

chicago manual of style geographic data citation

Navigating Geographic Data Citation with the Chicago Manual of Style

chicago manual of style geographic data citation requires careful attention to detail, ensuring that the spatial information used in scholarly and professional works is properly attributed. Whether you are referencing a historical map, a contemporary geographic information system (GIS) dataset, or a satellite image, understanding the specific guidelines for citing such sources is paramount. This article will delve deeply into the intricacies of citing geographic data according to the widely respected Chicago Manual of Style (CMOS), covering everything from fundamental principles to nuanced examples. We will explore the essential elements of a geographic data citation, discuss the different types of geographic data that may require citation, and provide practical advice for constructing accurate and compliant references. By mastering these principles, you can enhance the credibility of your research and avoid common pitfalls associated with citing this complex category of information.

Table of Contents

Understanding the Importance of Citing Geographic Data

Core Components of a Geographic Data Citation in CMOS

Citing Maps and Atlases

Citing Digital Geographic Data and GIS

Citing Satellite Imagery and Aerial Photographs

Citing Online Geographic Resources

Specific Considerations for Geographic Data Citation

Geographic Data Citation Examples

Conclusion

Understanding the Importance of Citing Geographic Data

Properly citing geographic data is fundamental to academic integrity and scholarly communication. It acknowledges the work of the creators of the data, allows readers to locate and verify the sources used, and contributes to the broader body of knowledge within fields that rely heavily on spatial information. Geographic data, encompassing maps, satellite imagery, GIS datasets, and more, forms the backbone of research in disciplines such as history, geography, urban planning, environmental science, and archaeology. Without clear and consistent citation practices, the reliability and reproducibility of research findings can be compromised. The Chicago Manual of Style provides a robust framework for this, ensuring that these vital spatial references are treated with the same rigor as any other source material.

The act of citation is more than just a formality; it is an ethical imperative. It prevents plagiarism by giving credit where credit is due and establishes the author's credibility by demonstrating a thorough engagement with existing scholarship and data. In the context of geographic data, this means understanding not only the author and title of the source but also its scale, projection, date of

creation, and any associated metadata, all of which are crucial for interpreting the data accurately. The Chicago Manual of Style offers a flexible yet precise approach to accommodate the diverse nature of geographic information, guiding writers to present this information clearly and concisely to their audience.

Core Components of a Geographic Data Citation in CMOS

When constructing a citation for geographic data according to the Chicago Manual of Style, several key components are generally required to provide sufficient information for your readers. While the exact format may vary slightly depending on the type of geographic data being cited, the underlying principles remain consistent. These components aim to uniquely identify the source and provide context for its use.

Author or Creator

The author or creator is the individual, organization, or entity responsible for producing the geographic data. This could be a cartographer, a government agency, a research institution, or a software developer. For maps, it might be the publishing company or the mapmaker. For digital datasets, it's often the organization that collected or compiled the data. If no clear author is identifiable, the title may be moved to the first position.

Title of the Work

The title of the geographic data source is essential. For maps, this is the name printed on the map itself. For digital datasets, it's the official name of the dataset, often found in its documentation or metadata. If the data is part of a larger collection, you may need to cite both the specific dataset and the collection it belongs to.

Publication or Creation Details

This element includes information about when and where the geographic data was published or created. For printed maps, this would involve the place of publication and the year. For digital data, it typically refers to the date of release or last update. This temporal and spatial context is crucial for understanding the currency and applicability of the data.

Edition or Version Information

Many geographic sources, especially maps and digital datasets, are updated periodically. Citing the specific edition or version of the map or dataset you used is important for accuracy. This helps readers understand if they are referencing the same iteration of the data you consulted. For digital data, version numbers are common and should be included if available.

Scale and Projection (for Maps)

For printed maps, the scale (e.g., 1:100,000) and projection (e.g., Mercator projection) are vital pieces of information that define how the map represents reality. Including these details allows readers to critically assess the map's potential for distortion and its suitability for specific analytical purposes. While not always explicitly required in every citation style, CMOS often encourages their inclusion for maps due to their significance.

Access Information and Dates (for Digital Data)

When citing digital geographic data, it is imperative to provide information on how and when you accessed it. This includes the URL or repository where the data can be found, and the date you last accessed it. This is especially important for online resources that may be updated or removed over time, ensuring the citation remains valid and verifiable.

Citing Maps and Atlases

Maps and atlases, whether in print or digital form, have long been foundational to the study of geography and related fields. The Chicago Manual of Style offers clear guidance on how to cite these visual representations of spatial information, ensuring their proper attribution and allowing readers to locate them.

