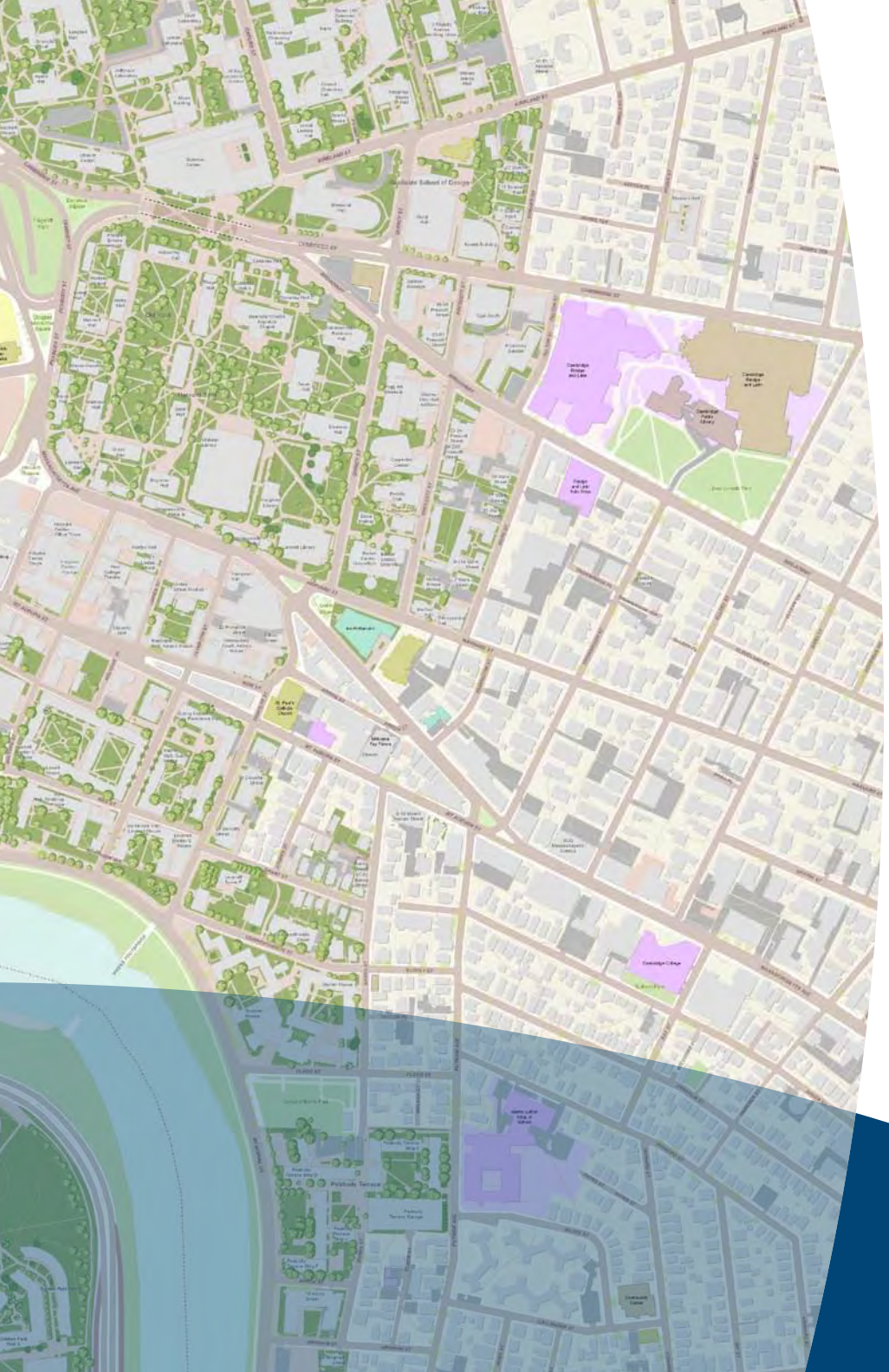

July 2012

What is GIS?

esri®

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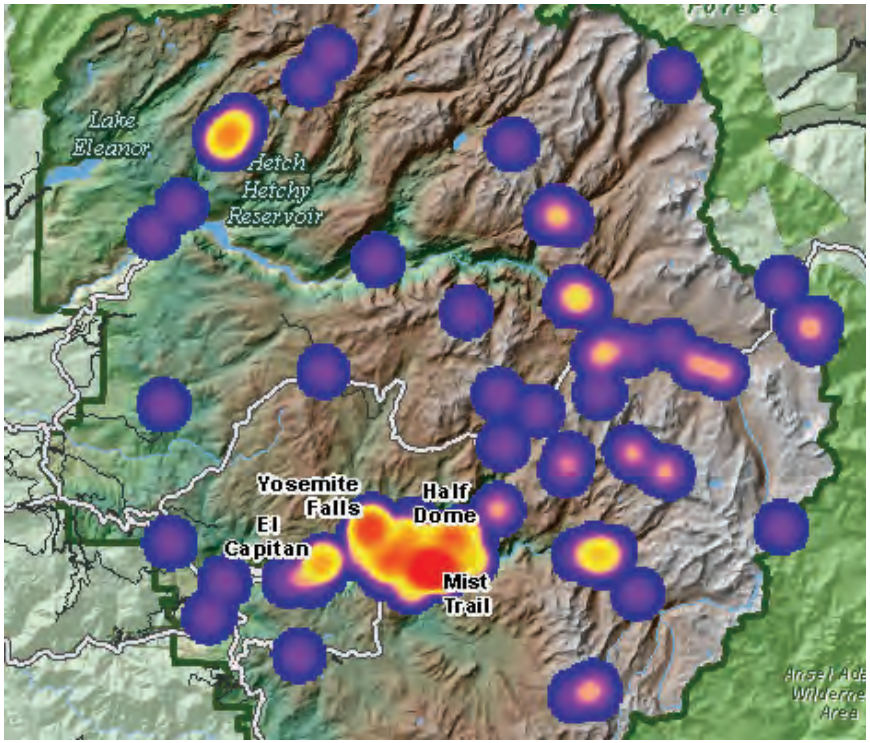
Why Geography Matters

A transformation is taking place. Businesses and governments, schools and hospitals, nonprofit organizations, and others, are taking advantage of it. All around the world, people are working more efficiently because of it.

Information that was limited to spreadsheets and databases is being unleashed in a new, exciting way—all using geography.

But this isn't your elementary school's geography. This approach uses geography to gain new insights and make better, more informed decisions. Consider an example. In Texas, a department store analyzing credit card receipts by ZIP Code finds that a large number of its customers drive along a particular section of the freeway to reach a mall. The store could then make smart choices about where to place its billboard ads.

Linking location to information is a process that applies to many aspects of decision making in business and the community. Choosing a site, targeting a market segment, planning a distribution network, zoning a neighborhood, allocating resources, and responding to emergencies—all these problems involve questions of geography. Where are current and potential customers? In which areas do consumers with particular profiles live? Which areas of a city are most vulnerable to seasonal flooding or other natural disasters? Where are power poles located, and when did they last receive maintenance?



Search and rescue teams use GIS to analyze incidents and help save lives.

How do organizations unlock geography from the data they use every day to make decisions? For anyone trying to evaluate information, the most intuitive way to view it is on a map.

Not just any map—intelligent digital maps made possible by geographic information system (GIS) technology. Even people who have never used maps to analyze data are finding that maps make processing information much easier and more effective.

GIS represents features on the earth—buildings, cities, roads, rivers, and states—on a computer. People use GIS to visualize, question, analyze, and understand data about the world and human activity. Often, this data is viewed on a map, which provides an advantage over using spreadsheets or databases.

GIS links imagery and data to utility, landscape, and maintenance schedules for complete rights-of-way management.

Why? Because maps and spatial analysis can reveal patterns, point out problems, and show connections that may not be apparent in tables or text.

The Power of GIS

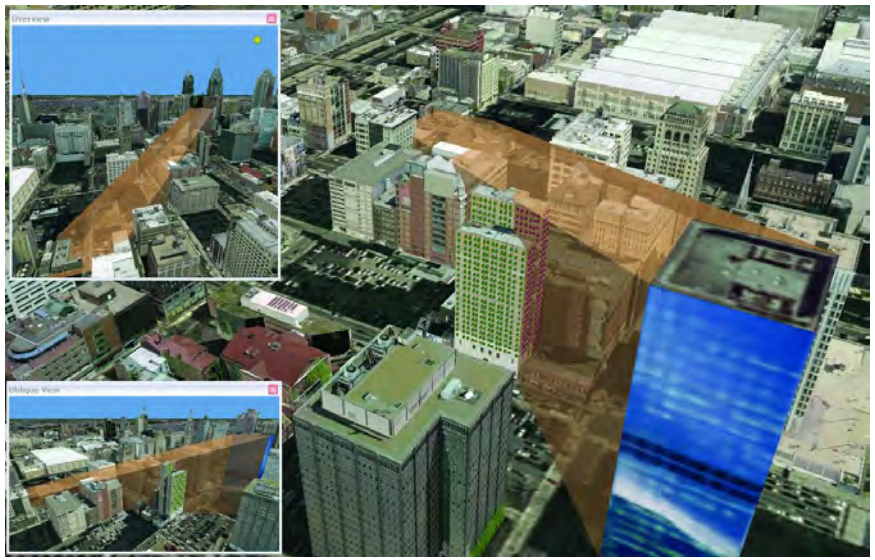
GIS is computer software that links geographic information (where things are) with descriptive information (what things are). Unlike a flat paper map, where what you see is what you get, GIS can present many layers of different information.

To use a paper map, all you do is unfold it. Spread out before you is a representation of cities and roads, mountains and rivers, railroads, and political boundaries. The cities are represented by little dots or circles, the roads by black lines, the mountain peaks by tiny triangles, and the lakes by small blue areas similar to the real lakes.

A GIS-based map is not much more difficult to use than a paper map. As on the paper map, there are dots or points that represent features on the map such as cities, lines that represent features such as roads, and small areas that represent features such as lakes.

All this information—where the point is located, how long the road is, and even how many square miles a lake occupies—is

stored as layers in digital format as a pattern of ones and zeros in a computer.



3D analysis enables planners to model the impacts of proposed changes.

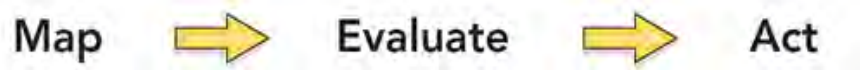
Think of this geographic data as layers of information within the computer screen.

Each layer represents a particular theme or feature of the map. One theme could be made up of all the roads in an area. Another theme could represent all the lakes in the same area. Yet another could represent all the cities.

These themes can be laid on top of one another, creating a stack of information about the same geographic area. Each layer can be turned off and on, as if you were peeling a layer off the stack or placing it back on. You control the amount of information about an area that you want to see, at any time, on any specific map.

The Geographic Approach

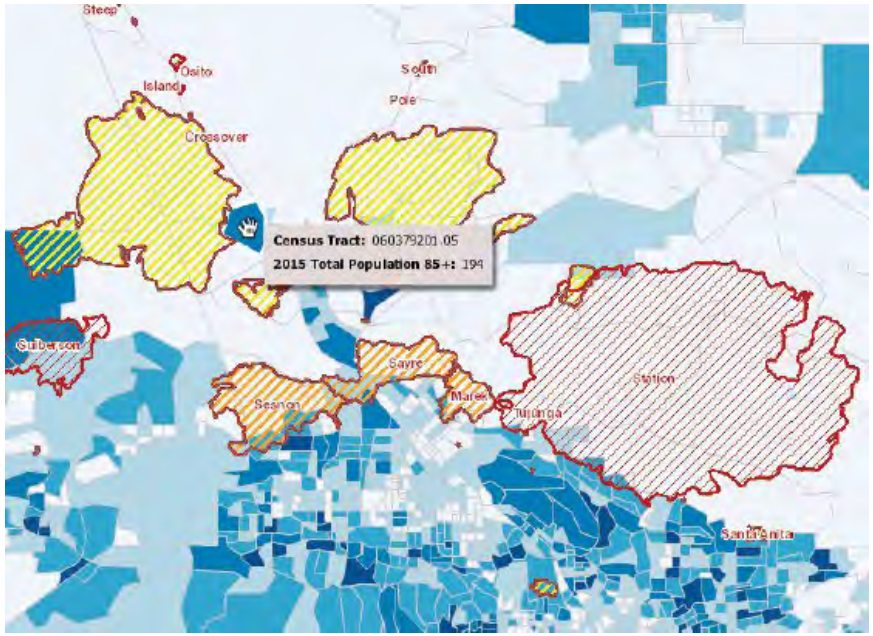
Maps are a proven method of communicating geographic knowledge. When a decision needs to be made, GIS helps us gather place-based information and organize it on a digital map. We then use GIS to evaluate the decision. Once we fully understand the geographic consequences of our decision, we can then act in an informed, responsible manner.



This geographic approach to problem solving helps us answer a wide variety of important questions related to geography, such as these:

- Where are my current and potential customers?
- Which areas of my town are most vulnerable to natural disasters?
- Where should we locate a new elementary school?

GIS helps answer such questions by combining data from governments and other sources in a custom map.

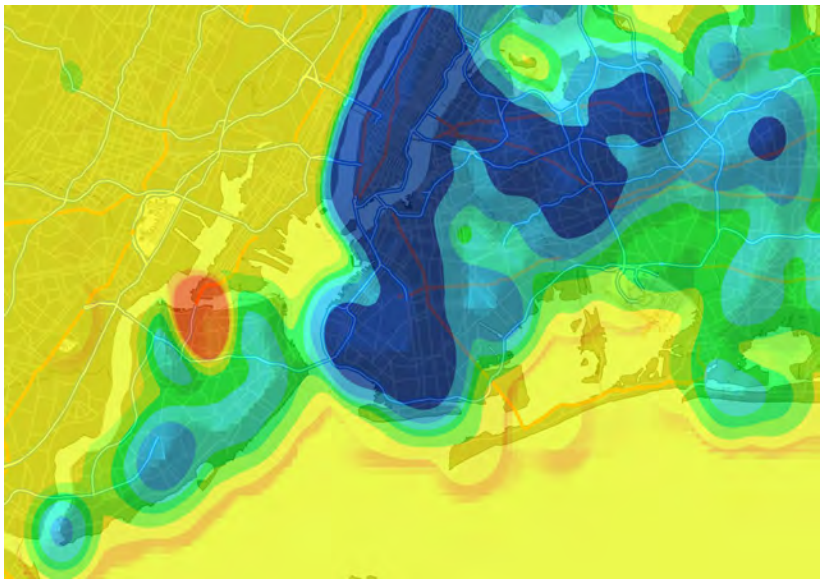


By comparing historical disaster data with vulnerable populations, GIS is used for disaster planning.

The geographic approach benefits organizations of all sizes and in almost every industry, and there is a growing interest in and awareness of its economic and strategic value. The benefits generally fall into five basic categories:

- Cost savings resulting from greater efficiency
- Better decision making
- Improved communication
- Better geographic information record keeping
- Geographic management

Remote-sensing satellites and earthbound sensors are providing us with vast amounts of data about our planet. With the availability of new, easy-to-use GIS tools to display and analyze this data, now everyone can be an explorer. This has far-reaching benefits to both society and the environment, ushering in a new era of understanding our world.



GIS can produce heat maps to visually represent information using colors.

From desktop computers to smartphones to the cloud, it is becoming easier for anyone to use and benefit from GIS.

GIS in Action

Planners of all kinds—business analysts, city planners, environmental planners, and strategists from all organizations—create new patterns or reshape existing ones every day. Their job is to lay out a framework so growth can occur in a managed way and benefit as many people as possible while respecting our natural resources.

Every day, businesses need to deliver goods and services to clients all around a city. Each truck driver needs a route of how to most efficiently visit each client. GIS provides tools to create efficient routes that save time and money and reduce pollution.

In the military, leaders need to understand terrain to make decisions about how and where to deploy their troops, equipment, and expertise. They need to know which areas to avoid and which are safe. GIS provides tools to help get personnel and materials to the place where they can best do their job.

During floods and hurricanes, emergency response teams save lives and property. GIS provides tools to help locate shelters, distribute food and medicine, and evacuate those in need.

In forestry, caring for existing and future trees ensures a steady supply of wood for the world's building needs. GIS provides tools to help determine where to cut today and where to seed tomorrow while minimizing negative impacts on our natural resources.

Geography Matters Everywhere

Geography matters in every organization and every discipline. The next sections will take a deeper look at how geography and GIS help people make better decisions and make a difference in our world.

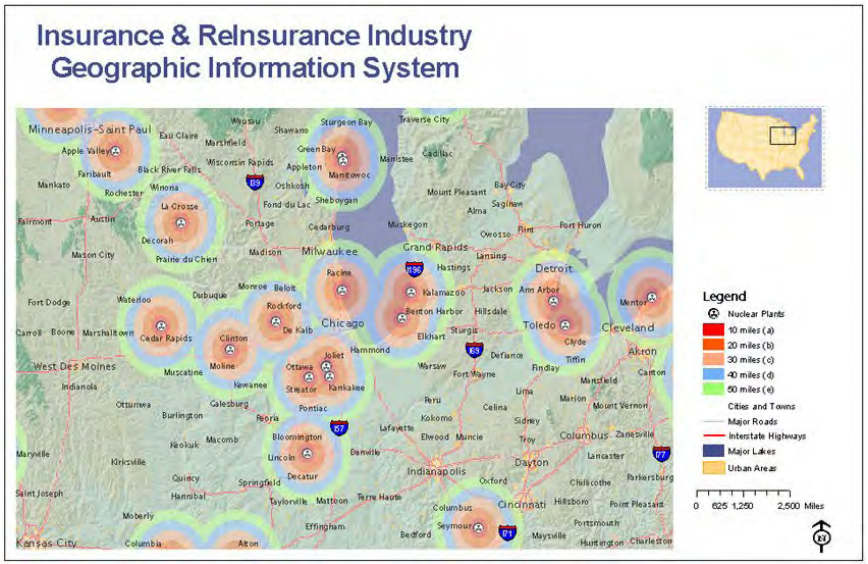
Business

Economic slowdowns around the world are forcing organizations to rethink how they operate. Many are realizing they need to find a way to do business in smarter ways using in-house resources, and they are turning to GIS—a solution that harnesses the power of geography to help organizations overcome their operational challenges and deliver improved profitability.

