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Reading Historic Maps: A Practical Guide

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Maps are fabulous primary source documents and are a graphical representation of our world. They combine art and science in order to describe a specific place in time. While maps attempt to describe reality, they are not a mirror. They represent the views or interests of the cartographer or agency conducting the mapping. Cartographers select, simplify and group concepts for display. With historic maps, there were limitations of the science and technology available at the time. They were often tools to depict power and persuasion. These factors explain why some say that maps lie.[1] It is up to the map reader to think critically about what appears on the map, as well as what features may not have been included. As you study historic maps consider the two major branches of geography, which are: 1) physical geography (i.e. landforms and nature) and 2, human geography (the people and their built environment) and how they interact and influence the other.

Both modern and historic maps contain lines, symbols, colors and text. Closely reading a historic map provides a greater understand of the history of a place, but also document the changing relationships of people and places. While modern maps are fairly standardized and generally contain basic cartographic elements including a title, scale, key (or legend) and an orientation, historic maps convey this information with some degree of variation, and may seem complicated or unclear.

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[1] Monmonier, Mark. *How to Lie With Maps*, 3rd ed. University of Chicago Press, 2018.

This guide is an educational resource that will support students and educators seeking to better understand the information found on historic maps. You will build upon your existing knowledge of reading modern maps to focus on the unique characteristics of historic maps. This guide's focus is primarily European maps from the 17th-19th Century, a spatial depiction of the history of navigation and conquest through world maps, as well as regional/area maps, which often depict natural resources, census and commercial interests. Maps from European cartographers are profuse in libraries and cultural heritage collections. They are meaningful sources of historic information, as they document the evolution of locations and are both works of science and art. Historic maps have a significant role documenting imperialism in nation states and thus they deserve our focus. While this guide provides some Chinese and Islamic mapping examples in Appendix C, those mapping traditions are described better elsewhere.

Where to Find Historic Maps

The first step to finding a map useful for your research is to look in library catalogs or map-focused websites. The maps found in the collections listed below cover a range of locations and time periods. Many are digitized and available to download. Search engines vary, and thus, for best results, use a variety of place names, spellings, and thematic keywords. Once you find a good match, read the associated catalog notes and description. The catalog or descriptive metadata more fully describes the geographic extent beyond what may be stated in the title, and other details such as the projection, scale, or date, often revealing enriching and interesting details about your particular map.

Library of Congress Map Collection - https://www.loc.gov/maps/. The worlds largest collection of print maps with worldwide coverage, many are digitized.
David Rumsey Map Collection - https://www.davidrumsey.com/. Includes world maps as well as an extensive collection of early maps of North America.
Old Maps Online - https://www.oldmapsonline.org/. This is an aggregator of digitized maps found in multiple library collections around the world.
Perry-Castañeda Library, University of Texas, extensive collection of historic maps: https://maps.lib.utexas.edu/maps/historical/index.html
Osher Map Library, University of Maine. https://oshermaps.org/category/collection/ Contains thousands of maps of the world and North America. The Peter H. Enggass collection has maps of Spain, Portugal and their territories.
Newberry Library https://www.newberry.org/ A public library in Chicago which focuses on maps of Europe and the Americas including maps made by Native peoples in the Americas.
Historic Pittsburgh Maps Collection https://historicpittsburgh.org/pittsburgh-maps Includes a variety of 18th- 20th Century maps, including land grant maps, views and plans of Pittsburgh and Allegheny County.

Analyze and Close Read:
Basic Cartographic Details

Similar to modern maps, historic maps include a title, name of cartographer, date, legend or key and often descriptive text. However, with historic maps, subtleties and biases are noticeable. Consider what is on the map, what might be missing, as well as how the information is depicted.

Title and map maker

The title, when there is one, is often quite prominent, and could vary from a simple statement of the location depicted to an elaborate statement dedicated to a nobility. With historic maps, watch for variant languages and spellings in Latin, Greek or the language of the cartographer. The title includes clues to the political or social predisposition of the map, or the era that it was created. Consider what might have been the cartographer's goal or agenda for creating the map. Who was the initial audience for the map? Would it be for nobility, the documentation of mineral and natural resources, immigration or other reasons?

