

Open GIS Software Reference Sheet

If I want to do this,	I use this...	Additional notes ...
Download CT imagery, lidar, and elevation data, and other info	CT ECO download site CT Geodata Portal	High resolution data from 2023 and earlier selectable by town or tile. Geodata Portal uses Hub on backend.
Download CT State Data from all agencies	CT Open Data Portal	Focus on tabular data with some light graphing and mapping capabilities. Uses Socrata on back end
Download Federal or other government data sets	Data.gov	Data from all levels of government
View a CT wide or US Map and add data	National Map Viewer Living Atlas (ESRI)	A wide variety of foundational data sets like bldgs., land cover, transportation, imagery.
View single CT Lidar or Ortho tiles	CT Aerial Imagery Viewer (web map) Fugro Viewer (app) QT Reader (app) CT Imagery Site	Can load single tiles into apps or view imagery in web apps / maps.
Comprehensive desktop environment for geospatial analysis and visualization	QGIS Desktop Stable	Comprehensive desktop environment for geospatial analysis and visualization
View and stack layers of GIS information on desktop app	QGIS Desktop Stable ET Spatial Data Viewer	QGIS can handle both web services and a wide variety of raster and vector data. Full blown enterprise GIS and replacement for Pro.
View and stack layers of GIS information in web maps	AGOL QGIS Cloud	Free for small scale “personal” use and not free for government use.
Automate and process geospatial and tabular data in an analytic workflow with workbooks	Python (geopandas) in Jupyter Notebooks	Use Anaconda to organize packages. R is an option. Python commonly used by GIS professionals. Scripting oriented.
Conduct raster and vector processing in an analytic workflow.	R (tidyverse) package in R Studio or Jupyter Notebooks	Widely used by biologists, environmental scientists, public health and academics . Scripting oriented. Python is an option.
Need to turn addresses into point data (G eocoding)	Texas AM Batch Geocoding (Batch) Open Data Portal	Light geocoders available online. ODP has built-in geocoder for data sets with addresses. <i>In-house CT geocoder using Pro available, call GIS Office.</i>
Excel and Mapping	ArcGIS with Excel	Still some issues but worth trying for simple addresses or geographies.
Process and analyze vector data (e.g. spatial processing like buffers and clips)	QGIS Process	
Conduct hydrologic and elevation analysis	Whitebox GIS	Extensive set of environmental and elevation processing tools. Lidar processing.

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Use geostatistics to analyze point data	GeoDa	Spatial statistics have background assumptions.
Create a primary database to hold and manage GIS data	Post GIS and DBeaver	PostGIS can be used for scalable GIS data SQLite is a lighter DB for web and other applications.
Conduct statistical analyses	PSPP	Open source clone of SPSS

I want background on....	Places to look...
Free web mapping tool for web services (personal) using AGOL	See: https://doc.arcgis.com/en/arcgis-online/reference/faq.htm#anchor34 See: https://community.esri.com/t5/arcgis-online-public-accounts-getting-started/ba-p/1305110#:~:text=For%20those%20new%20to%20ArcGIS,GIS%20users%20around%20the%20world
QGIS tutorials and download	See: https://www.qgistutorials.com/en/ See: https://docs.qgis.org/3.40/en/docs/training_manual/index.html See: https://qgis.org/download/
Python Geospatial Ecosystem	See: https://ecosystem.pythongis.org/ See: https://forrest.nyc/geospatial-needs-to-be-defined/ https://forrest.nyc/the-37-geospatial-python-packages-you-definitely-need/ See:
Introduction to digital cartography	https://medium.com/@amy.degenaro/introduction-to-digital-cartography-geojson-and-d3-js-c27f066aa84making
Free ESRI Trainings	https://www.esri.com/training/catalog/5e8f3919e5fd2c111c84cfac/esri-free-web-courses-/
GIS in R	https://guides.library.columbia.edu/geotools/R
Open-source GIS	www.usu.edu/geospatial/tutorials/advanced/open-source
Understand web mapping services in QGIS	See: https://docs.qgis.org/3.40/en/docs/training_manual/online_resources/wms.html See: https://sos.noaa.gov/support/sos/how-to/wms-tutorial/
Introduction to Web Mapping Services	Web Mapping Services: An Introduction