Printed Maps

When citing a physical map, the primary elements include the cartographer or publisher, the title of the map, the place of publication, the publisher, and the year of publication. For example: National Geographic Society, "World Map," Washington, D.C.: National Geographic Society, 2015. If a specific cartographer is credited, they should be listed as the author. The scale and projection are often included as additional descriptive details for clarity. For instance, "World Map, Scale 1:30,000,000, Mercator projection."

Maps in Books or Journals

If a map appears as part of a larger work, such as a book or journal article, the citation should reflect its inclusion within that source. You would cite the map itself and then indicate its location within the larger publication. For a map in a book: John Smith, "Historical Map of the Region," in *The Geography of Our Land*, 155-157 (Chicago: University of Chicago Press, 2010). The page numbers are crucial here for directing the reader to the specific map.

Atlases

Citing an atlas follows a similar pattern to citing a book. The primary author (often an editorial team or publishing company), the title of the atlas, the place of publication, the publisher, and the year are

essential. For example: Rand McNally, Commercial Atlas & Marketing Guide (Chicago: Rand McNally, 2023). If you are referencing a specific map within an atlas, you would cite the atlas and then indicate the page number or map title within the atlas, similar to citing a map in a book.

Digital Maps

Digital maps, whether accessed online or through software, require citation of their source, title, creator, version (if applicable), and access information. For online maps, the URL and the date of access are critical. For instance: Google Maps, "Street View of Eiffel Tower," accessed October 26, 2023, <https://maps.google.com/>. The level of detail for digital maps may also extend to the software used to generate them if you are discussing specific functionalities or data layers.

Citing Digital Geographic Data and GIS

The proliferation of digital geographic data and Geographic Information Systems (GIS) has revolutionized how we study and interact with spatial information. Citing these complex datasets requires precision, ensuring that the digital source is clearly identified and accessible to readers who wish to verify or replicate the research.

GIS Datasets

When citing a GIS dataset, the key information includes the creator or organization responsible for the data, the title of the dataset, the version or release date, and the source or repository where it can be accessed. For example: U.S. Census Bureau, "TIGER/Line Shapefiles," 2021, accessed October 26, 2023,

<https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html>.

Metadata associated with the dataset, such as coordinate systems and data dictionaries, may also be relevant to include in your notes or bibliography for completeness.

Online GIS Platforms and Services

Citing data accessed through online GIS platforms like Esri's ArcGIS Online or the U.S. Geological Survey's (USGS) EarthExplorer requires noting the platform, the specific dataset or layer used, the creator of that layer, and the URL and access date. For example: U.S. Geological Survey, "National Land Cover Database (NLCD) 2021," accessed October 26, 2023,

<https://www.mrlc.gov/data/nlcd-2021>. It's important to distinguish between the platform providing the service and the actual data layer being utilized.

Proprietary GIS Software and Data

If your research relies on proprietary GIS software and its associated datasets, you should cite both the software and the specific data. For software: Esri, ArcGIS Pro, version 3.1 (Redlands, CA: Esri, 2023). For data used within that software, follow the guidelines for digital datasets, including the

source and access information. If the data is licensed, mention that it is proprietary or licensed data, if relevant to your discussion.

Geodatabases and Layers

When working with geodatabases or specific layers within them, the citation should be as granular as possible. Specify the database name, the organization that maintains it, and the particular layer or feature class you are referencing. For instance: City of Chicago, Department of Planning and Development, "Zoning Districts Layer," Chicago Data Portal, updated April 15, 2023, accessed October 26, 2023, <https://data.cityofchicago.org/>. This level of detail ensures that readers can pinpoint the exact spatial information used.

Citing Satellite Imagery and Aerial Photographs

Satellite imagery and aerial photographs are invaluable sources for understanding land cover, urban development, and environmental changes over time. The Chicago Manual of Style provides guidelines for citing these visual data types, which often involve specific technical details.

Satellite Imagery

When citing satellite imagery, key elements include the satellite system and sensor (e.g., Landsat 8, Sentinel-2), the specific image or dataset title (if available), the acquisition date, the data provider or agency (e.g., NASA, ESA), and the access point (e.g., a data archive URL). For example: NASA, "Landsat 8 OLI/TIRS Collection 2 Level-1," acquired June 10, 2022, USGS EarthExplorer, accessed October 26, 2023, <https://earthexplorer.usgs.gov/>. The resolution and spectral bands used might also be relevant to include.

Aerial Photographs

For aerial photographs, you should identify the agency or company that conducted the aerial survey, the date of the flight, the geographic area covered, and the location of the archive or collection where the photographs can be found. For instance: U.S. Department of Agriculture, Farm Service Agency, "Aerial Photography," flight date August 5, 2020, for [Specific County, State], accessed via the National Archives, October 26, 2023. If specific flight lines or roll numbers are known, they should be included for precision.