Retailers, real estate professionals, insurers, asset managers, and others seeking to understand markets better than ever before find that GIS assists in many ways: marketing, optimizing business openings and closings, segmenting consumer data, and managing fleets. GIS helps users visualize, manage, and analyze any business asset (from employees, customers, and facilities all the way to the supply chain network) because it has a place in the world.

Banking and Financial Services

Banking is a competitive business. Market share and brand recognition alone aren't enough to attract and retain customers. To be more effective, many banks, credit card companies, credit unions, and other financial services organizations are turning to GIS to help them better understand their data.



Using GIS, policy and exposure data is made available across the organization.

GIS helps banks and financial institutions to do the following:

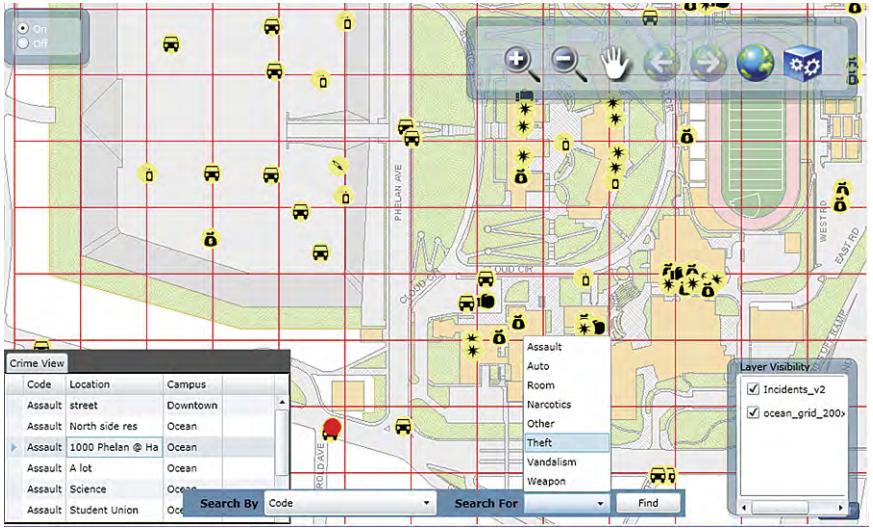
- Enhance understanding of risk, customer interaction, and economic conditions using spatial models based on geography and geodemographics.
- Improve profitability and operational performance by sharing knowledge-based decision making across departments.

- Grow line-of-business collaboration across departments with economic forecasts, neighborhood studies, and territory analysis.
- Reduce business complexity through a more accurate analysis of real-world market conditions.
- Increase market understanding based on a single, common view of business performance using geoextended workflow and business processes.

Learn more about how banking and financial organizations benefit from the use of geographic analysis and GIS.

Facilities Management

GIS integrates with the top facilities management (FM) software and consulting firms, making it easier than ever to extend the life of FM data. GIS can be used throughout the life cycle of a facility—from deciding where to build to space planning.



Community College of San Francisco used GIS to automate its facilities information and add public safety information.

GIS helps facilities managers do the following:

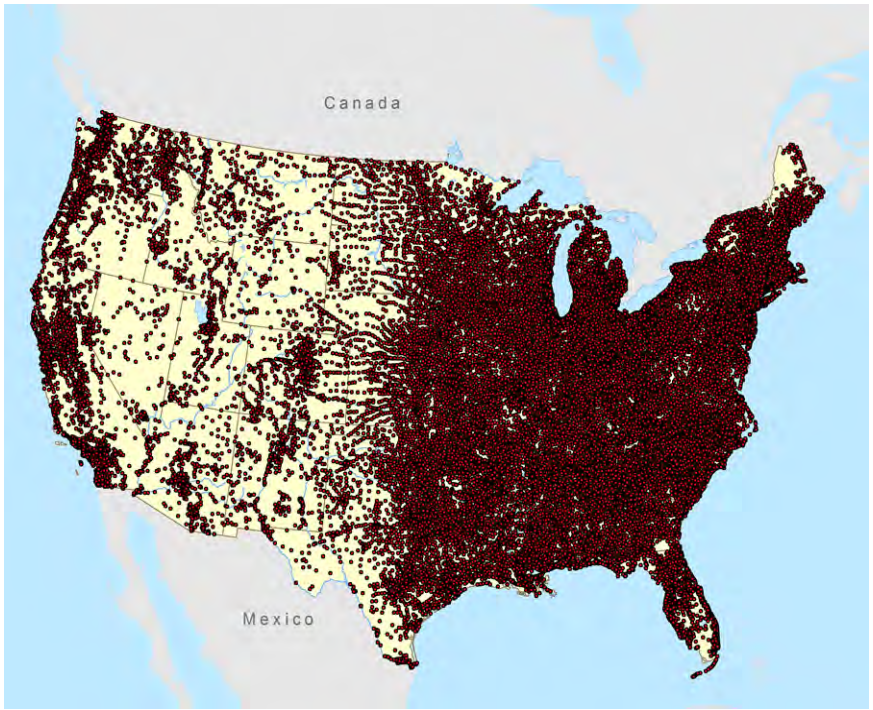
- Streamline asset information collection, dissemination, maintenance, and use.
- Expedite planning and analysis.
- Share information in and out of the field more efficiently.

Learn more about how facilities management can gain benefits using GIS technology and spatial analysis.

Insurance

Location information is a fundamental consideration in every insurance transaction. Location-aware insurance services leverage the intrinsic relationship that geography has to risk, enabling and enhancing processes that drive operational effectiveness.

To discover, develop, and deliver location-aware insurance services, GIS can be used to capture, manage, analyze, and display geographic data.



FIRESAFE analyzes information about fire stations across the United States to help build insurance pricing models.

Insurance companies use GIS to leverage geographic content important to do the following:

- Analyze data and plan business strategy.
- Deploy geographic content on mobile devices.
- Enhance operational awareness and oversight through greater transparency.
- Provide an intuitive map-enabled portal for engaging customers and delivering services that support their needs.

Learn more about how insurance organizations are benefiting from using GIS technology and spatial analysis.

Marketing

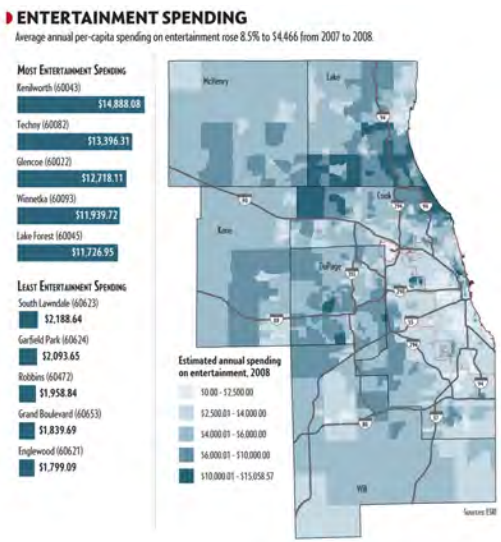
Integrating the power of geography into marketing planning helps organizations respond to both customer and market needs. GIS allows organizations to segment and profile existing customers to improve acquisition and retention and find new opportunities, providing a competitive edge to succeed in today's volatile economy.

Learn more about how organizations are gaining benefits using GIS technology and spatial analysis to make better, more informed marketing decisions.

Media and Press

Journalists and editors are using GIS in a number of ways, including the following:

- Creating valuable graphic images that help tell compelling stories
- Researching in-depth information for articles

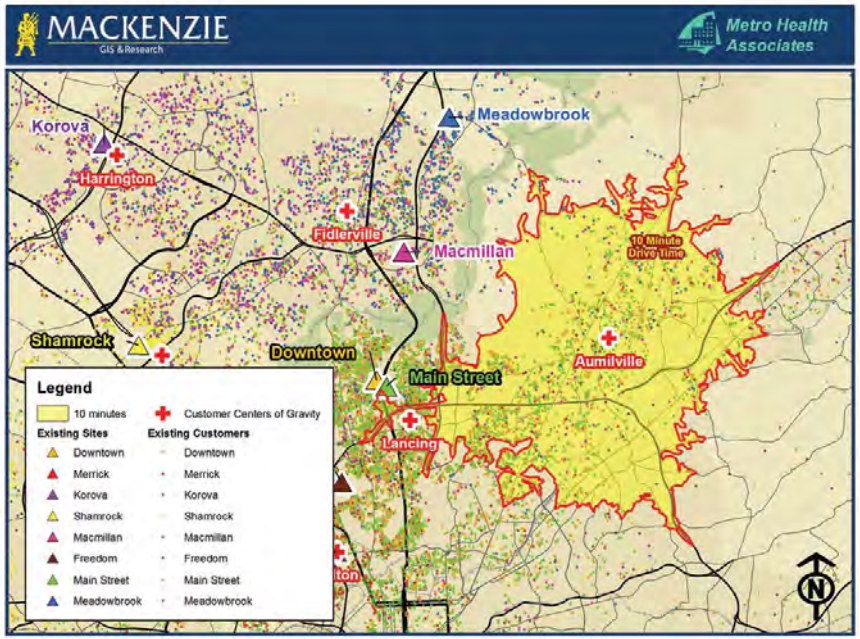


Crain's Chicago Business used GIS to create this map showing that the average annual spending per household on entertainment was highest in the Kenilworth neighborhood of Chicago.

Learn more about how media organizations benefit from the use of geographic analysis and GIS.

Real Estate

Like real estate, GIS is all about location, location, location. GIS helps real estate professionals in all segments of their business, from map-based content management to sophisticated investment analysis.



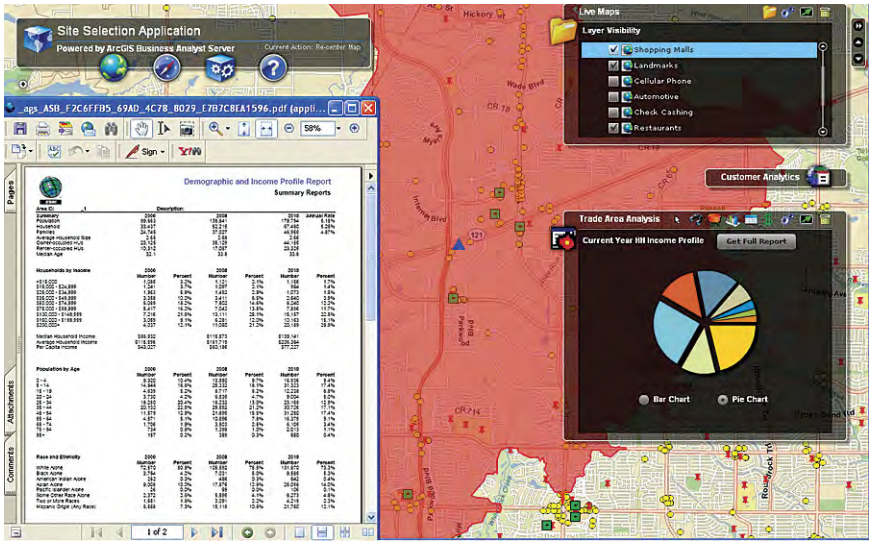
MacKenzie Commercial Real Estate Services uses GIS to reveal customer behavior that can help staff identify optimal locations for new health care facilities and evaluate the locations of existing sites.

Learn more about how business and retail organizations benefit from the use of geographic analysis and GIS.

Retail

Understanding what is special about individual locations provides the mechanisms to improve the effectiveness and efficiency of retail operations. This localization helps bring the right amount of goods and services to the correct place at the best time and price to meet market demand or fulfill potential.

Tailoring product offerings to shoppers on a store-by-store basis is more effective than using a one-size-fits-all approach.



United Properties agents use GIS to collaborate online to view information about different shopping center locations.

Empowering local store managers and real estate departments with decision-making power leads to success. The key is holding the right tools and a knowledge framework for a successful business strategy.

Learn more about how business and retail organizations benefit from the use of geographic analysis and GIS.

Defense and Intelligence

Most national security decisions involve geography. Whether assessing potential terrorist targets, planning where to strike on the battlefield, or deciding where to locate a new building with minimal environmental impact, geography always comes into the equation, and GIS is playing an increasingly important role in making these types of decisions.

GIS software gives defense and intelligence organizations the tools to unlock and reveal meaningful patterns in geospatial data and provide the intelligence support required for mission success. GIS helps by capturing, managing, analyzing, and displaying geographically referenced information, providing a clear picture of the data and the many complex relationships behind it.

Defense and Force Health Protection

To protect the health of defense forces in the field and at their bases, defense professionals must quickly visualize, analyze, and understand emerging situations. Their ability to make these decisions impacts the mission readiness and safety of service members.

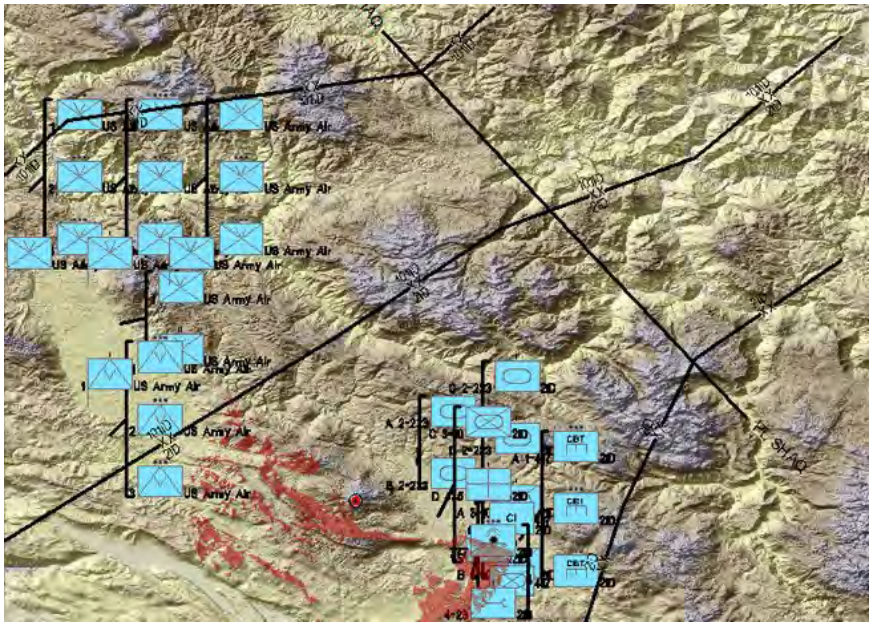
War fighters, logisticians, and defense health providers all depend on location-based information. GIS can help defense and intelligence organizations visualize occupational and environmental hazards; track evacuees, casualties, and high-value medical equipment; and perform disease surveillance and epidemiology research.

Learn more about how defense and intelligence organizations use GIS for troops' health protection.

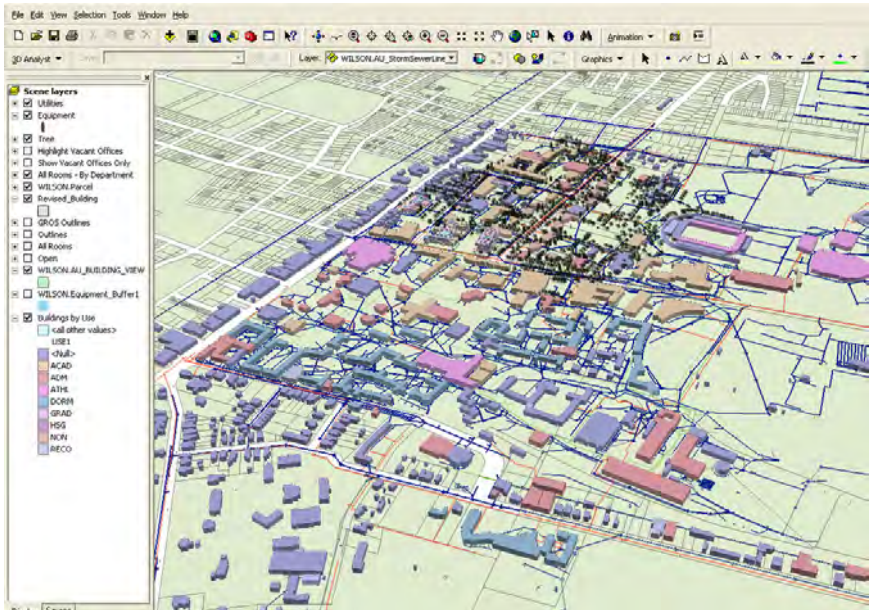
Geospatial Intelligence

Geospatial intelligence (GEOINT) integrates imagery and geospatial data with other information to create products critical to national intelligence, security, and defense. GEOINT combines previously separated domains such as map production, GIS, and imagery analysis.

Today, GIS fuses geospatial data with other forms of information such as human intelligence (HUMINT), Measurement and Signatures Intelligence (MASINT), signals intelligence (SIGINT), open source intelligence (OSINT), and technical intelligence (TECHINT). GIS serves as a powerful and unique platform to integrate and fuse all these types of intelligence into applications throughout an organization's enterprise.



GIS plays a vital role in intelligence gathering and analysis.



Military I&E managers can manage all their facility information using GIS technology.