Date

While many maps will explicitly state the date, others may not. The time period depicted on the map is extremely meaningful to understanding the map's context and its place in history. Consider what was occurring at the time period in history that might have led to the creation of this map, and, what political or cultural influences might this map have supported, such as conquests or exploration. If no date is shown, a reader may estimate a date based on known time periods of the cartographer or nobility mentioned. Estimated dates may be presented in a cartobliography or catalog record.

Legend or key

The legend or key will reveal the topics and themes that are mapped and how they are depicted, such as through use of color, shapes, symbols, lines or dots. Shapes and colors will indicate the extent of a place, such as to differentiate one country from another, or the use of large areas, such as oceans or land. Lines will often depict boundaries or transportation (rails, roads or navigation lines). Dots will show cities, towns or points of interest. Historic maps are much less regularized than our modern maps, for example, they may depict hills and mountains with small graphical images, and will be shown as such in the legend. Examples of legends can be seen in the web resource "Cartographic Symbology.[2]

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[2] 'Depicting the Landscape: Legends' in *Cartographic Symbologies*: Stanford University Libraries. https://exhibits.stanford.edu/cartosym/feature/legends/

Text

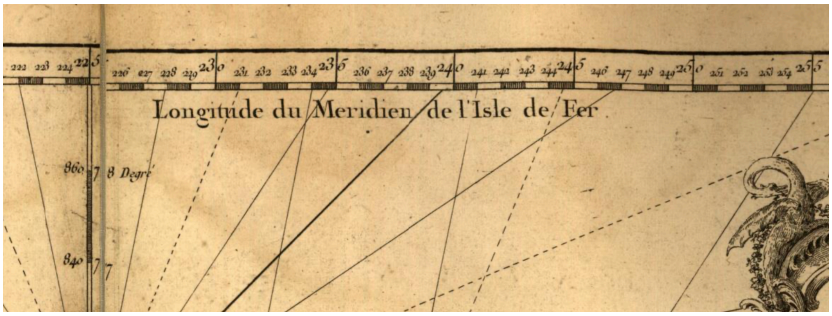
Maps also may include text which show toponyms (place names), descriptions of routes and trails, or natural or cultural features. Some maps include extensive paragraphs describing the conquering of a land, for example. The size and style of the lettering vary in order to emphasize or distinguish particular types of information. Text may also appear along the border, to describe peoples or events.

Analyze and Close Read:
Unique Cartographic Details Found on Historic Maps

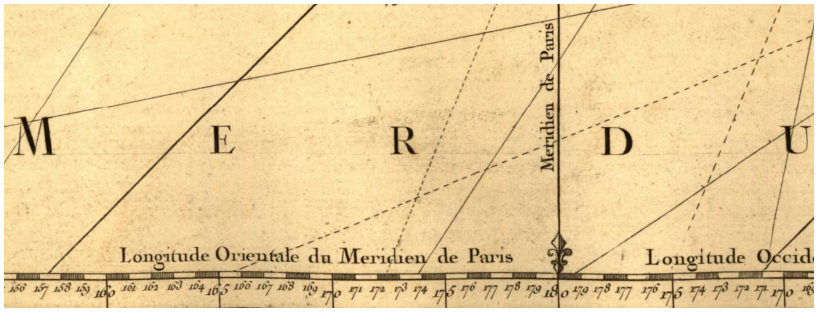
Coordinates, Latitude, Longitude and the Prime Meridian

Graticules, as in grid lines, represent the coordinate system and were developed in antiquity. The 'parallels' (the lines parallel to the equator, lines of latitude), and 'meridians' (longitude) were incredibly important for navigation and exploration. Geographic coordinates indicate the location north/south and east/ west of a marker. The N/S latitude markers, based on distance from the equator, were founded on science, with the equator at zero degrees and the poles at 90 degrees north/south. The curved lines of longitude mark distances E/W from a point, not based on science, thus, the reference point for measuring E/W is a political and human construct. The meridians were important for navigation, and typically were centered in the capital city of the mapping agency. When viewing historic maps you may notice a double set of coordinates. The earliest meridian was located in the Canary Islands which followed early maps from Ptolemy. Later, however, map makers typically centered the meridian at the capital of the mapping agency, including Rome, Paris, Philadelphia, St. Petersburg, Jerusalem, and London. It was not until 1884, that the Greenwich Observatory in London was internationally agreed upon (except France) as the Prime Meridian. As you read historic maps, make note of the coordinates and location of the prime meridian.

