement comes towards the end of the Introduction. Thesis statements sometimes begin with “I will argue that...”.

Identifying a ‘problem’ within your topic

The thesis and the topic are not the same thing. Once you have identified your topic—usually a fairly broad area of interest—you need to think about how it might become an interesting ‘problem’ or question that you can explore and answer within the context and constraints of the assignment (e.g. a 3-5 page paper for a particular geography course). This process might be called ‘problematizing’ your topic.

For example:

- Topic: “Universities and their host cities”—way too big!
- Narrowing the topic: “How large American universities affect their host city”—still unwieldy!
- The topic understood as a problem: “What is the impact of the University of Minnesota on adjacent Minneapolis neighborhoods?”
- Even more specific: “How has housing in the Marcy-Holmes neighborhood of Minneapolis changed in recent years, and what role has the University of Minnesota played in bringing these changes about?”

This last and more specific set of questions points directly to a particular institution, identifies a neighborhood adjacent to the institution, and identifies a single significant feature (housing). If this were your project, you must now decide about a time frame, select which housing-related variables will be examined, and consider how to find the information needed.

There is no formula for when or how to do this—but it will help to begin focusing your interests within your topic early in the process. You may need to go back and forth between researching the available information and existing work on your topic, and refining how you define the problem within your topic that you will eventually develop into your thesis. Your thesis may change depending on what you find out about your topic.

The [Center for Writing](#) is an excellent resource for more information about composition and research. For specific research questions, inquiries, and searches, the [University of Minnesota Libraries](#) and the geography subject librarian [Ryan Mattke](#) are available to help you find what you need for projects of all kinds.