Learn more about how defense and intelligence organizations use GIS to support geospatial intelligence efforts.

Installations and Environment

Military installations and environment (I&E) managers use GIS to manage a complex array of resources, assets, facilities, lands, and services similar to those of a medium-sized city.

With GIS, they can create interoperable, open, and enterprise-wide applications to manage facilities, utilities, the environment, security, cultural resources, and other defense installation infrastructure. GIS supports many components of the I&E domain:

- Range management
- Emergency operations
- Public works
- Facility management

- Force protection and security
- Environmental management

Learn more about how defense organizations use GIS for installations and environment.

C4ISR Military Operations

Change is rapidly coming to how the military develops, works with, and uses geospatial technology, and GIS is at the forefront of this transformation. Today, defense organizations directly embed geospatial capabilities into mainstream command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) applications.

GIS professionals once created specialized products for use only at upper-command levels. Today, powerful publication technologies on servers make geospatial capabilities available throughout an area of operations. With these network-centric operations, information moves quickly, for example, from the data provider in the field to an intelligence analyst at headquarters. This information is used for operations at all echelons in defense.

The net result: better, faster, and less expensive analysis and more informed decisions, as old, independent, and sometimes incompatible systems are phased out and replaced by integrated service-oriented architecture (SOA). GIS provides the key enabling technology for this transformation of C4ISR.

Learn more about how defense and intelligence organizations use GIS to support C4ISR applications.

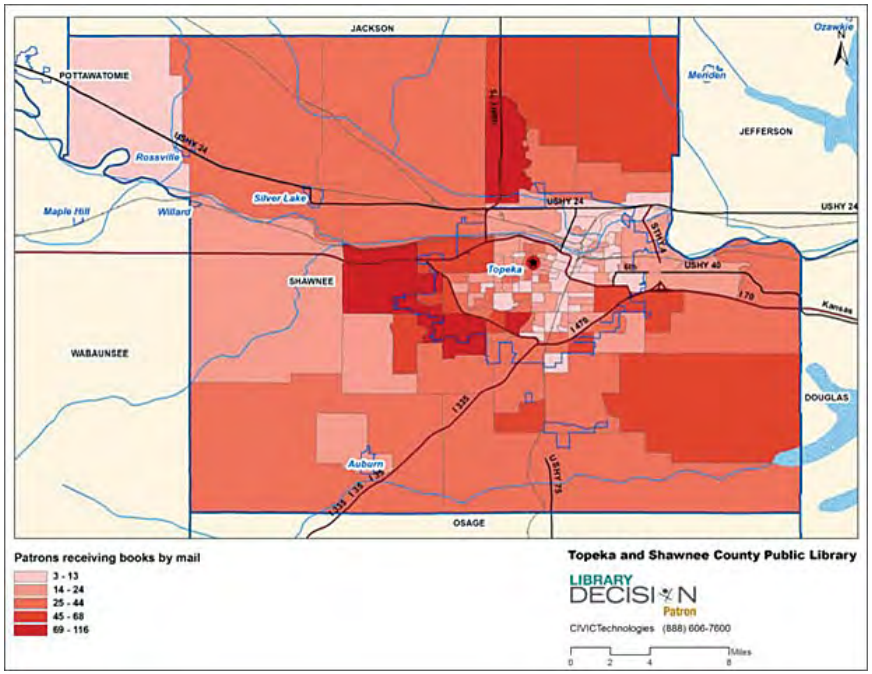
Education

GIS technology provides the education community with tools to develop a greater understanding of our world through geospatial data analysis. With GIS, students and faculty can integrate and evaluate data from many sources to develop new theories and knowledge. This helps prepare students to meet the demands of the twenty-first-century work force, whether they are involved in science, government, or business.

Libraries, museums, schools, and universities are also increasingly using GIS for resource management, facilities management, and advanced research.

Libraries and Museums

Libraries and museums use GIS to help students and visitors understand the connections between places, people, and events through a geographic approach to learning. GIS can also help these institutions manage their operations and facilities.



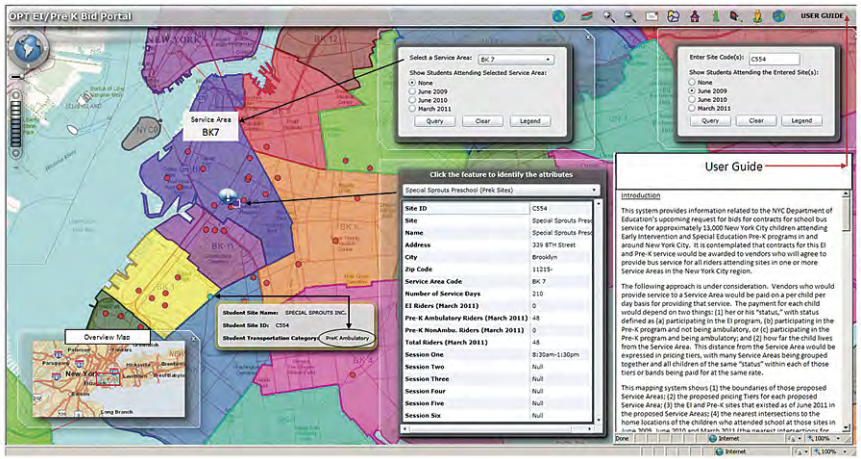
GIS analysis helped Topeka and Shawnee County Public Library better understand how patrons were using the library's services.

Learn more about how libraries and museums benefit from the use of geographic analysis and GIS.

Schools (K–12)

Geographic inquiry and GIS technology are important tools that help educators, students, and their institutions answer personal and community questions having local to global implications.

Today, more and more schools are including GIS in their curricula to help their students gain valuable background knowledge and skills with which to face global challenges.



New York City Department of Education's Office of Pupil Transportation uses GIS to help manage the transportation needs of schoolchildren.

In addition, school administrators have turned to GIS for help with facilities management, vehicle routing, district boundary mapping, safety and preparedness, and more.

Learn more about how schools benefit from the use of geographic analysis and GIS.

Universities and Community Colleges

The role of higher education is to assist students in becoming effective thinkers with the knowledge and skills that will lead them toward becoming meaningful contributors to society. GIS in higher education provides an integrated solution to assist faculty and students with their education goals.

Purdue University uses GIS technology to share data with students.

GIS is no longer just for geography departments. By putting information in the context of geography, GIS can be applied across several fields of study to enhance learning and teaching. GIS can give students the skills they need for careers in health

care, marketing, environmental studies, engineering, natural resource management, and, of course, geography.

Learn more about how higher education benefits from geographic analysis and GIS.

Government

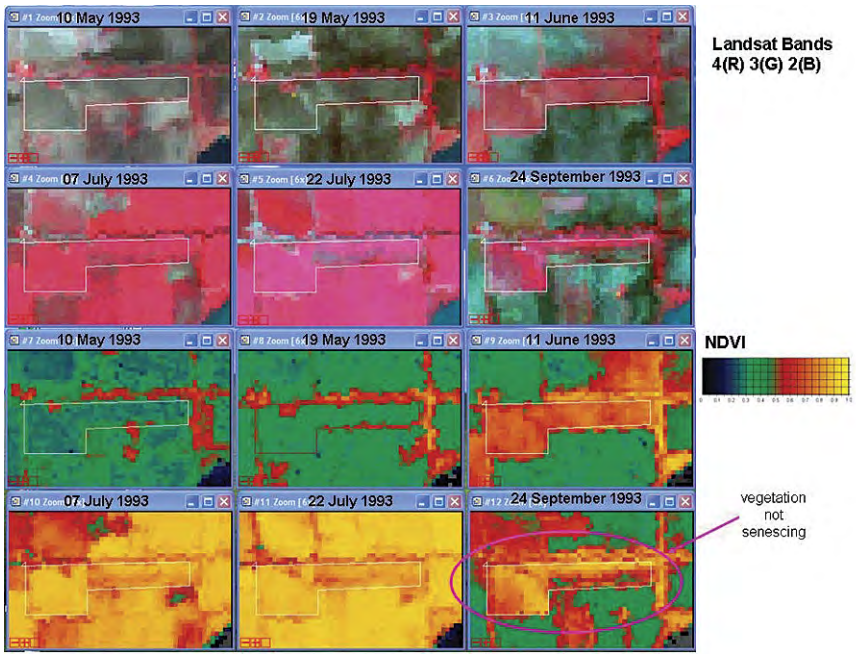
Today, government invests heavily in geospatial data and technology because nearly everything in the public realm happens in the context of geography.

Governments of all sizes use GIS to analyze complex situations and create solutions across disciplines. GIS helps them increase efficiency, reduce costs, improve coordination, and deliver transparency and accountability.

From the decennial census and stimulus reporting to fleet routing and pothole repairs, GIS is key to enhancing government services, democratic processes, and the health of the nation.

Federal Government

Nearly every federal agency uses GIS to help meet its missions. Government depends on this technology to bring its vast data into an enlightening geographic context. Agencies leverage GIS to increase operational efficiency, track and evaluate activities to meet mandates and support initiatives, and perform analyses that lead to better decision making. GIS also brings transparency and accountability to federal government by engaging citizens through dynamic, interactive maps.



United States Department of Agriculture Risk Management Agency uses forensic remote sensing to examine the growing conditions, crop health, and vigor within fields.

Learn more about how federal governments use GIS.

State Government

Across the United States, state governments, such as those in Oregon, Utah, Maryland, Alabama, and Montana, use GIS to improve operations and service to citizens. GIS provides a common platform for data sharing, which enhances workflow, decision making, and coordination across the state and with federal and local governments.

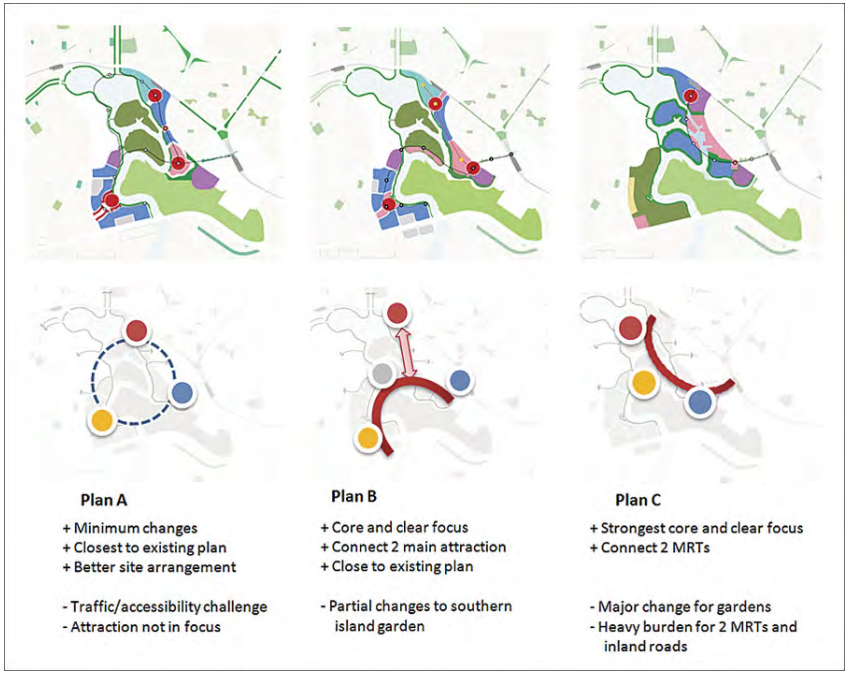
GIS is critical in departments throughout state government including economic development, transportation, health, emergency preparedness, and natural resources.

Learn more about how state governments use GIS.

Local Government

Local governments around the world—from the largest cities to smaller towns—use GIS. It benefits public works and elections departments, emergency services, law enforcement, assessor's offices, and many more divisions.

GIS consistently delivers a return on investment including cost avoidance; time savings; increased accuracy, productivity, and revenue; and better decision making.



Singapore used GIS to evaluate alternative plans for sustainable development of Jurong Lake District.

Learn more about how local governments benefit from using GIS technology and spatial analysis.

Architecture, Engineering, and Construction

GIS technology provides the tools for creating, managing, analyzing, and visualizing the data associated with developing and managing infrastructure.

Using a central GIS database, you can conduct spatial analysis, overlay data, and integrate other solutions and systems.

Thus, GIS is playing an increasingly important role in architecture, engineering, and construction (AEC) companies by supporting all phases of infrastructure management.

Learn more about how AEC organizations benefit from GIS.

Economic Development

Economic development agencies use data and GIS tools to retain, grow, and attract businesses. With easy-to-use, modern web applications and accurate, current data, agencies give community and business leaders the information they need to make investment decisions.

Erie and Niagara Counties use GIS to help outline a vision for growth through 2020.

Learn more about how economic development organizations benefit from GIS.

Elections and Redistricting

Mapping technology is central to effective elections. From redistricting to campaigning to Election Day itself, GIS powers the operations that drive this essential democratic process.

Today, GIS goes far beyond election logistics to enable productive collaboration via informative, interactive maps. It's easier than ever to leverage existing GIS resources to create easy-to-use applications that give officials, candidates, citizens, and the media a powerful new platform on which to visualize and discuss the electoral process.

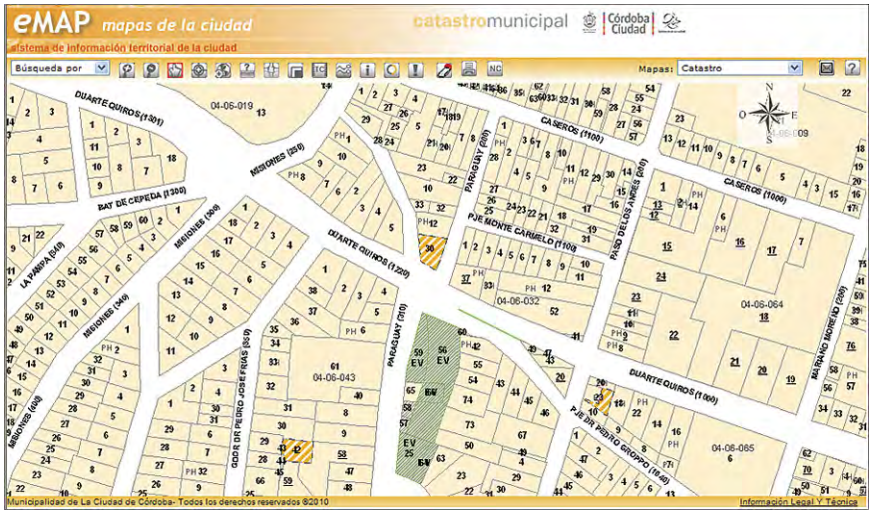
Learn more about how GIS helps in elections and redistricting.

Land Administration

Land administration agencies must manage their land information assets efficiently and effectively by moving from legacy silo workflows to an enterprise solution. The geographic approach enables this by putting the geodatabase at the heart of a cadastral enterprise transactional workflow.

GIS supports the entire land administration life cycle, from data capture, management, and processing to information dissemination. An automated workflow modeled and

implemented in GIS improves accuracy and quality and saves labor, time, and money.

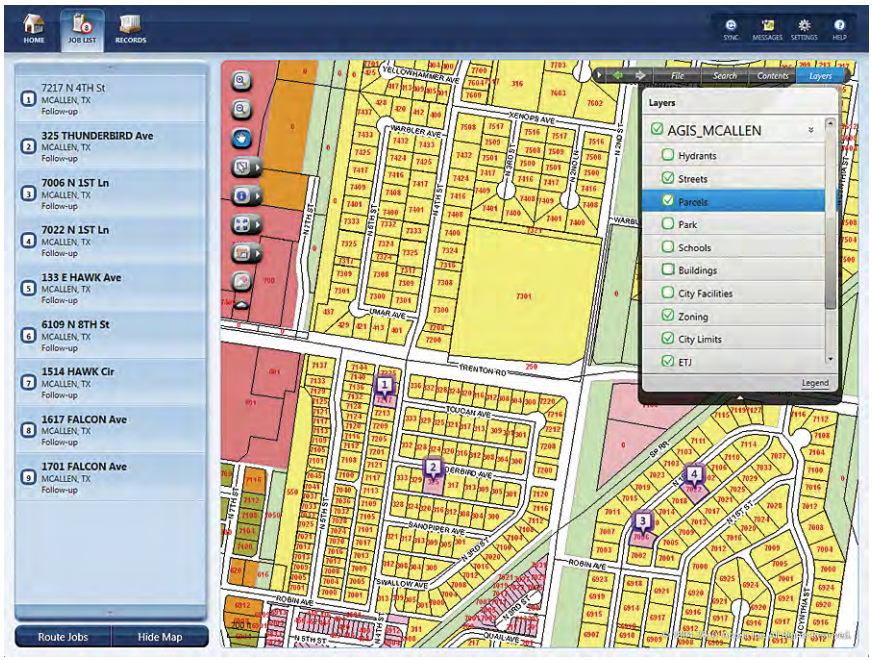


The City of Córdoba, Argentina, modernized its land registry administration with GIS.

Learn more about how GIS helps in land administration.

Public Works

Public works professionals strengthen the country's infrastructure. They are responsible for many assets such as transportation and water infrastructure, fleets of vehicles, signs, and trees. GIS gives them the data management and mapping tools they need for better asset and work order management, planning, and prioritization.



