

# GIS Applications across

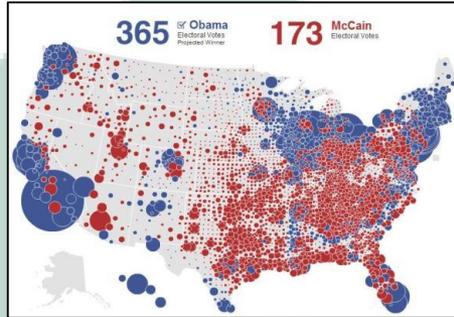
Geography  
Department

## Disciplines



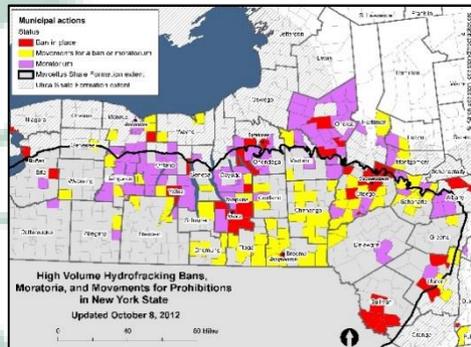
### Political Science

Political Scientists take advantage of modern maps to effectively serve the public and meet expectations. From operations and public outreach to redistricting and campaigning, organizations are empowered to create and deploy useful geospatial applications. Then users can visualize the relationships, patterns, and trends to understand the constituency and electoral process.



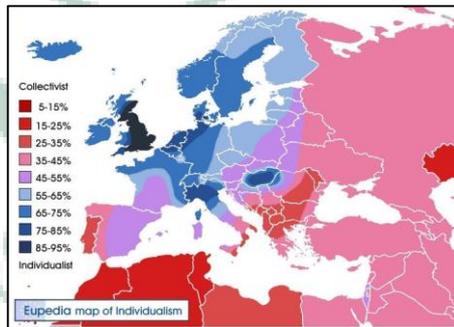
### Public Administration

The applications for GIS in public administration are limitless, influencing the fabric of local communities and how they take shape. Community developers use a combination of geographic maps and population data to work with local and state government agencies who in turn can work with real estate developers to determine if potential growth warrants new streets, neighborhoods, schools or parks.



### Sociology

GIS has been used for many years to integrate social and territorial information in quantitative research, but only recently have they been used in qualitative research. Recent advances have allowed qualitative GIS to be incorporated in the latest versions of computer-aided qualitative data analysis software.



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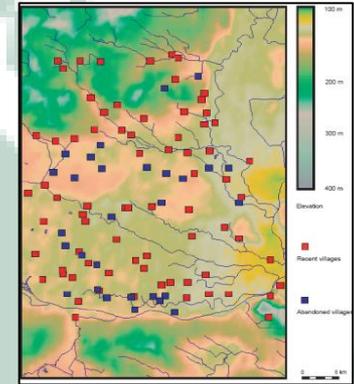
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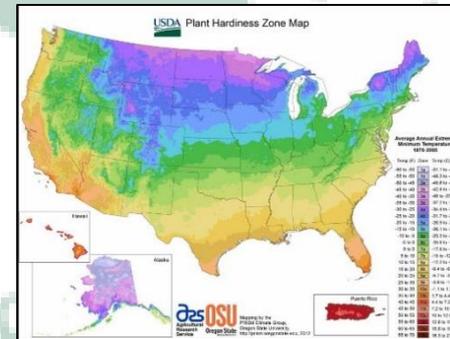
### Archaeology

GIS facilitates mapping for Archaeologists to analyze depositional patterns as well as catalog and quantify artifacts. It can provide a well-structured descriptive and analytical tool for identifying spatial patterns both on the surface and underground.



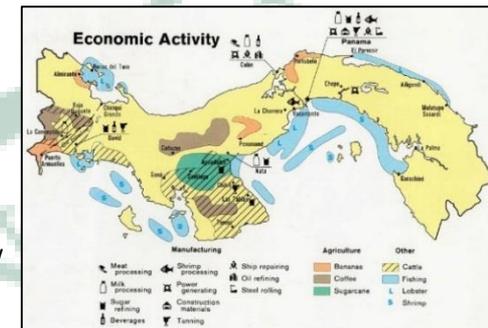
### Biology/Ecology

GIS applications in conservation biology and wildlife management include various aspects of habitat description, delineation and monitoring. Overlaying maps with land ownership allows users to determine areas and species that are protected poorly.