In this example from Bellin's L'hydrographie françoise we see two meridians on the same map. The one at the top indicates the meridian graticules are measured from "de L'Isle de Fer," (Faroe Islands).



This image shows the bottom of of the same Bellin map, with the meridian measured from Paris.

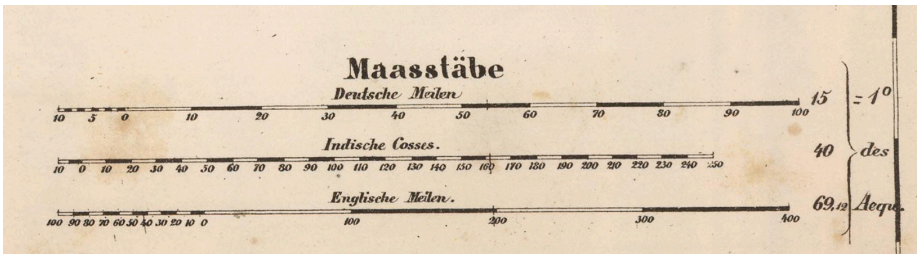


Further Reading:
'Maps, Wayfinding, and the Discovery of Longitude,' by Mishka Vance, GIS Specialist, NYPL - https://www.nypl.org/blog/2021/06/18/maps-wayfinding-and-discovery-longitude

Scale

The map scale is the ratio of the distance on the map to the corresponding distance on the ground. Scale can be depicted by words, a numeric ratio, a fraction or graphically, using a bar. Often, historic maps include multiple scales, reflecting the measurement units used by the particular nations who may be interested in the map (see example below), or such as with different degrees of latitude (example 4 in Appendix A). Smaller plots, such as land ownership maps map have used chains, rods or poles to measure distances, and will be stated.

Examine the multiple scales in this atlas page, "Vorderindien" in the German Vollstandiger Hand-Atlas from 1855. This allows map readers from three major mapping traditions (German, Indian, and English) to better use and understand the map.

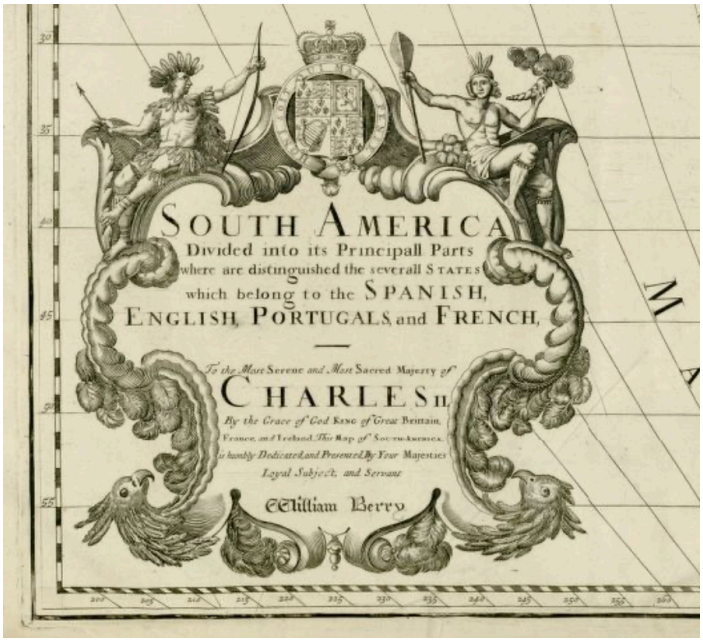


Further reading:
'Rare Map Units of Measure and Map Scales,' McMaster University Libraries, https://library.mcmaster.ca/rare-map-units-measure-and-map-scales

Cartouche

On historic maps, the cartouche was a highly artistic frame which typically contained the title, date, the name of the map maker or who commissioned the map. They varied in style and included symbolism or social commentary.

Readers who analyze the cartouche will better understand the intended audience and may perceive elements of cultural or political bias.



This example, South America, divided into its principall parts, from 1680, states clearly that the map was dedicated to Charles II, and the map delineates the European colonies in South America.

Further Reading:
Cartouches, or Decorative Map Titles (David Rumsey blog, 2010)
https://www.davidrumsey.com/blog/2010/2/25/cartouches-decorative-map-titles

Orientation & Compass Rose

Modern maps generally depict north oriented to the top of the sheet, however, historically, cartographers mapped using other orientations. During the exploration, navigational 'Portolan' charts began using north at top due to the North Star, however, maps remained oriented with north to left, right and bottom. Over time, the Eurocentric cartographers placed Europe and North America at the top, which is common today. On historic maps, the compass rose was often highly decorative and was used to indicate orientation.