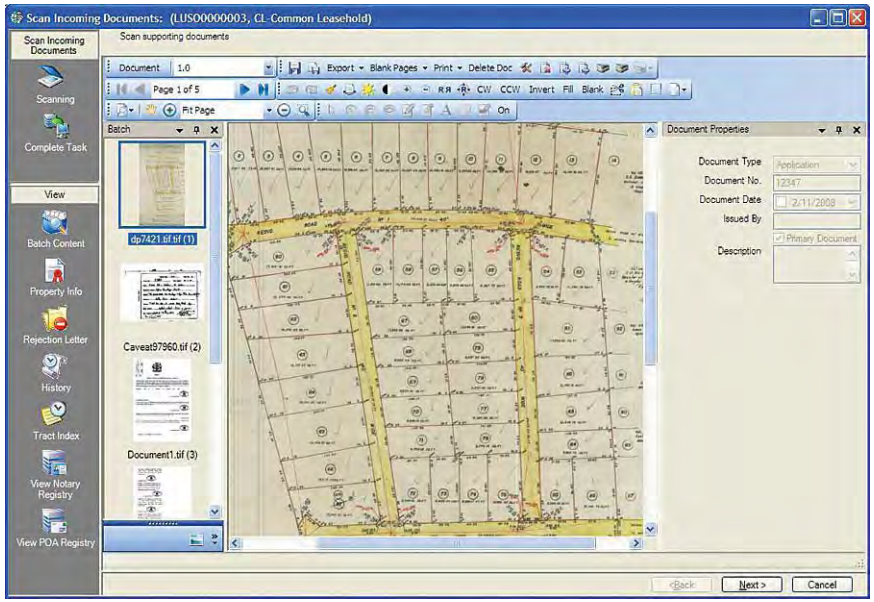
Implementation of mobile GIS resulted in improved code enforcement services in McAllen, Texas.

Creating a public works information system based on GIS connects divisions, from engineering to accounting, which streamlines workflows, asset management, and operations and improves efficiency and productivity.

Learn more about how public works departments benefit from the use of geographic analysis and GIS.

Surveying

Surveyors depend on a variety of software and technology in their daily workflows. GIS technology integrates with other systems while providing new functionality and a central database. A GIS database gives surveyors a better way to easily manage, reuse, share, and analyze survey data, saving time, money, and resources.



Egypt used GIS to create a parcel-based deeds registry to spur the mortgage market.

Learn more about how GIS helps in surveying.

Urban and Regional Planning

No matter how large or small a community, planners must deal with spatial information: parcel, zoning and land-use data; addresses; transportation networks; and housing stock. Planners also study and keep track of multiple urban and regional indicators, forecast future community needs, and plan accordingly to guarantee a higher quality of life for everyone in livable communities.

Planners in the Township of Langley, British Columbia, Canada, used 3D modeling to visualize the impact of new buildings on the landscape.

Federal, regional, state, county, and local planning agencies have realized the power of enterprise GIS to identify problems, respond to them efficiently, and share the results with the public.

GIS technology provides tools to help planners reach their agency mission while doing more and spending less.

Learn more about how GIS helps in urban and regional planning.

Health and Human Services

Health and human services organizations share a mission with others worldwide to help people achieve the highest levels of physical and social well-being. GIS technology helps leverage limited resources and multiply the positive impact of benefits to individuals, families, and society.

GIS improves understanding of a given situation, what is needed, and how to intervene with prevention and mitigation strategies when necessary. GIS offers organizational and analysis tools that expand the effectiveness of an agency's response to growing demands and limited budgets.

Health Research

Students and researchers who apply a GIS-based spatial outlook to research and health delivery add measurable value to the goal of improving human health.

Fluency in GIS technology is a benefit to the entire health and human services work force including nurses, physicians, health administrators, public health professionals, social workers, and researchers. Professional programs that teach or practice GIS applications in health care are often offered in medical, public health, or research settings.

Learn more about how academic programs and health researchers benefit from using geography and GIS.

Hospital and Health Systems

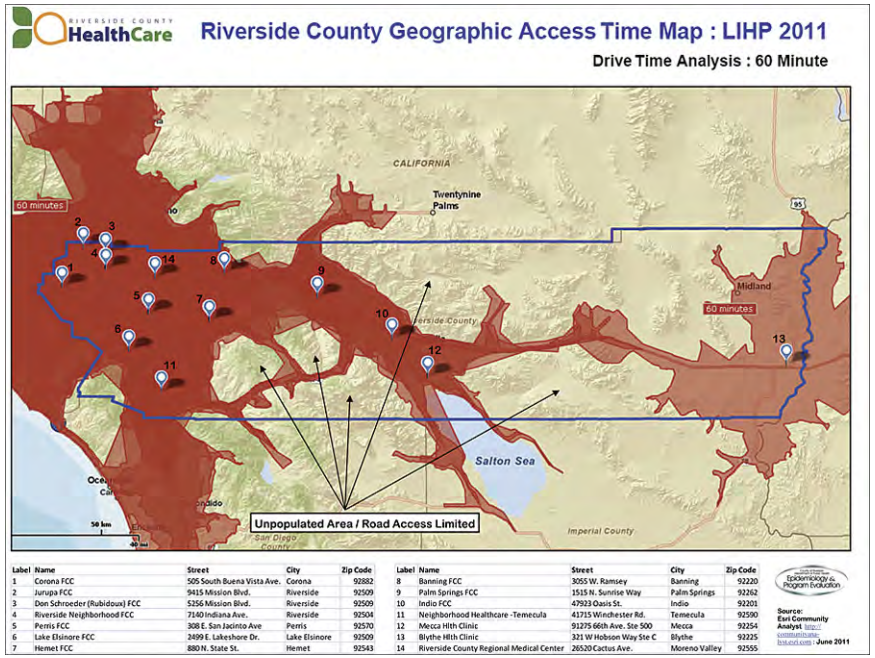
Hospitals and health systems rely on GIS for timely, accurate, relevant information to deliver effective, high-quality services. GIS is also useful in marketing and strategic planning, safety, and community relations.

GIS helps hospitals and health systems relate complex elements and reveal solutions for crucial missions such as locating a new facility, estimating demand for a new service, or making sense of transmission patterns of hospital-acquired infections.

Learn more about how hospitals and health systems use GIS technology and spatial analysis.

Human Services

Human services enable communities to maintain health and wellness. Increased demand for family and children's services brings new attention to concerns regarding program access, efficiency, and integrity.



Riverside County, California, used GIS to apply for grants for low-income community clinics.

GIS helps modernize the IT infrastructure of many human and social service programs. By using GIS for data management, analysis, and visualization, human services professionals can better assess community needs, identify disparities, deliver service, and detect fraud or abuse.

Learn more about how human services organizations leverage geography and GIS.

Managed Care

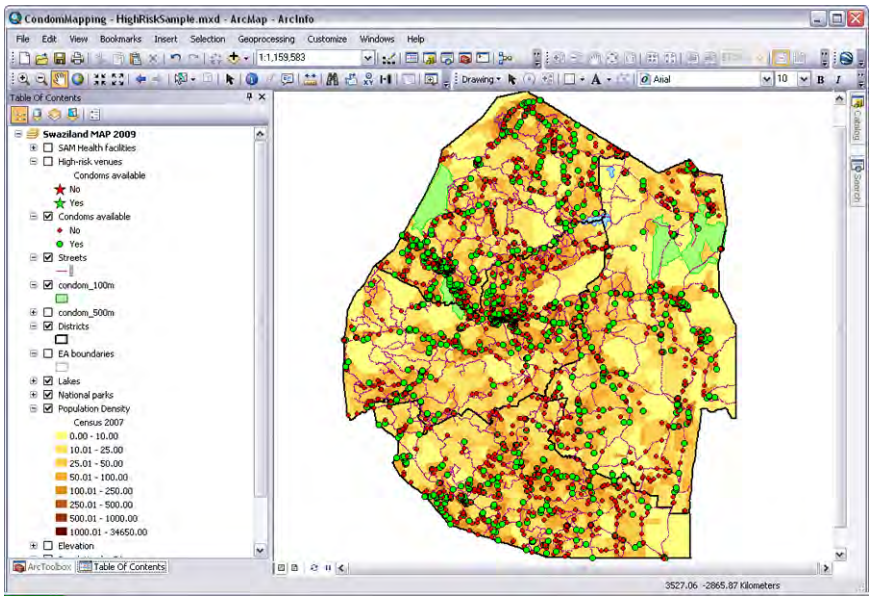
Managed care organizations use GIS to better understand relationships between providers, employers, and consumers by incorporating analysis and data from demographics to market demand. GIS can assist in determining the health service needs of employee groups and special populations such as Medicare and Medicaid patients.

GIS helps organizations with business functions including enrollment planning, marketing, utilization review, network administration, and disease management.

Learn more about how managed care organizations use geography and GIS.

Public Health

Public health organizations rely on GIS to help in making decisions that influence population health. With powerful analysis tools and integrated work force solutions, organizations can better grasp community health needs and design effective interventions.



Population Services International uses GIS to monitor the fight against HIV/AIDS in Swaziland.

GIS helps public health organizations both improve field data collection and reporting and support disease surveillance and analysis. Interactive, easy-to-read GIS maps improve communication with decision makers and the public.

Learn more about how public health organizations are gaining benefits using GIS technology and spatial analysis.

Mapping and Charting

GIS is a critical tool for topographic, nautical, and aeronautical mapping and charting agencies. GIS has the unique ability to manage and produce the specific data and map products these agencies require.

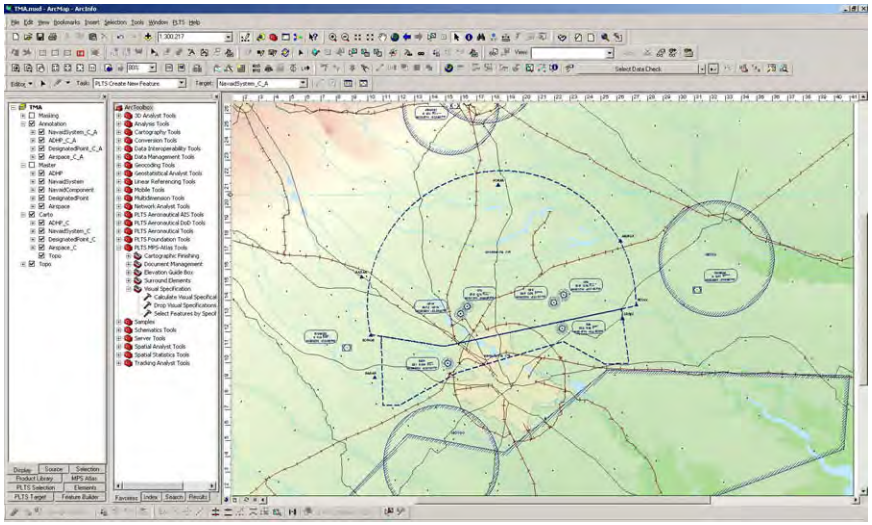
GIS technology allows them to implement an effective workflow for data collection, management, production, and delivery.

Aeronautical

Civil and military organizations must quickly produce aeronautical information for safer navigation. GIS technology can help these agencies maintain, control, and disseminate data that meets their rigorous requirements.

GIS technology helps aeronautical organizations do the following:

- Create, visualize, analyze, and share information with others.
- Automatically update charts throughout the organization.
- Produce a wide range of charting products from a single database.
- Readily share information through mobile and web applications.



Romanian Civil Aeronautical Authority enhances safety, security, and efficiency with GIS.

Learn more about how aeronautical organizations benefit from the use of geographic analysis and GIS.

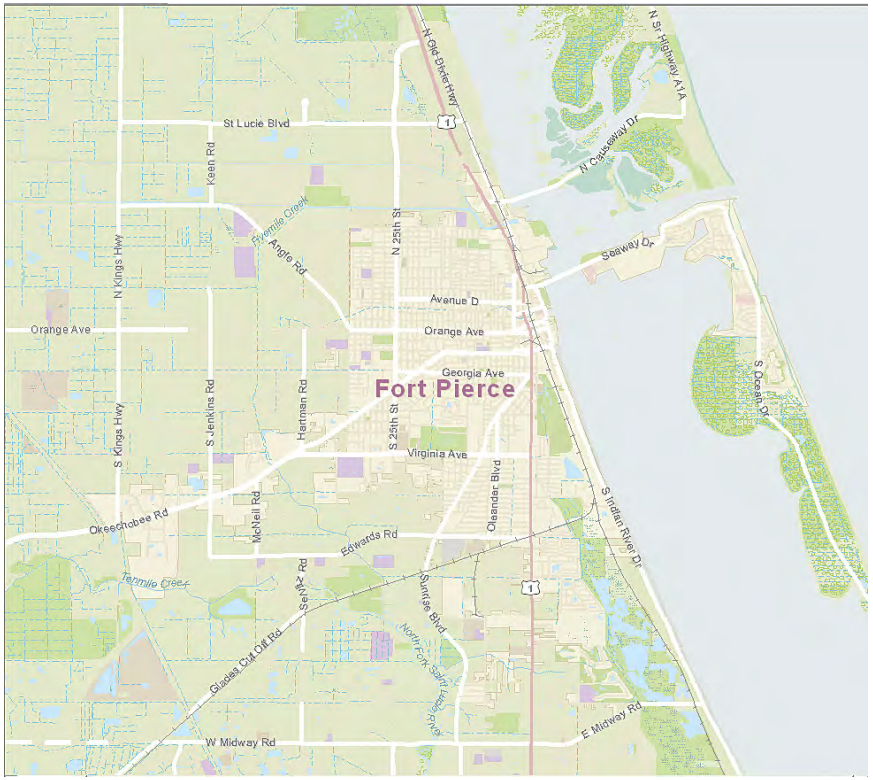
Cartographic

Cartographic organizations and data publishers must be able to produce professional, standardized maps from their libraries of data. GIS provides database-driven cartography that creates sophisticated, high-end cartographic production tools and workflows allowing these agencies to more easily and efficiently create the products they need.

GIS helps cartographic organizations do the following:

- Automate tasks and implement user-defined cartographic rules.
- Override cartographic conventions for individual preferences or requirements.
- Reduce map production costs.
- Produce a more flexible range of products.
- Achieve a higher throughput to meet publishing deadlines.

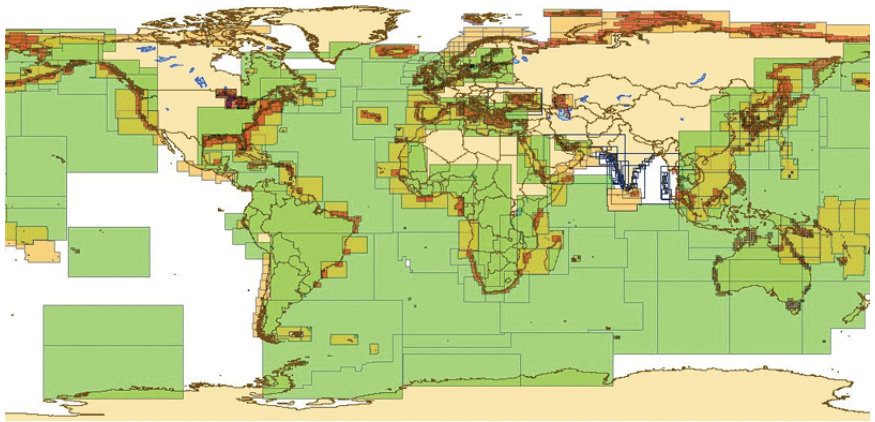
Learn more about how cartographic organizations benefit from the use of GIS.



Using GIS to automate and standardize map production gives cartographic organizations superior results in a fraction of the time.

Nautical

National hydrographic organizations, commercial chart producers, and naval commands can benefit greatly by leveraging a database-centric approach to the production and maintenance of data.



Electronic Navigation Chart World Catalog is one of the most relevant data catalogs available.

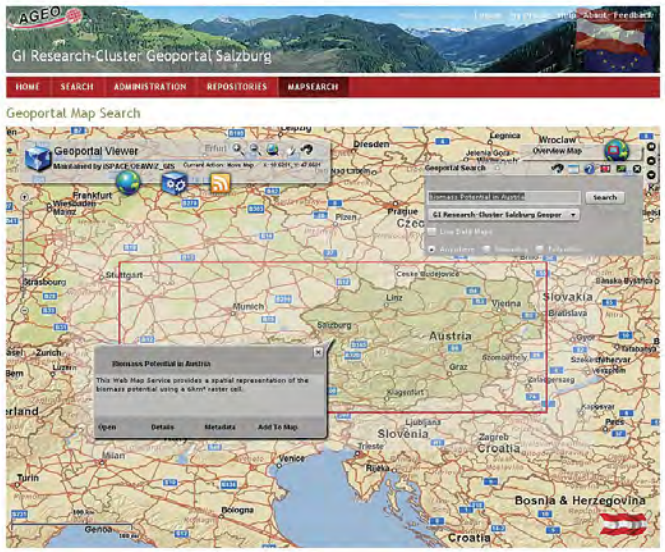
With GIS, nautical charting organizations can do the following:

- Produce multiple products from a seamless database.
- Create and maintain hydrographic data in a Nautical Information System.
- Support central/regional office mobile units with disconnected editing.

Learn more about how nautical agencies benefit from the use of GIS.

Spatial Data Infrastructure

Many organizations that use GIS need to integrate data from multiple sources, organizations, and formats. A spatial data infrastructure (SDI)—which catalogs and provides access to diverse geospatial resources—extends the value and use of your GIS within the framework of standards and policies.



GIS and SDI help visualize biomass potential in Austria through web map services.

Creating an SDI is a collaborative venture between public and private organizations. With Esri technology built on open standards, organizations can work together to build an SDI within their enterprises or across local, national, and global communities.

Learn more about GIS and SDI.

Topographic

GIS technology gives both civilian and defense organizations worldwide the ability to efficiently produce and maintain topographic databases and publication-quality map products and services using fewer resources. Costs can be reduced by streamlining production management using one integrated system. Organizations can provide authoritative information to their customers so they can address national issues.

GIS helped the Tasmanian government's Department of Primary Industries and Water (TASMAP) move forward to a modern, efficient mapping production system.

Data and map production can be streamlined, providing customers with the data they need across any platform including web and mobile.