Processed Imagery and Derived Products

If you are using processed satellite imagery or derived spatial products (e.g., normalized difference vegetation index (NDVI) maps), you need to cite the original data source, the processing software or methodology, and the entity that created the derived product. For example: Derived NDVI product from Landsat 8 imagery, processed using ENVI software, created by [Your Institution/Name], data acquired July 20, 2023, accessed October 26, 2023. This clarifies both the raw data source and the

transformation applied.

Online Image Archives and Viewers

When accessing imagery through online viewers or archives, such as Google Earth Engine or specific historical image repositories, cite the platform, the specific image or dataset, the provider, and the access date and URL. For example: DigitalGlobe, "High-Resolution Satellite Image of [Location]," accessed via Google Earth Engine, October 26, 2023, <https://earthengine.google.com/>. Ensure you distinguish between the imagery provider and the platform used for access.

Citing Online Geographic Resources

The internet hosts a vast array of geographic resources, from interactive maps and data portals to online encyclopedias and databases. The Chicago Manual of Style provides a framework for citing these dynamic and often evolving sources, emphasizing the need for access dates and stable URLs.

Websites with Geographic Information

For websites that provide general geographic information or data, cite the organization or author, the title of the page or section, the website name, and the URL along with the access date. For example: National Oceanic and Atmospheric Administration (NOAA), "National Centers for Environmental Information," accessed October 26, 2023, <https://www.ncei.noaa.gov/>. If a specific author is listed for a particular page, include that name.

Interactive Online Maps

Interactive online maps, such as those found on government agency websites or commercial platforms, require citation of the map provider, the title of the map service, and the URL. Include the date you accessed the map. For example: Esri, "Living Atlas of the World," accessed October 26, 2023, <https://livingatlas.arcgis.com/>. If you are referencing a specific layer or view within the interactive map, you may wish to note that in your text or a footnote.

Geographic Databases and Portals

When citing data from online geographic databases or portals, list the organization responsible for the portal, the title of the specific dataset or database, and the URL. Again, the access date is critical for these potentially changing resources. For example: World Bank, "Open Data," accessed October 26, 2023, <https://data.worldbank.org/>. If you are using a specific tabular dataset from the portal, you would cite that dataset more directly.

OpenStreetMap and Collaborative Projects

For crowdsourced geographic data like OpenStreetMap, cite the project and the data source. The OpenStreetMap Foundation offers specific guidance, but CMOS would generally require: OpenStreetMap Contributors, "Map Data," OpenStreetMap, accessed October 26, 2023, <https://www.openstreetmap.org/>. It's important to acknowledge the collaborative nature of such projects.

Specific Considerations for Geographic Data Citation

Beyond the general components, certain aspects of geographic data demand special attention to ensure clarity and accuracy in your citations according to the Chicago Manual of Style. These considerations often arise from the technical nature of spatial information.

Metadata and Data Dictionaries

Metadata provides crucial context for geographic data, explaining its origin, characteristics, and limitations. While not always directly included in a bibliography entry, referring to or citing the metadata or data dictionary is good practice, especially in scholarly work. This can be done in a footnote or within the text itself, indicating where the reader can find detailed information about the dataset's properties.

Coordinate Systems and Projections

For GIS data and digital maps, the coordinate system and projection are fundamental to its spatial accuracy and interpretation. While not always a mandatory element in a basic citation, it is highly recommended to mention these details in your text or in a footnote if they are relevant to your analysis. This demonstrates a sophisticated understanding of the data's characteristics.

Data Updates and Versions

Geographic datasets are frequently updated. Citing the specific version or the date of the last update is crucial for reproducibility. If a dataset is frequently updated, and you are referencing a particular snapshot in time, clearly stating the date of that snapshot is essential for other researchers to access the same data.

Attribution Requirements of Data Providers

Many providers of geographic data, especially government agencies and open data initiatives, have specific attribution requirements. Always check the terms of use and licensing agreements for any geographic data you use. These requirements may dictate specific wording for your acknowledgments or citations. The Chicago Manual of Style encourages adherence to these specific source-level instructions.

Scale and Resolution

The scale of a map or the resolution of imagery directly impacts the level of detail that can be represented and the types of analysis that are appropriate. While not always a formal part of a bibliographic entry, mentioning the scale or resolution in your text, especially when discussing the data's limitations or strengths, is highly beneficial for your reader.