On Hondius' 1611, Exquisita & magno aliquot mensium periculo lustrata et iam retecta Freti Magellanici facies, you see the exquisite compass rose pointed downward, indicating that north is at the bottom of the map.

Further Reading:
Danforth, Nicholas. "How the north ended up on top of the map" 2014. *Aljazeera*. http://alj.am/1bVA0ti

Place names over time and gazetteers

Place names are the significant characteristic of maps and are essential elements for historic research. Names often originate from indigenous names and natural features, yet the map maker's exertion of place names is a symbol of power and authority over the location. While "names for places may coexist, or they may succeed each other according to regime changes or major events" it is also true that "conversely, places may retain stable names even as their spatial footprints change"[3] (as is the case of Virginia which prior to 1863 secession of West Virginia, including that area). The names used on the map may be shown in more than one language, and further, the map may include prior or concurrently used names, such as with indigenous names. An example of various names used on maps are with the early maps of North America which may show the Potomac River as "Patawomeck", "Patomac," "Patowmac" and numerous other variations. Gazetteers, are generally considered place name dictionaries. Digital gazetteers such as the World Historical Gazetteer, or the Getty Thesaurus of Geographic Names, reconcile and often explain the history of the place name, and are heavily used in digital humanities mapping projects. As you read historic maps, your observation of how the place names are presented will further your understand the place and its history.



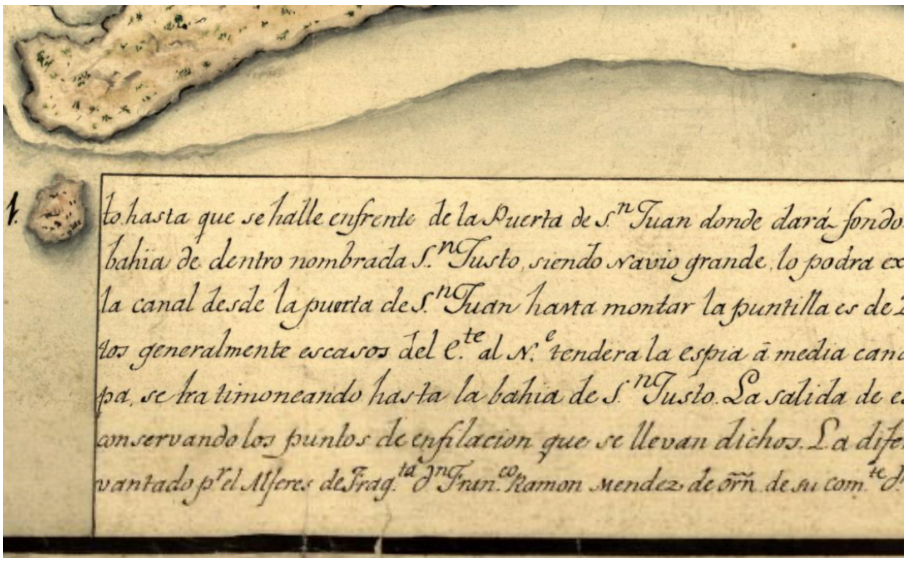
Sketch of the Vice Royalty exhibiting the several provinces and its aproximation to the internal provinces of New Spain from 1810, includes extensive native place names depicted, with Spanish towns and native populations located in close proximity to each other.

Further reading:
Brody, Katherine. "What's in a Name? The Potomac River," *Boundary Stones*, WETA's Local History Website, (2020) https://boundarystones.weta.org/2020/06/26/whats-name-potomac-river

[3]Susan Grunewald and Ruth Mostern, "Working with Named Places: How and Why to Build a Gazetteer," *Programming Historian* 13 (2024), https://doi.org/10.46430/phen0117

Images and text within the map and beyond the neat line

The interior of the map as well as the margins contain rich sources of information. Artful images and descriptive text add to the viewer's understanding of the location mapped. Images may depict the heights and depths of water, coat of arms, indigenous people, fanciful creatures, as well as local flora and fauna, The plants and animals depicted represent food sources or objects of economic gain. The line separating the map from the information found in its margin is called the 'neat line.' Text and illustrations may be found with the map's margins or beyond the neat line. With historic maps, the images and text may be biased toward the mapping authority's perspective of the potential economic or political use of the place.