Learn more about how topographic organizations benefit from GIS.

Natural Resources

Natural resource managers—biologists, botanists, ecologists, environmental regulators, farmers, foresters, hydrologists, petroleum engineers, planners—rely on the analytical power of GIS for help in making critical decisions as they manage the earth's resources.

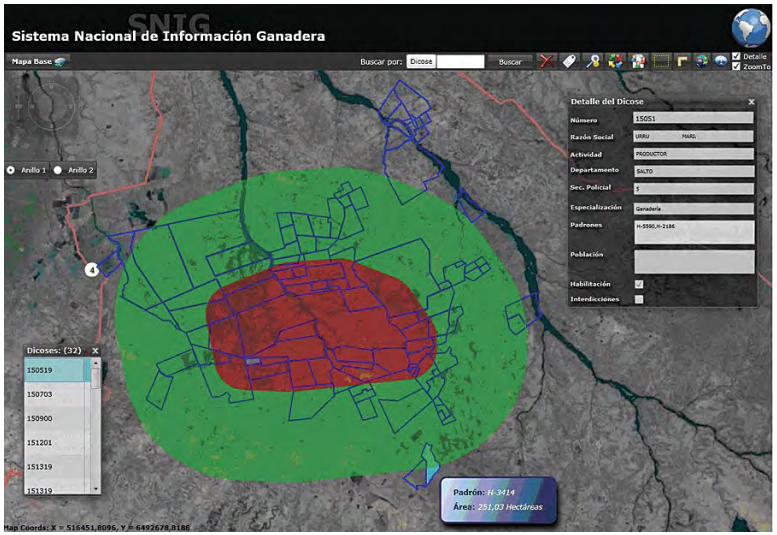
Today more than ever before, we must manage, preserve, and restore our natural resources. Decision makers charged with this task need a complete picture of the issues. GIS helps us gain a deeper understanding of the problems we face and lets us bring more accurate information and less guesswork to the table.

There is no simple answer to our environmental and natural resource concerns, but whether we are restoring habitats, planting crops, drilling for oil, or monitoring endangered species, there is increasing optimism that the application of GIS tools will help us better sustain the planet.

Agriculture

Balancing the inputs and outputs on a farm is fundamental to its success and profitability. The ability of GIS to analyze and visualize agricultural environments and workflows has proved to be very beneficial to those involved in the farming industry.

From mobile GIS in the field to the scientific analysis of production data at the farm manager's office, GIS is playing an increasing role in agriculture production throughout the world by helping farmers increase production, reduce costs, and manage their land more efficiently.

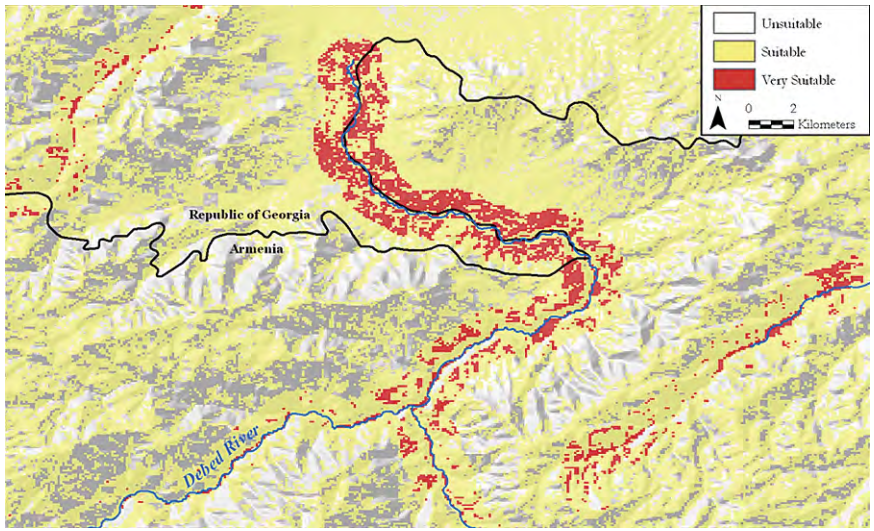


Uruguay has streamlined livestock traceability with GIS.

Learn more about how agricultural organizations benefit from the use of geographic analysis and GIS.

Archaeology

As researchers and resource managers, archaeologists understand the importance of geography. Its variables exert a strong influence on human behavior today, and archaeologists are aware of the significance of this influence throughout history. Geography also influences the degree of exposure of archaeological sites and the impacts that they face from human activity and natural forces.



GIS was used to locate prehistoric archaeological sites in the Southern Caucasus.

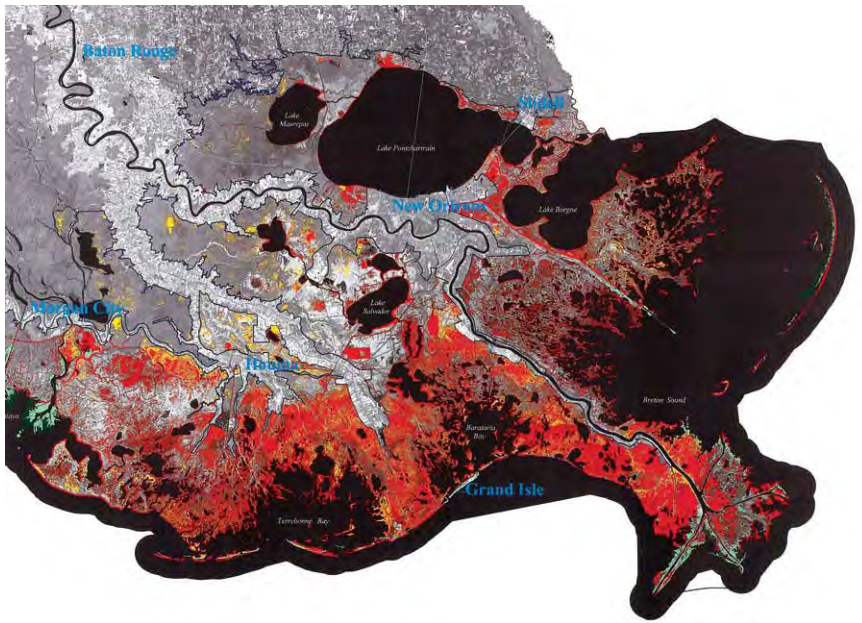
GIS facilitates mapping to analyze depositional patterns as well as catalog and quantify artifacts. It can provide a well-structured descriptive and analytical tool for identifying spatial patterns.

Learn more about how archaeologists benefit from the use of geographic analysis and GIS.

Climate Change

Climate change is a geographic problem, and solving it takes a geographic solution.

GIS has a long history of driving environmental understanding and decision making. Policy makers, planners, scientists, and many others worldwide rely on GIS for data management and scientific analysis.



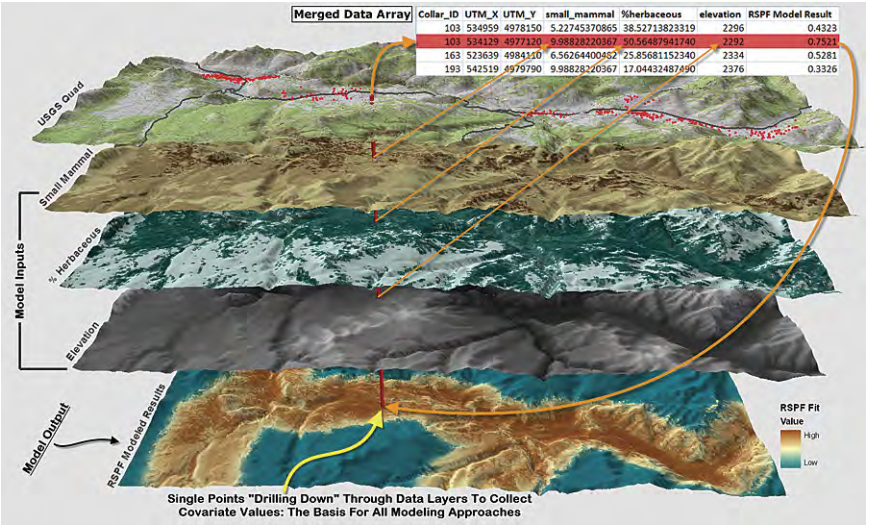
GIS helps scientists understand the loss of wetlands in Louisiana.

GIS users represent a vast reservoir of knowledge, expertise, and best practices in applying this cornerstone technology to climate science, carbon management, renewable energy, sustainability, and disaster management.

Learn more about how climate change can be addressed with geographic analysis and GIS.

Conservation

Sustaining biodiversity and preventing fragmentation, extinction, and natural resource depletion are crucial to conservation of the environment. The ability to use GIS technology as a tool to monitor habitat change, track wildlife demographics, and foretell land and resource use is essential to conservation goals and practices. The spatial and thematic aspects of GIS technology enable users to overlay various data to delineate and predict the future of our resources, land, ocean, plant life, and wildlife. This geoprocessing enables decision makers to implement laws and programs that will protect and sustain the environment and its resources.



Ecologists use GIS to measure the impact of potential land-use change in Yellowstone National Park before it happens.

GIS is a tool that manages, analyzes, and models data from our environment so that we can make decisions based on that information to better conserve its resources and protect its biodiversity.

Learn more about GIS is used in conservation.

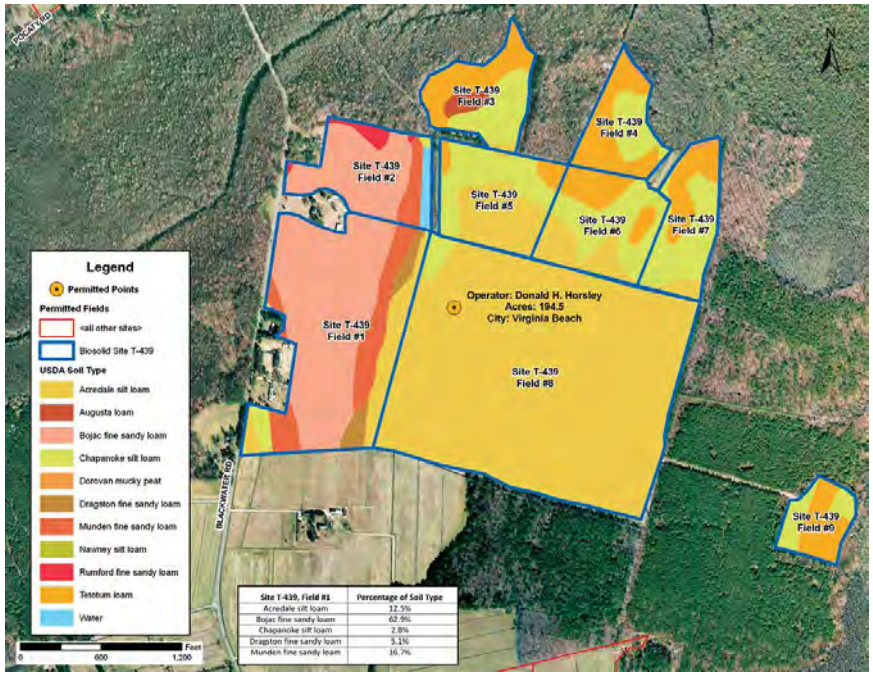
Environmental Management

Environmental managers and scientists use GIS to study the environment, report on environmental phenomena, and model how the environment is responding to natural and man-made factors.

GIS technology can help environmental management organizations do the following:

- Manage multiple types of geographic data.
- Assess relationships such as that between runoff and groundwater purity.

- Measure change such as wildlife habitat encroachment.
- Model events such as drought impact on forest health.
- Improve workflow processes, from data gathering and analysis to publication and distribution of findings.



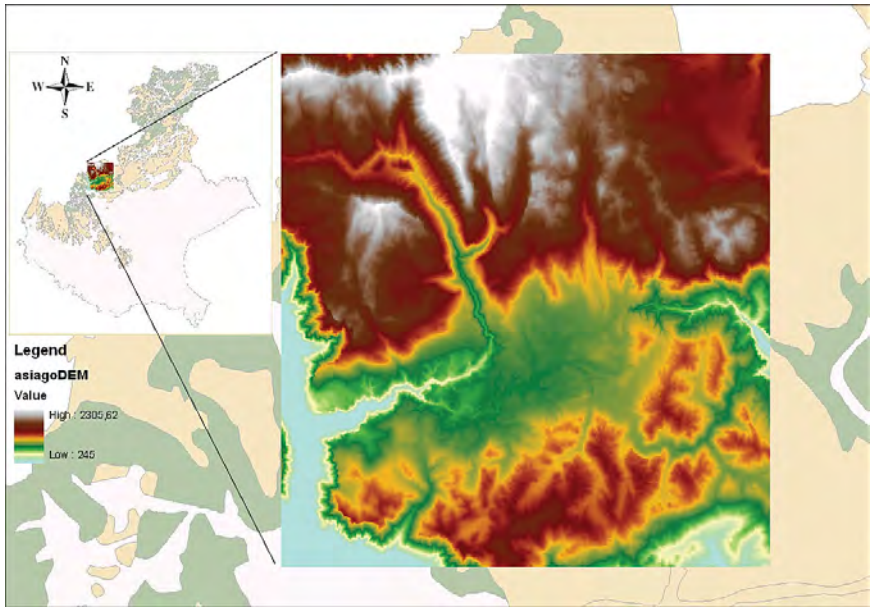
GIS helps farmers ensure that biosolid use complies with federal, state, and local regulations.

Learn more about how GIS is benefiting environmental management organizations.

Forestry

GIS technology profoundly and positively impacts the way land and timber managers and forestry specialists manage timber resources. GIS helps foresters and land managers meet the needs of their forests, the demands of society, and the pressures of economic efficiency.

Land managers increasingly turn to GIS for the analytic and visualization tools that allow them to analyze complex situations and make better-informed decisions.



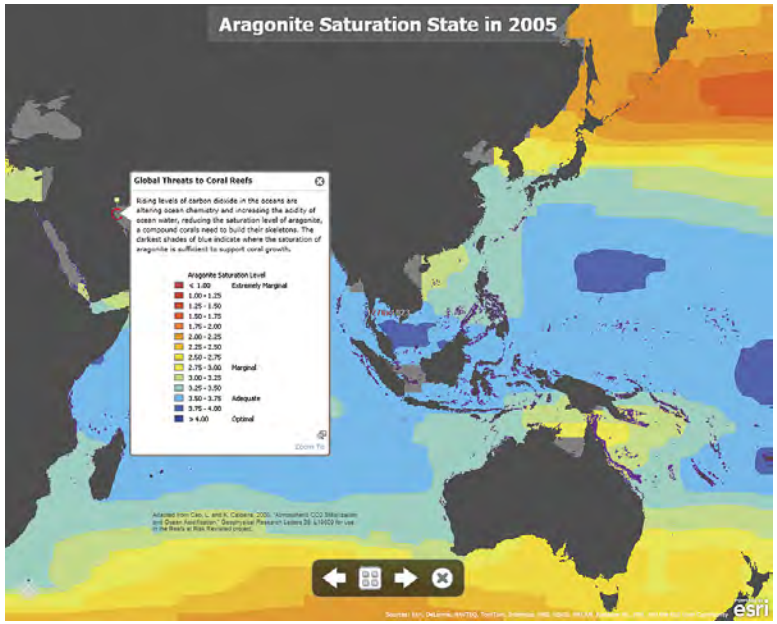
Italian forestry industry managers use GIS for decision support.

GIS is becoming the foundation for new decision support tools used in all business processes of integrated forest management.

Learn more about how forestry organizations benefit from the use of geographic analysis and GIS.

Marine and Coast

GIS technology helps us to better understand and represent the systems at work in the seas and oceans. From the coastal shoreline to the bathymetric bottom, marine GIS has been adapted and implemented to help marine agencies achieve their goals in coastal zone management, research, ocean industries, and navigation.



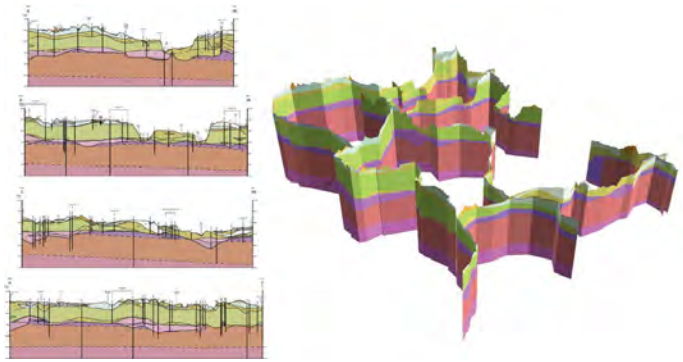
World Resources Institute's Reefs at Risk program uses GIS to map and analyze threats to coral reefs while promoting reef conservation and education.

GIS technology provides tools for data storage and access, analysis, and modeling ocean features. GIS marine and coastal organizations integrate coastline, depth, channel, obstruction, and landmark information, resulting in improvements in navigational efficiencies, commerce, and safety and greater situational awareness.

Learn more about how marine and coast organizations benefit from the use of geographic analysis and GIS.

Mining

The resources in the earth's crust require sophisticated technology to discover, extract, and manage. Since mining is inherently spatial, requiring accurate knowledge of areas of the earth's surface and subsurface, geospatial technology is best suited to intelligently oversee all phases of the mine operation.



