

Overview and sources for the use of GIS in the humanities

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GIS Software (desktop and online)

<https://www.qgis.org/en/site/>: QGIS is an open source GIS. It is created by volunteers, who use the program themselves. It has less options than the expensive professional programs from ESRI (like ArcGIS). It lacks some extras like online storage and several presentation options. However, QGIS does work very well, is free and easy to learn.

<https://www.arcgis.com/index.html>: ArcGIS is one of the oldest desktop GIS. It's developer, ESRI, is a leading developer in GIS software, but the price tag on their software is high. As a scholar, you don't need all of the options and services from ESRI, but can suffice with the desktop version of ArcGIS.

There are many online platforms on which you can make maps. These services are easy to start with. They will give you some basic vector or raster data to work with, and for a starting GIS user this will seem like the ultimate easy solution for your mapping problem. However, these services do not give you the freedom or storage capacity that you will probably need for your research. Desktop GIS software will give you this freedom. It is up to you to make a decision which program you want to use. Sometimes, just a quick and easy map is enough. These platforms could be great for that purpose. Some online solutions with a free trial are:

- <https://mangomap.com/>
- <https://www.scribblemaps.com/>
- <https://historicalmapchart.net/>
- <https://www.zeemaps.com/>
- <https://www.maptiler.com/>

More software: https://en.wikipedia.org/wiki/List_of_geographic_information_systems_software

Similar software or platforms

<https://nodegoat.net/>: Nodegoat is not really a GIS, but more a tool to visualize a network, with additional geographical visualization options. Nodegoat allows scholars to build datasets based on their own data model and offers relational modes of analysis with spatial and chronological forms of contextualisation. By combining these elements within one environment, scholars are able to instantly process, analyse and visualise complex datasets relationally, diachronically and spatially. Nodegoat is free, you just need to send the owners an email.

<https://www.openstreetmap.org/>: OpenStreetMap (OSM) is a collaborative project to create a free editable map of the world. Rather than the map itself, the data generated by the project is considered its primary output. The creation and growth of OSM has been motivated by restrictions on use or availability of map information across much of the world, and the advent of inexpensive portable satellite navigation devices. OSM is considered a prominent example of volunteered geographic information. You can use the open data of OSM as you please.

Websites (information and tutorials)

<http://www.qgistutorials.com/en/>: Tutorials for QGIS. Very basic and helpful for beginners. They have many translations of the tutorials, so you can probably find some in your native language.

<https://www.qgis.org/en/site/forusers/trainingmaterial/index.html>: Training material and official training manual for QGIS.

https://docs.qgis.org/2.18/en/docs/user_manual/: User manual for an older version of QGIS. It probably has most of the answers you seek, even for newer versions.

<https://stackoverflow.com/>: A very useful website when you have a specific problem with software like QGIS. Just search for a term or certain words that summarize your problem and add the word "QGIS".

<http://www.hgis.org.uk/bibliography.htm#books>: An overview of literature on GIS and its use in History. The website is not up-to-date anymore. Perhaps Ian Gregory and his team are busy with other things. It does give you an overview of the literature between 2000 and 2015, but is very focused on the scholarly networks around Ian Gregory and David Bodenhamer. You won't find everything on this website.

<http://spatial.scholarslab.org/>: Blogs and information on the Spatial Humanities.

<http://www.pbcgis.com/models/>: General information on how to work with GIS in a project. Tips and tricks on structures and models for a project. This website has a lot more information on GIS.

<https://programminghistorian.org/>: Information and tutorials on GIS (based on QGIS tutorials) and other software within the Digital and/or Spatial Humanities. This website is amazing, you can learn very basic stuff on programming in Python, web scraping, data management and network visualization.

Websites (modern sources)

<https://gadm.org/index.html>: Shapefiles on a nationwide, provincial and local level for the whole world. You can download these vector layers per country. They don't have a lot of attribute data, but are very useful as a background visual layer.

<https://hub.arcgis.com/pages/open-data>: Open data from ESRI. Split up in categories, like climate, wealth, health and safety.

<https://worldview.earthdata.nasa.gov/>: Satellite data from NASA.