### Economics

Economic development organizations are using GIS to create strong community identities that make people want to visit and live in their areas. Combined with demographic and market data, GIS provides a foundation for understanding all aspects of a place and how it can grow stronger and more attractive to people and businesses.



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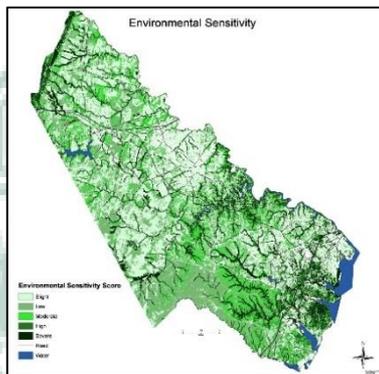
### Engineering

GIS technology provides a central location to conduct spatial analysis, overlay data, and integrate other solutions and systems. When built on a database rather than individual project files, GIS enables engineers to easily manage, reuse, share, and analyze data, saving time and resources.



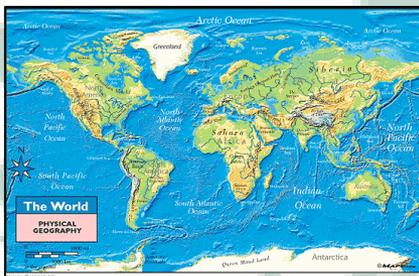
### Environmental Studies

GIS has a long history of driving environmental understanding and decision making. Policymakers, planners, scientists, and many others worldwide rely on GIS for data management and scientific analysis. GIS users represent a vast reservoir of knowledge, expertise, and best practices in applications to climate science, renewable energy, sustainability, and disaster management.



### Geography

GIS has a foundational home in Geography! Everything that happens, happens in our street, in our town or city, our county, region, state, country and continent. Therefore, we cannot get away from the location issue and consequently, cannot get away from how the things that happen may or may not affect us. Geography is vitally important in our everyday lives and understanding the geography around us is essential.



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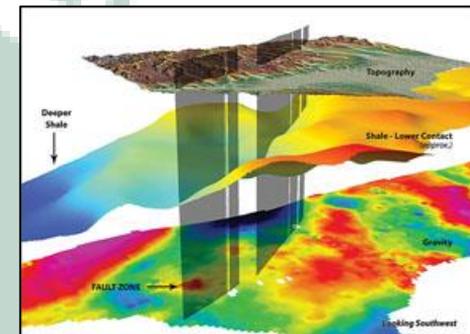
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### Geology

Geological mapping was a difficult procedure involving multiple complex technologies until researchers discovered the potential of GIS. With the application of GIS in geological mapping, it becomes very easy for surveyors to create 3D maps for any area with precise and desired scaling.



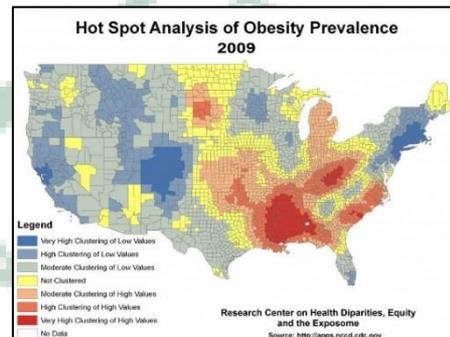
### History

An increasing number of historians, particularly those dealing with world history or the history of large geographic regions, are becoming interested in using GIS for research and teaching. Historians deal with processes in complex, nonlinear systems and, therefore, demand a means to organize a large number of variables and identify those variables most likely implicated in the stability and transformation of such systems.



### Nursing/Health

GIS modernizes the approach to health and human services and can transform the health of a community. With GIS and spatial analysis, you can prioritize spending, site service locations, and identify vulnerable populations. The result is better outcomes for patients, stakeholders, and the public.



Research Center on Health Disparities, Equity and the Exposome  
Source: <http://happa.nccsl.edu.gov>