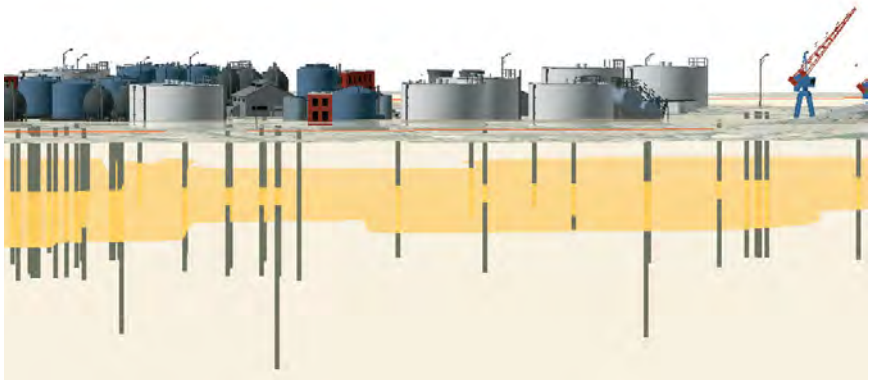
GIS allows scientists to create geological cross sections and map subsurface features in 3D.

GIS gives mining companies the tools they need to operate mines responsibly and at optimum efficiency. It is a comprehensive, interoperable technology specifically designed to compile, process, display, analyze, and archive volumes of interdisciplinary data.

Learn more about how mining companies benefit from GIS.

Petroleum

For years, petroleum companies have used GIS to decide where to drill a well, route a pipeline, build a refinery, and reclaim a site. Today's GIS provides oil and gas industry solutions throughout the petroleum life cycle.



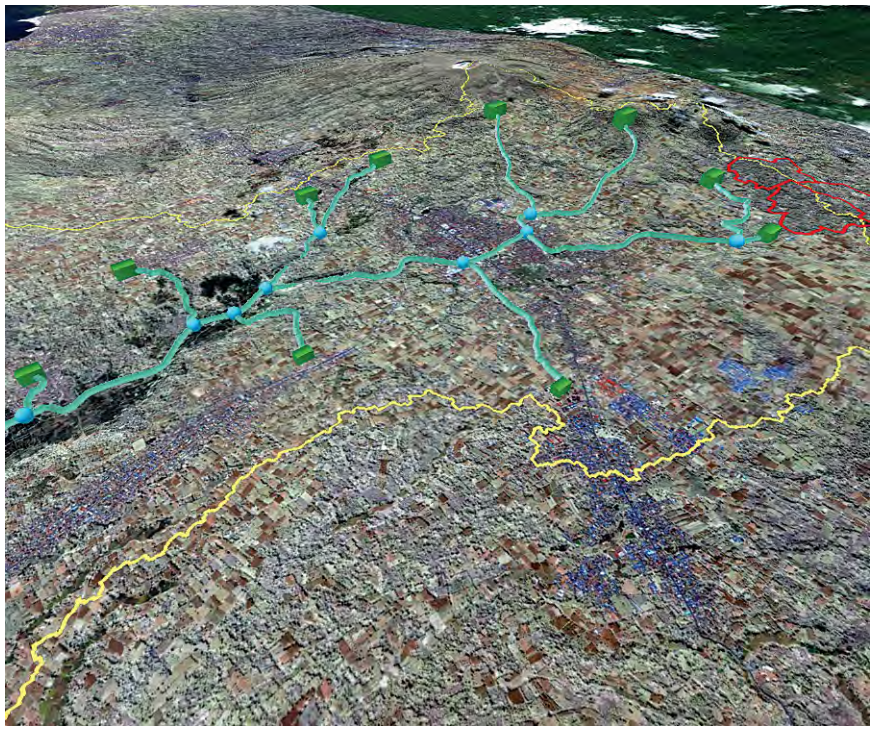
GIS is used to monitor the effect of water table fluctuations on petroleum resources.

All major oil companies in the world use GIS technology to manage their location-based information, from leases, wells, and pipelines to environmental sites, facilities, and retail outlets.

Learn more about how GIS is benefiting petroleum companies.

Sustainable Development

As a global society, people are becoming more aware that many human activities, such as land use and economic development, consume natural resources, such as energy, water, and soils, and can have long-lasting and irreversible effects on our environment including wildlife habitats and biodiversity. The important question for all of us is, Can the earth continue to provide and regenerate the resources we need to support life and encourage development as we know it?



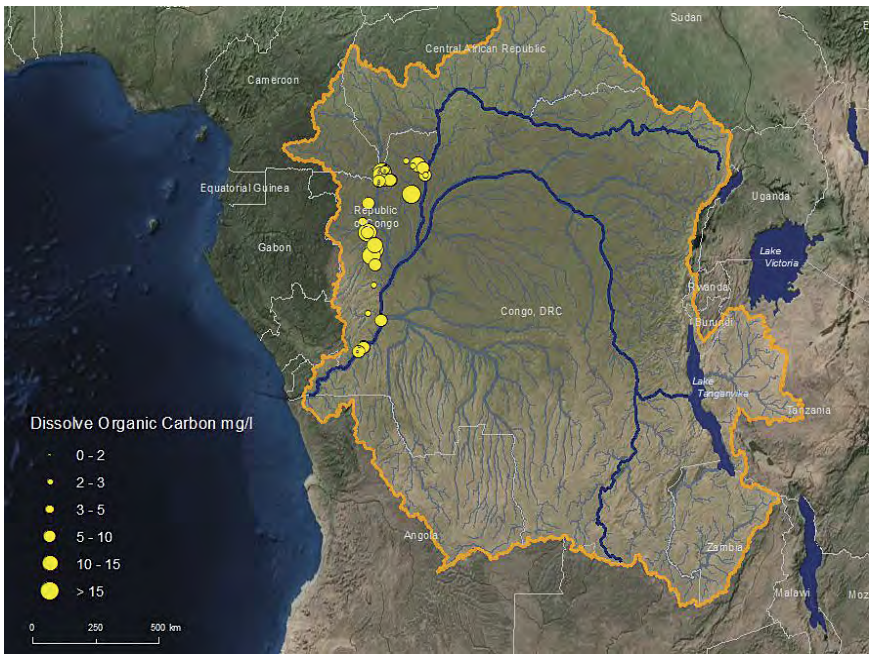
GIS helps manage sustainable sugar palm ethanol production.

To make this real, it is necessary to personalize and localize the question to specific resources and geographies that we are involved in or possibly responsible for—our parcel, neighborhood, community, nation. GIS allows us to measure our assets, understand our patterns of change, better understand the resources we are using, and identify the impact of human-induced geographic change. GIS is also helping us better utilize the resources we have by leveraging geographic information with analysis tools that support planning as well as operational activities.

Learn more about how GIS helps people map out plans for successfully achieving management strategies that are sustainable both at local and global levels.

Water Resources

GIS is a powerful tool for developing solutions for water resources, such as assessing water quality and managing water resources on a local or regional scale. Hydrologists use GIS technology to integrate various data and applications into one, manageable system.



GIS was used to monitor dissolved organic carbon along the Congo River.

Learn more about how water organizations are gaining benefits using GIS technology and spatial analysis.

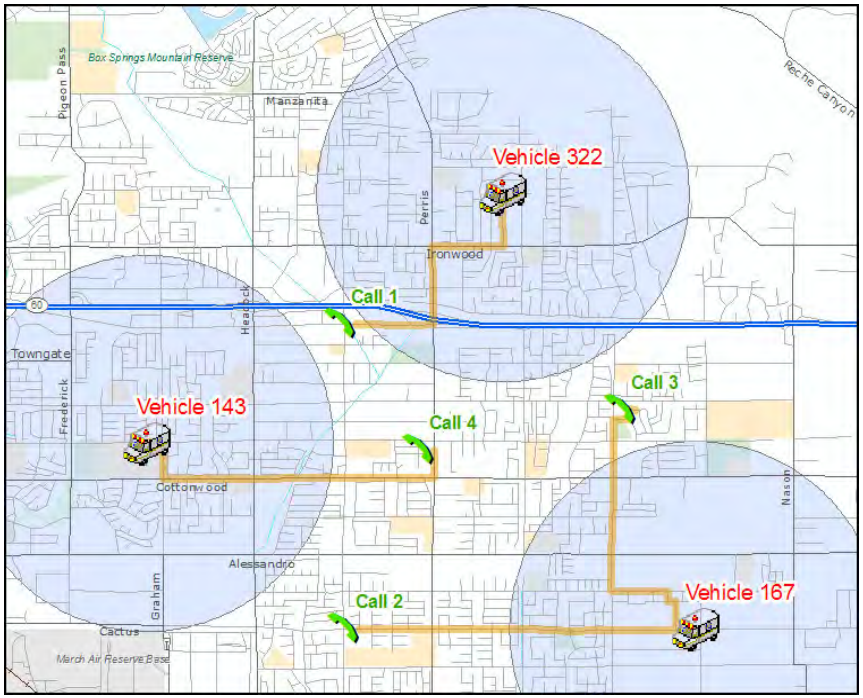
Public Safety

GIS technology gives public safety personnel the ability to manage and analyze large amounts of location-based information. Data (including files from legacy systems) can be used to visualize spatial relationships and reveal trends critical to public safety response and planning. Computer-generated maps can be shared across a network or the Internet with multiple agencies to coordinate efforts and maximize resources.

Computer-Aided Dispatch

Putting spatial intelligence at the fingertips of the 911 dispatcher and field personnel improves emergency response.

GIS enables emergency 911 centers to map incident locations and ensure that public safety first responders get to the right incident at the right time.



Using GIS, drive time, distance, and street impedances are interpreted to determine the unit closest to the call.

GIS based computer-aided dispatch solutions help optimize the dispatch mission with the following:

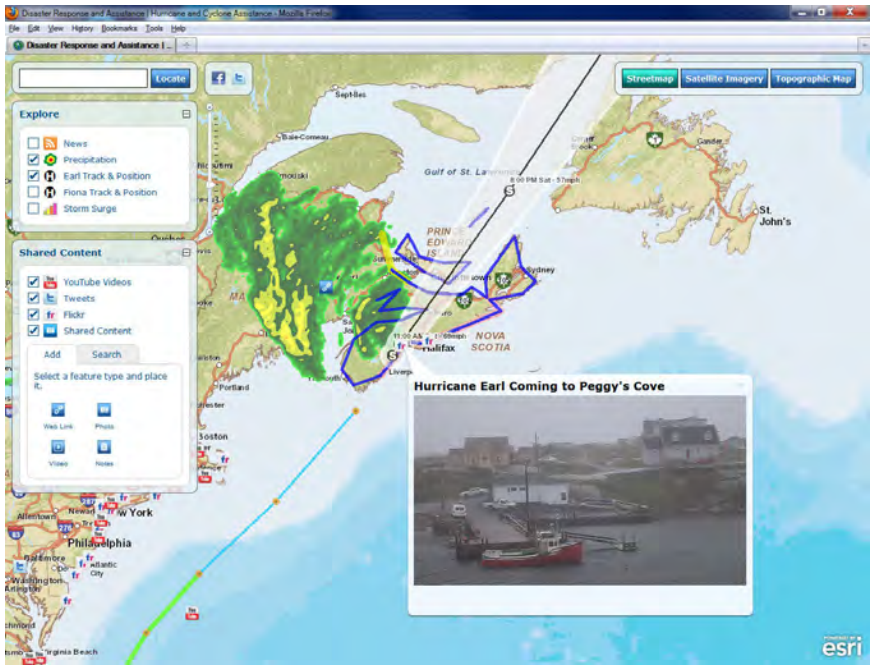
- Vehicle and/or resource management and tracking

- Premises history and dispatcher situational awareness
- Mobile and in-vehicle mapping using remotely accessed data

Learn more about how computer-aided dispatch benefits from GIS.

Emergency/Disaster Management

GIS is an essential technology for all phases of emergency management: preparation, mitigation, response, and recovery.



This social media application shows various shared content as Hurricane Earl skirts the New England coast.

To prepare for and mitigate emergencies, GIS can map and model potential disasters to help visualize critical vulnerabilities and damage consequences. As rebuilding begins, GIS aids local, state, and federal agencies with technology that supports collaboration between multiple organizations.

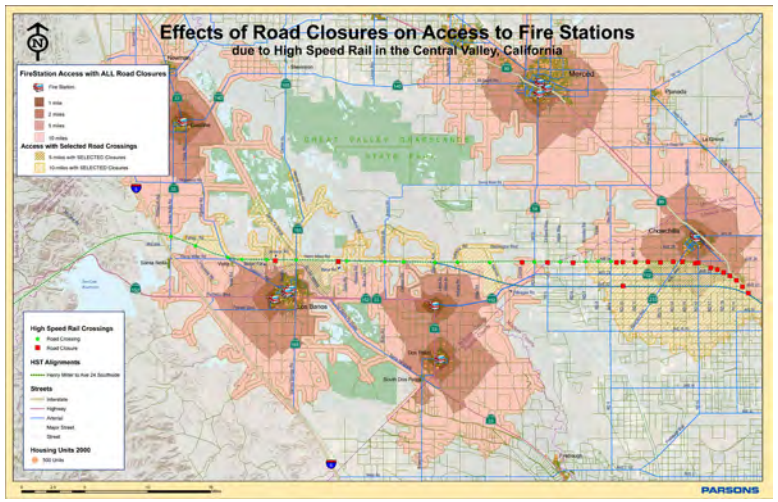
Field data captured with mobile GIS provides the ability to add updates from remote locations for more efficient incident management. It also supplies rapid damage assessment and more accurate recovery operations.

Learn more about how emergency and disaster management activities benefit from the use of geographic analysis and GIS.

Fire, Rescue, and EMS

For fire and rescue, wildfire, and emergency medical services (EMS), the mission to protect life, property, and natural resources never changes. What does change are the new challenges and increased demands agencies must meet to achieve their objectives and provide public safety.

EMS organizations must ensure that the appropriate number of units and trained personnel are assigned at any given time to meet the emergency medical demand within prescribed response time standards. GIS optimizes the deployment of EMS resources to meet the emergency medical service mission.

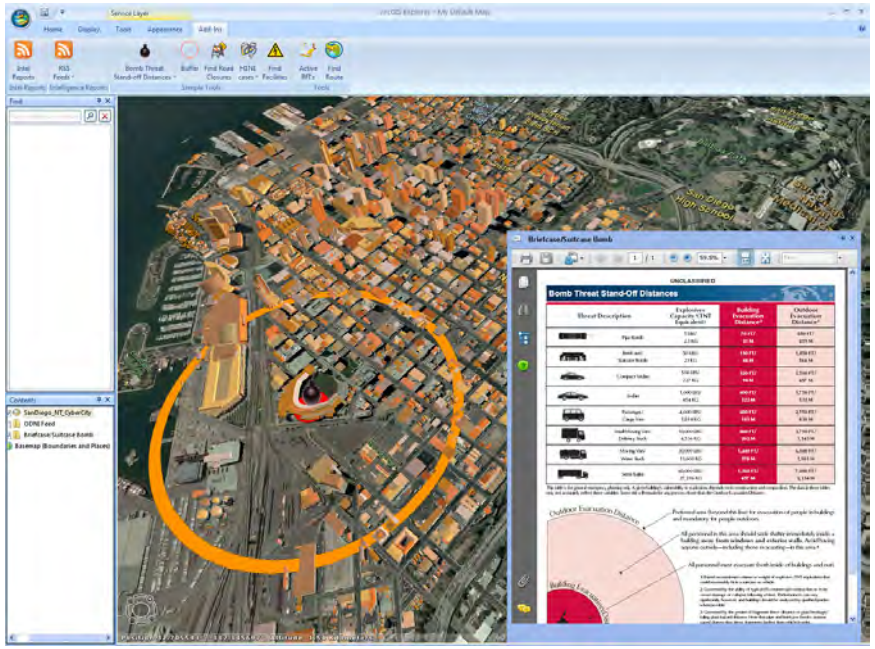


GIS was used to determine how access to fire stations would be affected by road closures due to high-speed rail in California's Central Valley.

Learn more about how fire, rescue, and EMS organizations benefit from the use of geographic analysis and GIS.

Homeland Security

The priority for homeland security is the prevention of incidents and reduction of impacts. This requires the capability to rapidly collect data from various sources and process it into actionable intelligence. It also requires developing plans to protect critical infrastructure and have current and accurate situational awareness. GIS in homeland security enables spatial analysis to illustrate trends and protection priorities and provides homeland security personnel with the ability to visualize and quickly understand the results and necessary actions.



GIS is used to simulate a bomb blast, showing an orange ring depicting mandatory evacuation distance for people outdoors.

Today, many federal, state, local, and tribal agencies successfully deploy GIS to support tasks and responsibilities for the homeland security mission including the following:

- Integrate intelligence and rapid analysis to support fusion centers.

- Improve threat, risk, and vulnerability assessments to safeguard communities and critical infrastructure.
- Facilitate better emergency planning, response, mitigation, and recovery efforts.
- Create a comprehensive common operating environment and enhanced situational awareness.

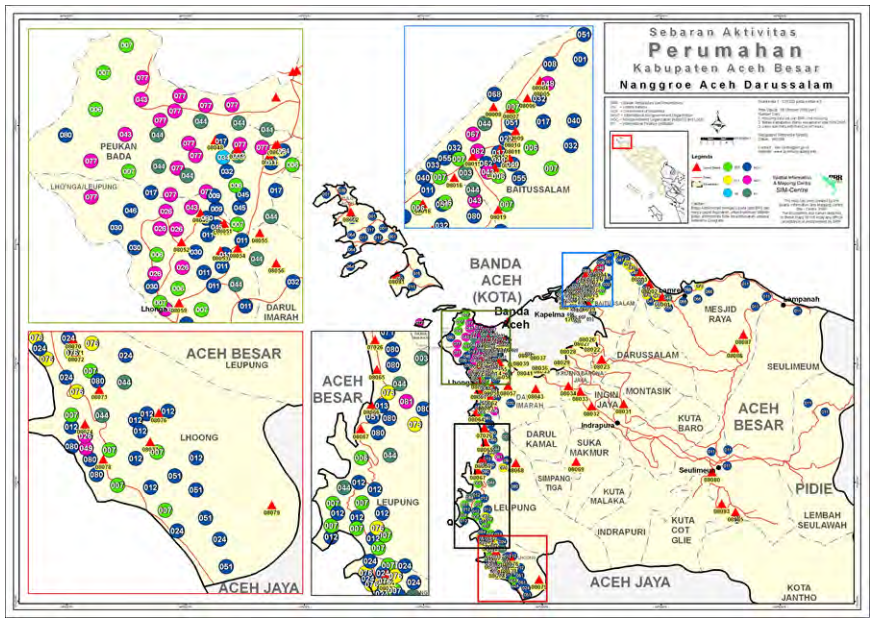
GIS is a foundational technology capable of fusing disparate data, analyzing trends and behaviors, and providing and sharing actionable information.