In this first example, Nuevo plano de Puerto Rico, 1785, we see part of one of three large text blocks. There is also an index to landowners along the upper border of map.



This map, Australia, 1851, is highly decorative, with engravings of of parrots and kangaroos, illustrations of indigenous people along the perimeter of the map.

Further Reading:
Hart, Kathy. Beyond the Neat Line: Cartography's Hidden Dimension (Library of Congress, Geography & Map Division blog) https://blogs.loc.gov/maps/2019/08/beyond-the-neat-line-cartographys-hidden-dimension/

Historic Maps in Digital Humanities

Historic maps are often used in place-based digital research. Once digitized and georeferenced, historic maps can be integrated with text, photos or data sets and modern maps to provide a robust interactive experience. The geo-humanities, or spatial humanities, is an exciting and evolving research area which is highly collaborative, as well as interdisciplinary and multi-disciplinary. One book which introduce the topic is Gregory and Geddes, *Toward Spatial Humanities: Historical GIS and Spatial History* (Indiana University Press, 2014).

Summary

As you read historic maps, think critically and analyze the content found on the map. Consider what is on the map and what is left off, what is emphasized, and what perspective the cartographer may be taking. Compare it with other historic or contemporary maps, or historic texts, and consider changes in the land, the people, boundaries, transportation routes. This deeper read will enrich your understanding of history and the role of depicting place in time.

Appendix A: Examples of Historic Maps

These maps contain additional examples of the concepts described above and are provided by a variety of libraries and digital archives.

1) **A New map of North America with the West India Islands…**
https://www.argomaps.org/maps/commonwealth:x059cd73k/
The prominent cartouche describes the map as based on the articles of peace signed at Versailles in 1783. Inset maps are 'A particular map of Baffin and Hudson's Bay' and 'The passage by land to California : discovered by Father Francis Kino, a Jesuit between the years 1698 and 1701.' Meridians are Feroe and London. The relief is shown pictorially. The map is held in the Leventhal Collection https://collections.leventhalmap.org/search/commonwealth:x059cd73k

2) **An accurate map of Canada, with the adjacent countries; exhibiting the late seat of war between the English & French in those parts**
https://www.argomaps.org/maps/commonwealth:z603vn96v/
This was created for popular consumption, published in the *Universal magazine of knowledge and pleasure*, v. 28, Feb. 1761. Note that the catalog record does not include the subtitle which is a key factor in the creation of the map. This map includes text and notes indigenous places and peoples, such as 'Mascoutens, a fiery people', shown at the base of Lake Michigan.

3) Adolf Stieler's **Handatlas [No. 46] über alle Theile der Erde und über das Weltgebäude : 95 Karten**. Gotha : Justus Perthes, [1892]. ETH-Bibliothek Zürich. ***Ost-Europa, No. 3*** [image 147].
https://www.e-rara.ch/zut/content/zoom/19214887
This map shows multiple meridians, including at the upper right Pulkowa (St. Petersburg) and Greenwich, and at the lower middle, Ferro and Paris.

4) **L'hydrographie françoise : recueil des cartes générales et particulières qui ont éte faites pour le service des vaisseaux du roy, par ordre des Ministres de la marine, depuis 1737, jusqu'en 1765.** https://www.loc.gov/item/99446210/. This map shows scales which vary due to changes in latitude (towards northern pole), extensive text and a fanciful cartouche.

5) **Virginia and Maryland, 1670:**
https://www.loc.gov/resource/g3880.ct000766/
The map features numerous text blocks which describe the natural features, as well as the history and origins of place names and Native people. The map includes a portrait of its creator, Augustine Herrman. The decorative cartouche includes a legend of symbols. Scales are in both English leagues and English miles and the compass rose shows north to the right.

6) **South Sea. Pacific Ocean, 1622** https://www.loc.gov/item/2021668722
This beautifully illustrated map was created for the directors of the Dutch East Asia Company by Dutch cartographer Hessel Gerritsz. It includes three scales, illustration of explorers, vessels, and whales. Text is in Dutch describing the map, however, many place names are in Spanish. Note that the Library of Congress' catalog record includes a detailed summary of the map written by the World Digital Library.