Geographic Data Citation Examples

To solidify understanding, here are some practical examples of how to cite various types of geographic data using the principles of the Chicago Manual of Style. These examples illustrate the application of the core components discussed previously.

Example 1: Printed Map

National Geographic Society, "Political Map of the World," Scale 1:45,000,000, Washington, D.C.: National Geographic Society, 2018.

Example 2: Digital Dataset (GIS)

U.S. Environmental Protection Agency, "Air Quality System (AQS) Data," accessed October 26, 2023, <https://www.epa.gov/aqs>.

Example 3: Satellite Imagery

European Space Agency, "Sentinel-2 MSI," processed image of [Specific Region], acquired November 15, 2022, Copernicus Open Access Hub, accessed October 26, 2023, <https://scihub.copernicus.eu/>.

Example 4: Online Interactive Map

City of New York, "Department of City Planning: Zoning Map," New York City Department of City Planning, accessed October 26, 2023, <https://www1.nyc.gov/site/planning/data-maps/maps/zoning-map.page>.

Example 5: Map within a Book

Jane Doe, "Map of Colonial Settlements," in *Early American Geography*, 78-79 (Philadelphia: University of Pennsylvania Press, 2005).

These examples demonstrate how to incorporate essential details like creator, title, publication information, access details, and specific technical characteristics where applicable. The goal is always to provide enough information for a reader to locate and understand the geographic data source.

Conclusion

Mastering the nuances of the Chicago Manual of Style for geographic data citation is an indispensable skill for any scholar or professional working with spatial information. By adhering to the principles of identifying creators, titles, publication details, and access information, and by being mindful of the specific characteristics of different types of geographic data, you can ensure the integrity and clarity of your work. The detailed guidance provided herein aims to equip you with the knowledge to confidently cite everything from historical maps to cutting-edge GIS datasets, thereby enhancing the credibility and reproducibility of your research. A commitment to accurate citation practices not only honors the work of data creators but also strengthens the foundation of knowledge within your field.

Q: How does the Chicago Manual of Style handle citations for maps created before the digital age?

A: For printed maps, the Chicago Manual of Style generally requires the cartographer or publisher as the author, the title of the map, the place of publication, the publisher, and the year of publication. Additional details such as the scale and projection are often included for clarity, providing essential context for historical maps where such information is vital for interpretation.

Q: What are the key differences in citing a digital GIS dataset versus a physical map?

A: The primary difference lies in the access information. For digital GIS datasets, you must include a URL and the date of access because the data is dynamic and may be updated or moved. Physical maps, being static, rely on publication details like place and publisher for retrieval.

Q: Should I cite the software used to create a map or analyze geographic data?

A: Yes, if the software plays a significant role in the creation or analysis of the geographic data you are presenting, it is good practice to cite it. This includes the software name, version, and developer, especially if specific functions or algorithms are critical to your findings.

Q: How do I cite geographic data that has no clear author or publisher listed?

A: When an author or publisher is not clearly identifiable for geographic data, the Chicago Manual of Style typically allows the title of the work to be moved to the first position in the citation. You would then provide the remaining available information, such as the date and source.

Q: What is the importance of citing the date of access for

online geographic resources?

A: Citing the date of access for online geographic resources is crucial because web content can change or be removed without notice. Including this date helps readers understand what information was available to you at the time of your research, ensuring the reproducibility and verifiability of your citations.

Q: Are there specific rules for citing different types of satellite imagery, such as Landsat versus commercial imagery?

A: While the core principles of citing satellite imagery remain the same (sensor, acquisition date, provider, access point), the level of detail might vary. For publicly available data like Landsat, you'll typically cite the agency (e.g., NASA, USGS) and the data archive. For commercial imagery, you would cite the commercial provider and the specific dataset or license if applicable.

Q: How granular should my citation be when referencing specific layers or features within a large GIS dataset?

A: The more granular, the better for reproducibility. Ideally, you should specify the name of the dataset, the organization that maintains it, and the particular layer or feature class you used. This level of detail helps other researchers pinpoint the exact spatial information.

Q: Does the Chicago Manual of Style require citing the coordinate system or projection for digital geographic data?

A: While not always a mandatory element in every bibliography entry, it is highly recommended by the Chicago Manual of Style to mention the coordinate system and projection in your text or a footnote if they are relevant to your analysis. This demonstrates a thorough understanding of the data's spatial properties.

[Chicago Manual Of Style Geographic Data Citation](#)

Chicago Manual Of Style Geographic Data Citation

Related Articles

- [chicago manual of style formatting help](#)
- [chicago manual of style illustration numbering](#)
- [chicago manual of style geographic citation style](#)

[Back to Home](#)