Learn more about how the homeland security mission is enhanced with geographic analysis and GIS.

Humanitarian Aid

Globally, crisis mapping and humanitarian aid play very important roles in disaster response efforts. The crisis mapping community is typically composed of activists or volunteers looking to raise awareness of a global crisis such as earthquakes or floods and humanitarian issues such as famine, drought, civil unrest, or genocide. This community will often support nongovernmental organizations (NGO), nonprofit organizations (NPO), the United Nations (UN), and other government organizations working in different countries.

The needs of this community have become complex due to increased threats to national security, additional populations moving into areas more vulnerable to natural disasters, and greater demands on already stretched resources. To respond to complex disasters, the best tools are required to develop effective and efficient plans and capabilities. Delivering on this complex mission requires the analysis of risks, hazards, and values to understand vulnerabilities and develop effective preparedness, mitigation, response, and recovery systems.



GIS was used to create this map showing where relief organizations were working after the tsunami in Indonesia.

GIS supports organizations' relief efforts around the world, including humanitarian aid, sustainable development, and

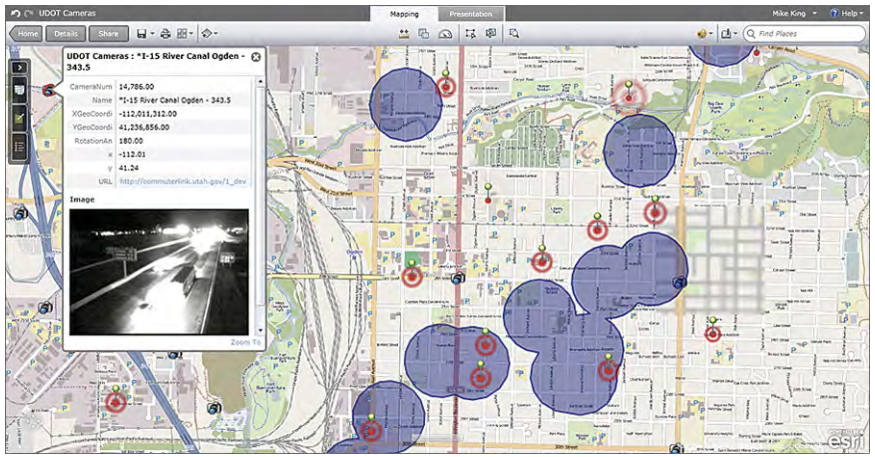
emergency assistance. Mapping and analyzing natural hazards, technological hazards, incident modeling, and critical values at risk are necessary to determine mitigation priorities. These are planning functions that are best performed using GIS.

GIS is also essential for providing organizations with a current picture of events as they unfold. The magnitude of data an organization must fuse and act upon is astounding. The need for good situational awareness is key to responding effectively. GIS can integrate operational data such as incident locations, tracking feeds, sensors, video, traffic, hospital status, weather, and other dynamic data with GIS reference data that includes imagery, elevations, streets, critical infrastructure, etc., to help users understand a situation and provide relief as fast as possible.

Law Enforcement

From the officer on patrol to the analyst looking for patterns and trends or the manager allocating resources, GIS is valuable for all aspects of law enforcement.

Today, law enforcement agencies face new tasks and challenges. To address these ever-expanding responsibilities, GIS can help leverage the massive amounts of location-based data collected each day to create actionable intelligence that can be used and shared.



Ogden Police Department relies on GIS to track and analyze residential burglaries.

GIS provides solutions used by thousands of agencies worldwide for investigations, operations, planning, and administration. GIS helps with the following:

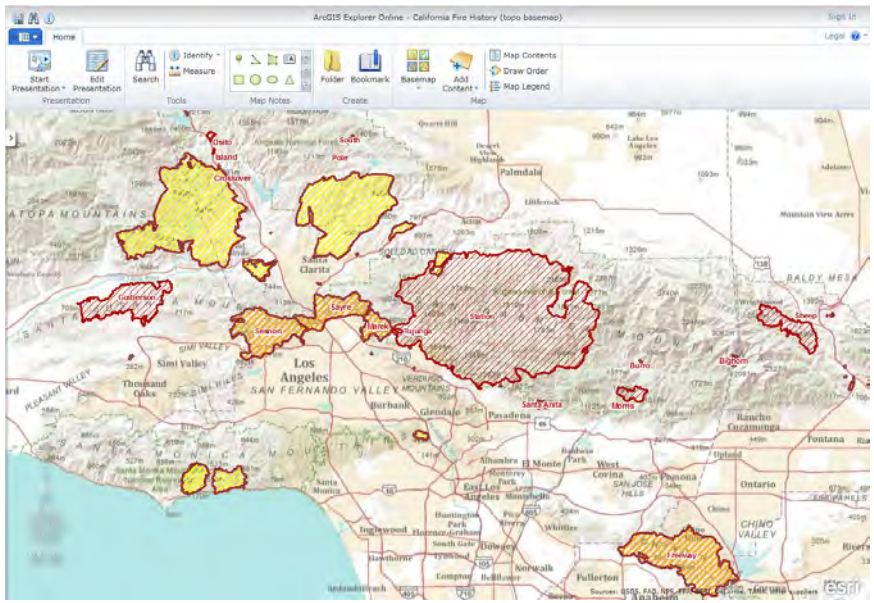
- Crime and investigative analysis
- Data fusion and intelligence analysis
- Tracking vehicles and personnel
- Corrections, parole, and probation
- In-vehicle mobile mapping

- Traffic and accident analysis
- Intelligence-led policing

Learn more about how law enforcement is enhanced with geographic analysis and GIS.

Wildland Fire Management

Maps are essential for fighting wildfires. Fire fighters must be able to quickly answer questions such as, Where is the fire and how fast is it spreading? What are the priority values to protect? and, What are the risks to fire fighters and the community? GIS produces maps that answer these and other questions and provides a robust platform for fast, efficient analysis and data dissemination.



GIS is used to illustrate Southern California's recent wildfire history.

Fire planning, preparedness, mitigation, incident response, and recovery are vital functions for managing effective wildland fire programs. GIS helps wildfire agencies do the following:

- Develop fire management plans.
- Enhance situational awareness and improve fire fighter safety.
- Access real-time fire status and control efforts.
- Develop and implement mitigation strategies.
- Optimize resource placement and allocation.
- Develop budget requirements.
- Support incident management mapping and analysis requirements.

Learn more about how GIS is used for wildland fire management.

Transportation

Transportation professionals the world over have discovered and embraced GIS as an important tool in managing, planning, evaluating, and maintaining transportation systems.

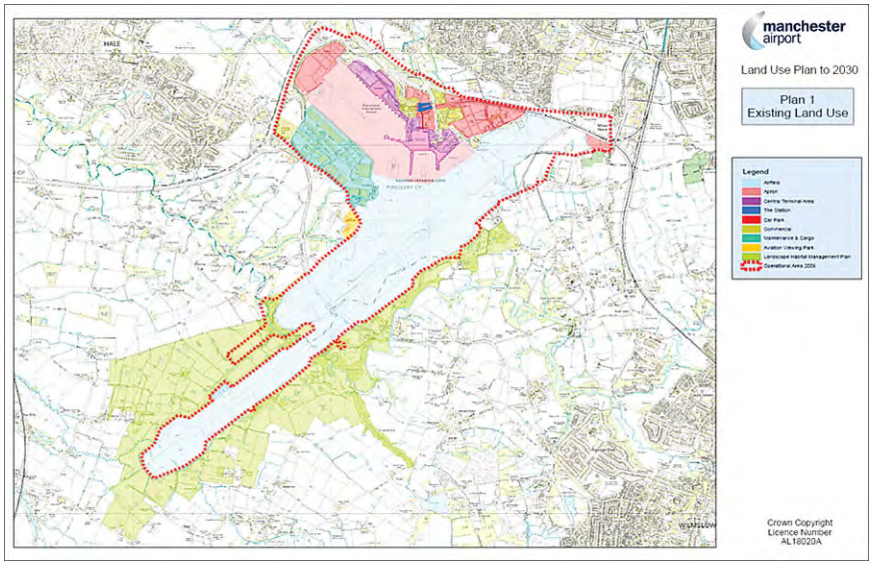
GIS for transportation has been used for a wide range of purposes:

- Modeling travel demand 20 years in the future
- Tracking snowplows
- Analyzing annual capital improvement plans
- Identifying noise regulation violations around airports
- Improving transit service throughout rejuvenated urban centers
- Planning scenic byways in recreational areas

Aviation

Aviation managers need to find the most cost-effective and efficient tools for planning and managing operations. One way to do this is to make the most of existing information management systems.

GIS data integration capabilities can help leverage existing systems by enabling access to an organization's data from one place. It also adds important visualization capabilities that provide a common operational picture of all facilities and greater power to effectively control operations.



Manchester Airport used GIS to help plan sustained growth until 2030.

GIS also provides online capabilities that help organizations keep in touch with the public through the Internet, delivering real-time information of benefit to everyone.

Learn more about how aviation agencies benefit from the use of geographic analysis and GIS.

Highways

Transportation professionals in highway and roadway agencies need to effectively plan, monitor, and manage strategic infrastructure investments.

GIS provides the ideal platform for helping determine capacity enhancements, operational improvements, and public transportation investments that will deliver optimal support to communities.

New York State Department of Transportation's GIS application provides complete road status and damage assessment information to emergency operations staff in its main office, regional office, and emergency operations center.

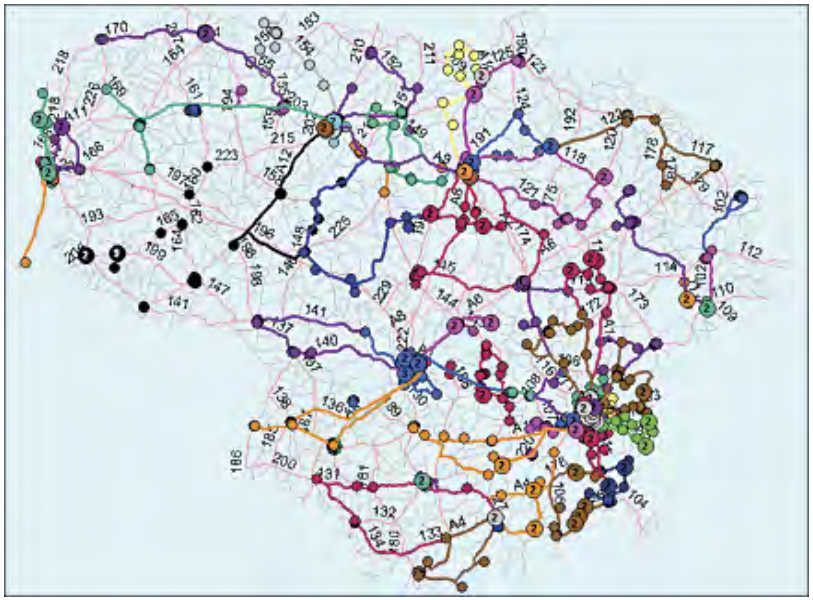
GIS helps transportation professionals to be cost-effective in managing physical assets and human resources, in the office and the field.

Learn more about how GIS is benefiting highway agencies.

Logistics

Fleet managers need to make sure daily fleet movements and maintenance schedules run efficiently without compromising quality customer service. GIS technology can easily help them save from 10 to 30 percent in operational expenses through reduction in mileage, overtime, and routing planning time.

GIS also provides a platform for integrating data from existing work force, fleet, and customer management systems. Customized Internet or intranet views give company executives, dispatchers, and customer representatives access to the most up-to-date information in a user-friendly format.



UAB Vilniaus duona, the oldest and largest bakery in Lithuania, uses GIS to help make the best decisions when routing products for delivery.

GIS is an integrating technology that helps do the following:

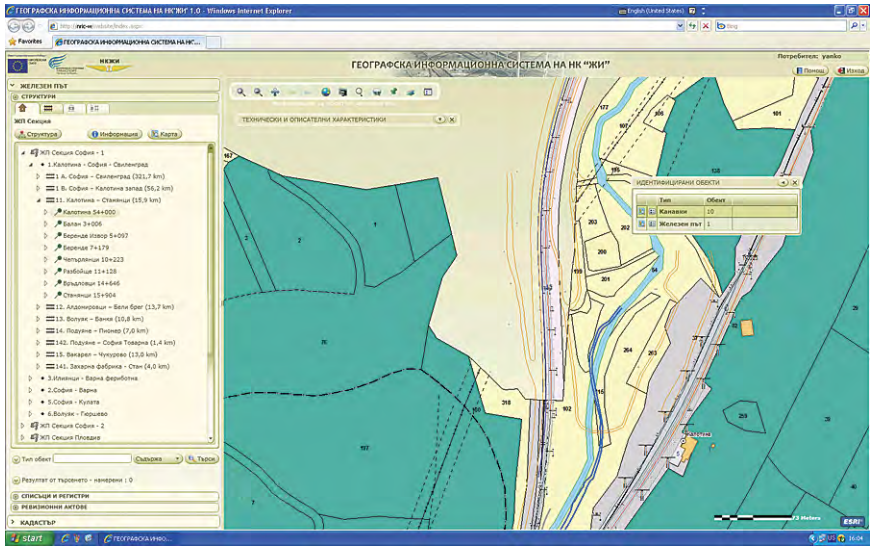
- Manage variable costs and routing and scheduling effectively.
- Track mobile assets in real time.
- Implement fuel-saving green initiatives to minimize carbon emissions.
- Meet customer expectations.

Learn more about the essential role GIS plays in logistics operations.

Railways

Railway organizations invest heavily in their track network and support infrastructure. In addition to maintaining infrastructure network information, managers also need to be able to use it for decision support and business operations. Because GIS technology provides interoperability support (CAD and GIS integration), it can be used to create a comprehensive rail information system that supports all critical business processes.

Railway managers, whether focused on passenger or freight delivery, can use the spatial and analytic components of GIS to



This GIS application from Bulgaria provides information about railway infrastructure together with cadastral data.

efficiently manage assets, maximize throughput, and monitor safety. The ability to share maps and information online improves communication with stakeholders, including customers.

Mobile GIS applications make it easier for crews to locate infrastructure, access accurate information, and file reports from the field.

Learn more about the use of GIS by railway organizations.

Ports and Maritime

Port operators and maritime administrators face increased demands for efficient operations, management, security, and environmental management. GIS offers solutions that integrate this information and give managers greater power to control operations and positively impact the bottom line.

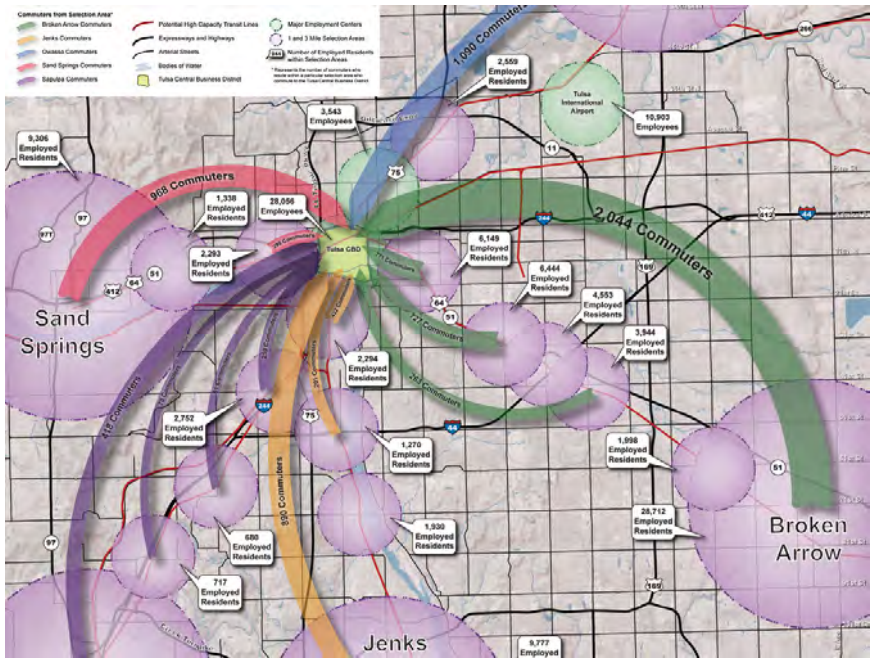
The Port of San Diego, California, uses GIS to more quickly access enterprise data.

For water, traffic, and navigation managers, GIS—combined with Global Positioning System (GPS) technology—offers a superior solution for tracking vessels and managing traffic in crowded waterways. Database-driven nautical charting solutions make it easier for maritime administrations worldwide to efficiently manage chart products and generate high-quality navigational products.

Learn more about how port operators and maritime administrators use GIS.

Public Transit

Public transit is key to meeting transportation challenges presented by rapidly growing cities, rising fuel prices, budget constraints, and global environmental issues. GIS visualization and analysis tools can help integrate critical information for effective public transit planning, operations, monitoring, and delivery.