7) **Africa Ex magna orbis terre descriptione Gerardi Mercatoris desumpta Studio & insustrai G.M. Iunioris. 1595.**
https://purl.stanford.edu/vh517fr6443
This Mercator map was the most influential map of Africa at the time. It has a highly decorative cartouche with fruit and two satyrs. The meridian is Ferro Islands. The catalog record includes an extensive description of the map.

8) **La Floride** (in **Nouvel Atlas**, 1714, Pieter Van der Aa, cartographer)
https://www.davidrumsey.com/luna/servlet/s/1c2ay7
This map includes the southern states and parts of Mexico and New Mexico, with boundaries and Native American settlements. It has an extensive and decorative cartouche and use of place names. Along the Louisiana coast, for example, see, 'Baye St. Louis nommée par les Espagnols St. Bernard.

Appendix B: Further examples: What do you see?

Challenge yourself as you read these maps closely. Consider the cartouche, compass rose, text, legend and illustrations. Who created the map and what is portrayed? Read the catalog record for summaries and notes.

1) **Accurata delineatio celeberrimae Regionis Ludovicianae vel Gallice Louisiane ol. Canadae et Floridae, 1720.** https://www.davidrumsey.com/luna/servlet/s/agl2c7

2) **Exquisita & magno aliquot mensium periculo lustrata et iam retecta Freti Magellanici facies, Jodocus Hondius, 1611.**
https://www.loc.gov/resource/g5332m.ct003206r

3) **Exquisita & magno aliquot mensium periculo Lustrata et iam retecta Freti Magellanici Facies (Straits of Magellan,1606)**
https://exhibits.stanford.edu/ruderman/catalog/ky871yy2048

4) **New Map of Pennsylvania (1833) A New Map of Pennsylvania with its Canals, Rail-Roads & Distances from place to place along the stage roads by H.S. Tanner.** https://www.historicpittsburgh.org/islandora/object/pitt:DARMAP0019

Appendix C: Early World Maps beyond the European Tradition

As you view these world maps, consider both the similarities and differences in the cartographic and artistic elements as compared to those created within the European tradition. Read the catalog record notes to learn more about the history and significance of each map, and learn about their background details.

1) **The Codex Quetzalecatzin**
This shows genealogical information and land ownership for the Nahuatl "de Leon" family from 1480-1593.
https://www.loc.gov/resource/g4701g.ct009133/
Background: https://blogs.loc.gov/maps/2017/11/the-codex-quetzelecatzin/

2) **The Excursion of the One Who Yearns to Penetrate the Horizons (Nuzhat al-mushtāq fī ikhtirāq al-āfāq), by al-Idrisi.**
https://hdl.loc.gov/loc.wdl/wdl.18418
An example of a finely crafted medieval Arabic map. Made by Muhammad ibn Muhammad al-Idrisi (circa 1100–1166). This is one of the greatest works of medieval geography, produced around 1325. It is preserved in the National Library of France, and is available through the World National Geographic Society, Encyclopedia. See also:
'Al-Idrisi' https://education.nationalgeographic.org/resource/al-idrisi/ Al-Idrisi's Masterpiece of Medieval Geography
https://blogs.loc.gov/maps/2022/01/al-idrisis-masterpiece-of-medieval-geography/

3) **Kun yu wan guo quan tu by Matteo Ricci / 坤輿萬國全圖 by 利瑪竇**
[Beijing, China : Matteo Ricci], 1602.
Rare 1602 World Map, is the First Map in Chinese to Show the Americas
https://www.loc.gov/item/2010585650/
https://www.loc.gov/resource/g3200.ex000006Za/
https://www.loc.gov/resource/g3200.ex000006Zb/

4) **Jiangxi quan sheng tu shui / 江西全省圖說 / Map of Jiangxi Province with Explanations**
This pre-modern Chinese map set of 37 maps, is an example of traditional cartography in Ming China. It includes place names labeling, details of natural and cultural features. https://www.loc.gov/item/2021668265

5) **Sangoku tsūran yochi rotei zenzu / 三国通覧輿地路程全圖**
This is a set of three manuscript maps in Japanese by Hayashi Shihei, made between 1785 and 1793. It Includes coordinates in Japanese, place names, text, details of islands, and navigational routes.
https://www.loc.gov/item/2002531173/