<https://neo.sci.gsfc.nasa.gov/>: NASA satellites continually orbit the globe, collecting information about Earth's ocean, atmosphere, and land surfaces. Satellites can even monitor the activity of life forms, such as phytoplankton, from their remote vantage points. Satellite imagery provides the greatest benefit to the most people when it can be analyzed by anyone with an interest. NEO strives to make global satellite imagery as accessible as possible. Here you can browse and download imagery of satellite data from NASA's constellation of Earth Observing System satellites. Over 50 different global datasets are represented with daily, weekly, and monthly snapshots, and images are available in a variety of formats including JPEG, PNG, Google Earth, and GeoTIFF.

<http://sedac.ciesin.columbia.edu/>: SEDAC, the Socioeconomic Data and Applications Center, is one of the Distributed Active Archive Centers (DAACs) in the Earth Observing System Data and Information System (EOSDIS) of the U.S. National Aeronautics and Space Administration. Focusing on human

interactions in the environment, SEDAC has as its mission to develop and operate applications that support the integration of socioeconomic and earth science data and to serve as an "Information Gateway" between earth sciences and social sciences.

<https://earthexplorer.usgs.gov/>: Query and order satellite images, aerial photographs, and cartographic products through the U.S. Geological Survey.

<https://scihub.copernicus.eu/>: Data from the ESA satellites. The Copernicus Open Access Hub (previously known as Sentinels Scientific Data Hub) provides complete, free and open access to Sentinel-1, Sentinel-2, Sentinel-3 and Sentinel-5P user products, starting from the In-Orbit Commissioning Review (IOCR).

<http://www.naturalearthdata.com/downloads/>: Natural Earth is a public domain map dataset available at 1:10m, 1:50m, and 1:110 million scales. Featuring tightly integrated vector and raster data, with Natural Earth you can make a variety of visually pleasing, well-crafted maps with cartography or GIS software.

<http://geodata.grid.unep.ch/>: The Environmental Data Explorer is the authoritative source for data sets used by UNEP and its partners in the Global Environment Outlook (GEO) report and other integrated environment assessments. Its online database holds more than 500 different variables, as national, subregional, regional and global statistics or as geospatial data sets (maps), covering themes like Freshwater, Population, Forests, Emissions, Climate, Disasters, Health and GDP. Display them on-the-fly as maps, graphs, data tables or download the data in different formats.

<https://opentopography.org/>: OpenTopography facilitates community access to high-resolution, Earth science-oriented, topography data, and related tools and resources.

<https://terra.ipums.org/>: IPUMS Terra integrates population and environmental data across disciplinary scientific domains, enabling research into dramatic transformations of human populations, the environment, and their interactions.

https://en.wikipedia.org/wiki/List_of_GIS_data_sources

Websites (historical sources) (hopefully, more to come in a next version)

<https://pleiades.stoa.org/>: Pleiades is a community-built gazetteer and graph of ancient places. It publishes authoritative information about ancient places and spaces, providing unique services for finding, displaying, and reusing that information under open license.

<https://www.oldmapsonline.org/>: A very useful website for finding historical (or simply: old) maps. Their browse function is very good, you can just scroll your way across the earth and visually look for maps, instead of browsing a catalog.

Dutch websites and sources

<https://hisgis.nl/>: Online viewer voor data van HISGIS. Voor steeds meer provincies van Nederland te gebruiken. Zoek eventueel hier of er een bepaalde data laag beschikbaar is, voordat je die opvraagt bij de mensen van HISGIS.

<https://www.geonovum.nl/>: Geonovum is een overheidsstichting met veel kennis en een rijk netwerk. De overheid beter laten presteren met geo-informatie. Dat is waar wij dagelijks aan werken. We doen dat door de toegankelijkheid van geo-informatie te verbeteren en door de uitwisseling van geo-informatie onderling en met andere soorten gegevens mogelijk te maken met standaarden.

<https://www.pdok.nl/datasets>: Platform voor het ontsluiten van geodatasets van Nederlandse overheden. Dit zijn actuele en betrouwbare gegevens voor zowel de publieke als private sector. Goed gevulde website met veel Nederlandse data, allemaal vrij te gebruiken.