GIS was used to compile and analyze data regarding commuter patterns and employment in Tulsa, Oklahoma.

For cost-effective route planning, GIS helps take into account both ridership demand and efficient route analyses. GIS software for the web provides online public access to interactive maps and real-time arrival information.

Learn more about how public transit benefits from GIS.

Utilities and Communications

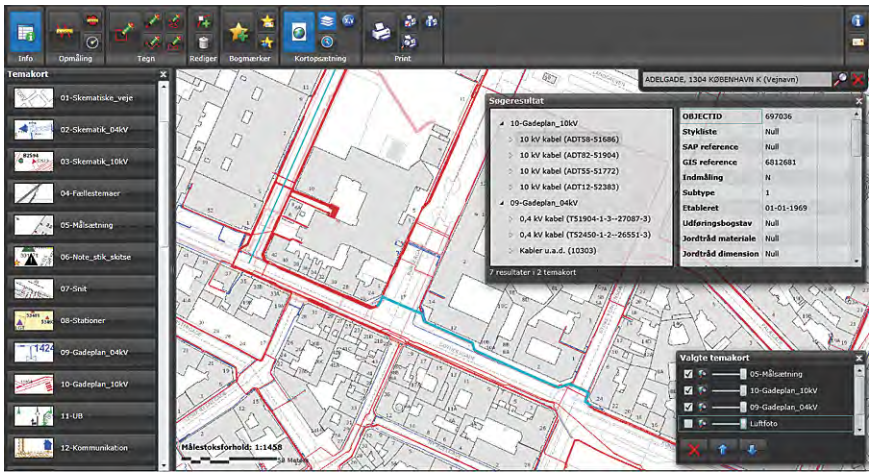
GIS provides utility and communication companies with a common platform to access business data, manage assets, update network information, integrate work orders, find customer information, and prepare reports.

GIS also allows these organizations to enhance network maps and business information with weather intelligence, topography, rights-of-way, satellite imagery, and field data.

GIS-based tools for quantitative analysis and visualization help to systematically model, measure, and visualize issues with planning and engineering, marketing and sales, and customer care departments.

Electric

Electric utility professionals recognize the value of good data. Linking that data to a geographic location on a map helps them visualize the big picture, resulting in a powerful decision-making tool.



DONG Energy uses GIS to perform geographic analysis and distribute the results throughout the organization.

GIS provides an efficient platform for data management, planning and analysis, work force automation, and situational awareness. Any utility company can leverage these capabilities and easily integrate GIS with its existing information technology infrastructure.

Learn more about how electric utilities benefit from GIS.

Gas

Gas utilities worldwide rely on GIS for maintaining, mapping, and reporting on utility infrastructure and millions of miles of pipes. With the mobile capabilities of GIS, field employees can easily move critical data to and from the office, keeping information up-to-date.

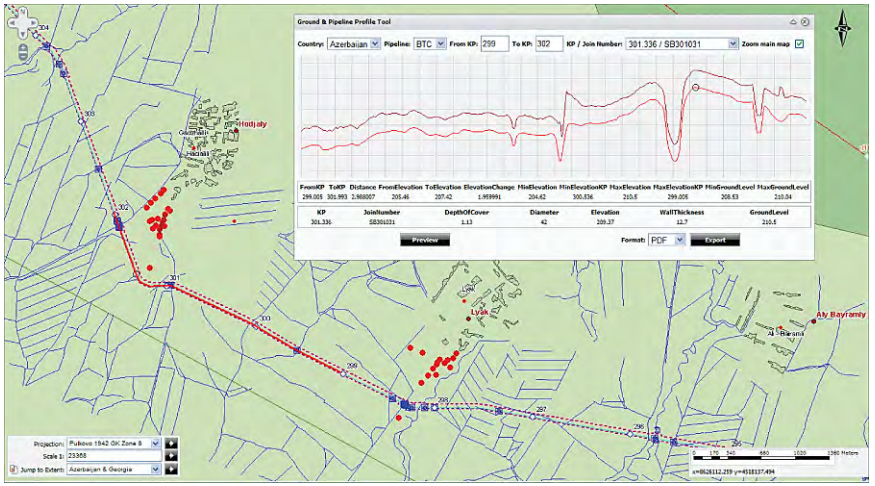
GIS-based planning and analysis allow gas utilities to assess and prioritize construction and maintenance activities, ensure regulatory compliance, complete risk and integrity analyses, and better understand customer needs.

Through GIS, utility asset data links directly to other key information, providing situational awareness to proactively monitor work orders and emergency shutdowns and ensure public safety.

Learn more about how gas utilities benefit from GIS.

Pipeline

GIS software has an established record in the pipeline industry for assuring regulatory compliance and integrity management. Pipeline operators rely on GIS technology for data maintenance and operational management.



Every weld in the 1,768-kilometer-long Baku-Tbilisi-Ceyhan pipeline is registered in BP Azerbaijan's GIS.

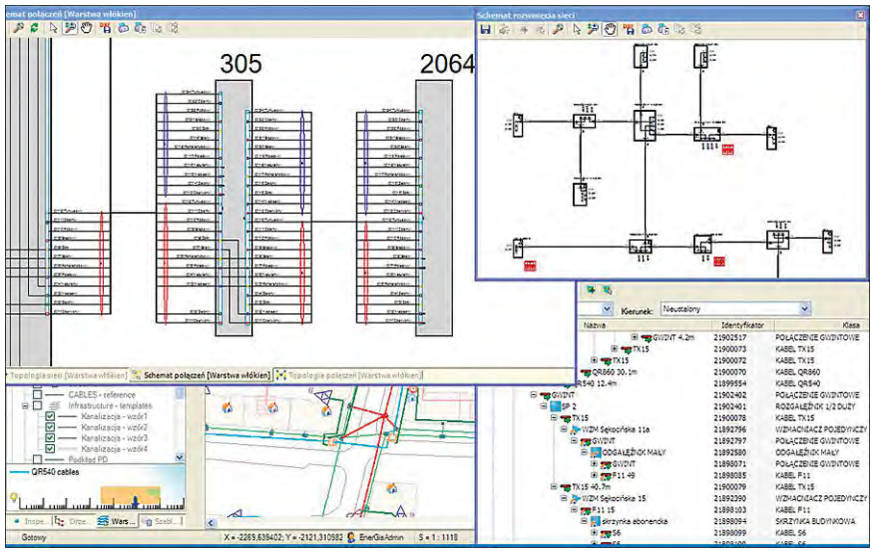
Key uses of GIS include field data collection; environmental, one-call, and land management; and rights-of-way monitoring. GIS data and processes are available in the office, on the Internet, and in the field.

Learn more about how GIS is benefiting pipeline companies.

Telecommunications

As telecommunications professionals compete across traditional geographic boundaries with an evolving product lineup, they need tools that give them an advantage in a dynamic market. GIS technology provides the right tools to solve business challenges and gain a competitive edge.

GIS provides a common platform for integrating information across departments. GIS can be used to examine work processes while incorporating external data such as demographics and market trends. Tools for quantitative analysis and visualization can be used to systematically model, measure, and visualize issues in network planning and engineering, marketing and sales, and customer care departments.

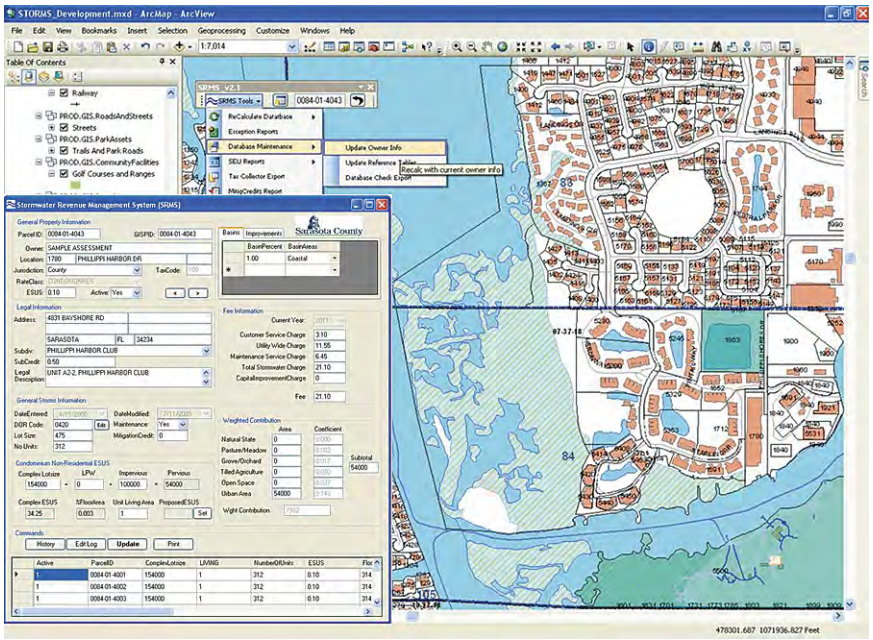


ASTER used GIS to create an efficient, scalable network inventory system.

Learn more about how telecommunications organizations benefit from the use of geographic analysis and GIS.

Water/Wastewater

Water, wastewater, and storm water utilities keep track of distribution, collection, and drainage networks as well as related planning and customer care.



Sarasota County Stormwater Management uses GIS to help collect tax revenues to fund its operations.

GIS provides a common platform for accessing all business data, updating network information, integrating work orders, finding customer information, or preparing reports. With built-in spatial analysis tools, GIS supports network tracing as well as modeling

of development trends affecting future demand. Visualization and mapping features can provide an overall, connected view of a network in relation to customers and surrounding infrastructure.

Learn more about how GIS is benefiting water, wastewater, and storm water utilities.

Geography at Work

Many industries have suffered during the current economic downturn. Yet during this same period, demand for geospatial technology professionals has grown significantly. This trend is due to the growing understanding of the value of spatial information and analysis. There are many reasons for an organization to implement GIS technology, but the benefit driving organizations in lean times is cost savings resulting from greater efficiency. And as we come out of this economic downturn, the efficiencies realized from GIS will become a standard way of doing business, so the need for geospatial professionals will increase even more.

Government has long been at the forefront of this movement, and there will be opportunities here for people with geospatial knowledge, most notably in the areas of homeland security and anything to do with increased transparency and accountability. But we're also seeing a huge shift in momentum in the commercial arena. Many of the future career opportunities for geospatial professionals will be in the private sector, as businesses increasingly realize the benefits that government has understood for some time.

As the reach of spatial information expands, new opportunities are created for spatial thinkers in many areas.

The current high unemployment rate is sending a lot of experienced workers back to school to learn new skills that are more relevant for the twenty-first-century workplace. This is one factor driving the growth of focused geospatial programs at universities and community colleges, at both the degree and certificate levels. These programs are doing a great service

by training the geospatial work force of tomorrow. They are also providing many opportunities for seasoned geospatial professionals to take on new roles themselves—passing on their vast knowledge by instructing and teaching the next generation of geospatial professionals.

GIS has a special role in today's rapidly changing world. Professionals utilizing GIS will build the information systems and infrastructure needed to guide important activities and projects. Thanks to GIS technology, the power of geography can now be integrated into virtually any job, whether it is a nonprofit organization, a for-profit corporation, or government.

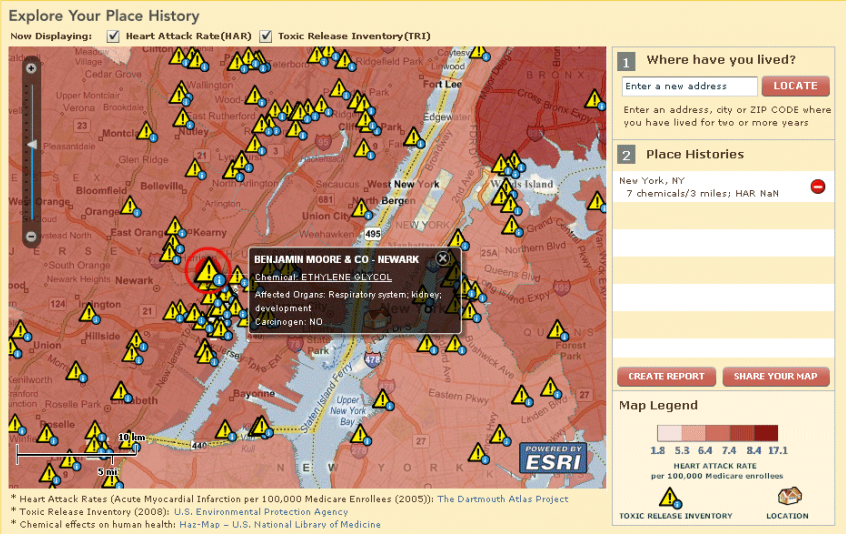
The future looks bright for the next generation of geographers. And these are the people who are going to change the world.

Try GIS

We've provided a mountain of information about how geography matters in virtually every organization and industry. But the best way for you to understand how *you* can use geography and GIS to improve the way *you* do things is to try it for yourself.

Mapping for Everyone

How close are you to a nuclear power plant? What are the demographics of your area? How might where you have lived impact your health? The Mapping for Everyone website lets you explore the answers to these and other questions through interactive GIS maps.



With Explore Your Place History, you can view heart attack rates, the US Environmental Protection Agency's Toxic Release Inventory, and more, for areas where you've lived and worked.

ArcGIS Online

ArcGIS Online is a cloud-based system for mapping and geospatial content management. You can log in and make maps and applications, then save, organize, and share your geographic information with the world.

With ArcGIS Online, you can quickly integrate social media feeds into your maps.

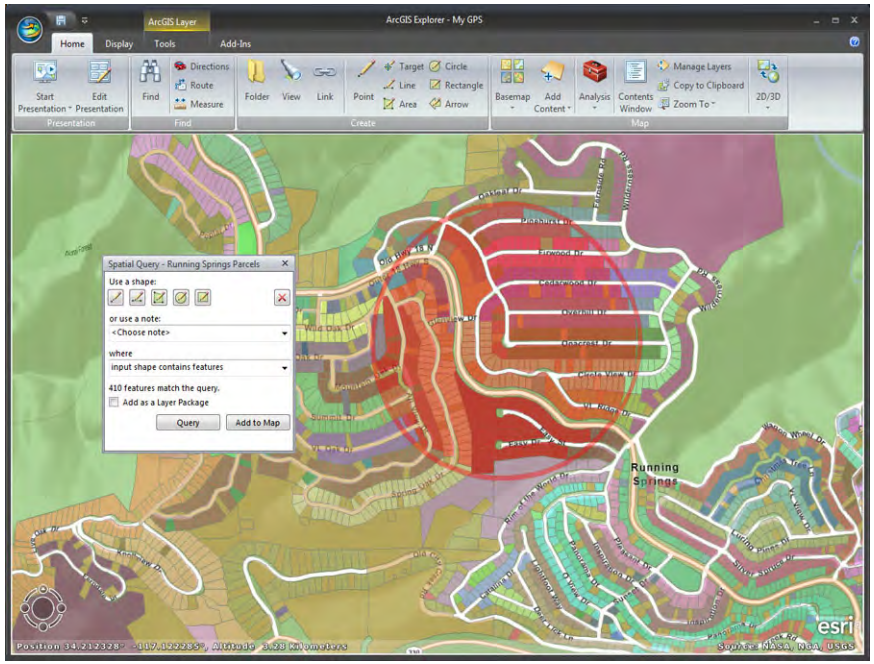
ArcGIS Explorer

ArcGIS Explorer is a free GIS viewer that gives you an easy way to explore, visualize, and share GIS information. ArcGIS Explorer adds value to any GIS because it helps you deliver your authoritative data to a broad audience.

With ArcGIS Explorer, you can do the following:

- Access ready-to-use ArcGIS Online basemaps and layers.
- Fuse your local data with map services to create custom maps.
- Add photos, reports, videos, and other information to your maps.
- Perform spatial analysis (e.g., visibility, modeling, proximity search).

See for yourself. Download ArcGIS Explorer today.



Easily explore, visualize, share, and present your geographic information with ArcGIS Explorer.

Learn More

There are many ways to learn more about how geography matters to you. Check out these resources and see the world in a whole new way.

What is GIS? Website

What is GIS? Who uses GIS? How can I learn GIS? What about careers in GIS? You can find the answers to all these questions and more at the What is GIS? website.

GIS Day

Esri, National Geographic Society, and the Association of American Geographers bring you GIS Day, a global event in which users of GIS technology open their doors to schools, businesses, and the general public to showcase real-world applications of this exciting technology. Held each year during National Geography Awareness Week in November, more than one million people around the world learn about the benefits and many uses of GIS during GIS Day.

For more information about GIS Day events near you, to register your own event, or to receive presentation materials, visit gisday.com.

Esri.com

Since 1969, Esri has been giving customers around the world the power to think and plan geographically. Today, Esri is the market leader in GIS. Esri software is used in more than 300,000 organizations worldwide including each of the 200 largest cities in the United States, most national governments, more than two-thirds of Fortune 500 companies, and more than 7,000 colleges and universities. Esri applications, running on more than one million desktops and thousands of web and enterprise servers, provide the backbone for the world's mapping and spatial analysis. Esri is the only vendor that provides the complete range of GIS solutions for desktop, mobile, server, and web platforms. For more information Esri GIS technology, visit esri.com.

Understanding our world.

Esri inspires and enables people to positively impact their future through a deeper, geographic understanding of the changing world around them.

Governments, industry leaders, academics, and nongovernmental organizations trust us to connect them with the analytic knowledge they need to make the critical decisions that shape the planet. For more than 40 years, Esri has cultivated collaborative relationships with partners who share our commitment to solving earth's most pressing challenges with geographic expertise and rational resolve. Today, we believe that geography is at the heart of a more resilient and sustainable future. Creating responsible products and solutions drives our passion for improving quality of life everywhere.

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