<http://www.ahn.nl/index.html>: Website van de Actuele Hoogtebestanden van Nederland. Bestanden te downloaden via PDOK.

<https://erfgeo.nl/>: Wat er allemaal te vinden is op ErfGeo kunnen ze zelf helaas ook niet zo goed uitleggen. Ik zal het voor ze samenvatten: Historische plaatsnamen voor Nederland en allerlei soorten datasets die ze in handen hebben gekregen. Groei van steden, demografische gegevens op de kaart, etc.

<http://nationaalgeoregister.nl/geonetwork/srv/dut/catalog.search#/home>: Dé vindplaats van geo informatie van heel Nederland. Denk hierbij vooral aan moderne data vanuit (semi) overheidsinstellingen. Wellicht niet erg bruikbaar voor historisch onderzoek.

<https://easy.dans.knaw.nl/ui/home>

Books and articles

Check <http://www.hgis.org.uk/bibliography.htm#books> for literature between 2000 and 2015. I will try to update this list for more recent literature in a next version. Below are just some titles that I read and think are worth the trouble if you want to know more about GIS.

Bodenhamer D.J., Corrigan J. and Harris T.M. (2015) *Deep Maps and Spatial Narratives*. Indiana University Press: Bloomington

Bodenhamer D.J., Corrigan J. and Harris T.M. (2010) *The Spatial Humanities: GIS and the future of humanities scholarship*. Indiana University Press: Bloomington.

Smith, Michael J. de, Paul A. Longley, en Michael F. Goodchild. *Geospatial Analysis. A Comprehensive Guide to Principles, Techniques and Software Tools*. 5 ed.: The Winchelsea Press, 2007/2015.

Mol, J.A., P.N. Noomen, en S.M. Strating. *Het Historisch GIS Fryslân en zijn belang voor het onderzoek naar bezits- en machtsverhoudingen voor 1850*. Leeuwarden 2004.

Martí-Henneberg, Jordi. "Geographical Information Systems and the Study of History." *Journal of Interdisciplinary History* 42, no. 1 (2011): 1-13.

Hartmann, J.L.H. *De reconstructie van een middeleeuws landschap, nederzettingsgeschiedenis en instellingen van de heerlijkheden Eijsden en Breust bij Maastricht (10e-19e eeuw)*. Assen: Van Gorcum, 1986.

Harley, J.B. *The new nature of maps: essays in the history of cartography*. The Johns Hopkins University Press, 2001. (interesting critical view on maps in general)

Gregory, Ian N., en A.K. Knowles. *Using Historical GIS to understand space and time in the social, behavioural and economic sciences: A white paper for the NSF*. 2011.

Gregory, Ian N., en Richard G. Healey. "Historical GIS: structuring, mapping and analysing geographies of the past." *Progress in Human Geography* 31, no. 5 (2007): 638-653.

Gregory, Ian N., en Paul Ell. *Historical GIS, Technologies, Methodologies and Scholarship*. Cambridge: Cambridge University Press, 2007.

Gregory, Ian N, Don DeBats, Don Lafreniere. *The Routledge Companion to Spatial History*, 2018.

Fyfe, David A., Deryck W. Holdsworth, en Chris Weaver. "Historical GIS and Visualization: Insights From Three Hotel Guest Registers in Central Pennsylvania, 1888-1897." *Social Science Computer Review* 27, no. 3 (2009): 348-362.

Favretto, Andrea. "Georeferencing Historical Cartography: A Quality-Control Method." *Cartographica* 47, no. 3 (2012): 161-167.

Bailey, Timothy J., en James B.M. Schick. "Historical GIS. Enabling the Collision of History and Geography." *Social Science Computer Review* 27, no. 3 (2009): 291-296.

Journals

International Journal of Humanities and Arts Computing
<https://www.eupublishing.com/loi/ijhac>

Transactions in GIS
<https://onlinelibrary.wiley.com/journal/14679671>

Historical Methods: A Journal of Quantitative and Interdisciplinary History
<https://www.tandfonline.com/toc/vhim20/current>

Journal of Historical Geography
<https://www.journals.elsevier.com/journal-of-historical-geography>

Frontiers in Digital Humanities
<https://www.frontiersin.org/journals/digital-humanities>