

# Installations and Environmental Management in Defense

Mission Support with Geographic Information Systems



# GIS Supports Installations and Environmental Management

## Application Areas

## User Experiences

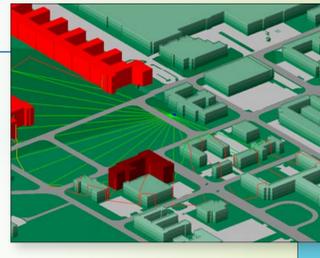
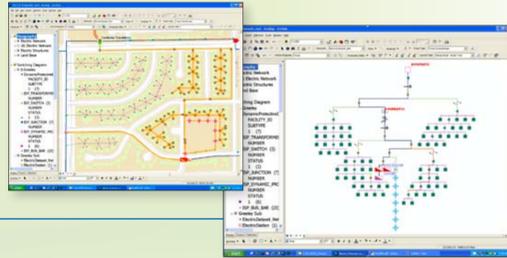
## Partner Solutions

Public Works

### Manage Utilities and Public Works

Public works personnel use GIS to visualize and analyze utility networks. GIS tools can assist in planning network expansions and modeling possible changes, scheduling repairs and maintenance, and sharing this information.

[www.esri.com/defense/publicworks](http://www.esri.com/defense/publicworks)



### Provide Force Protection and Security

Force protection and security personnel rely heavily on GIS. Analysts use GIS tools to assess security risk, perform line-of-sight analyses, develop preparedness and security plans, and understand an incident's impact.

[www.esri.com/defense/forceprotect](http://www.esri.com/defense/forceprotect)

### U.S. Air Force—GeoBase

GeoBase is the U.S. Air Force's enterprise GIS system. It enables users to share data and use standards-based data formats in a portal environment. GIS tools help users schedule repairs and maintenance, plan expansions, model changes, and share this information.

### U.S. Marine Corps Air Ground Combat Center—ArcGIS Schematics

GIS analysts at the U.S. Marine Corps Air Ground Combat Center (MCAGCC) use ESRI's ArcGIS® Schematics software to visualize and analyze utility networks. GIS tools can be used to plan expansions, create a timetable for repairs and maintenance, model changes, and share the information. ArcGIS Schematics helps users analyze and visualize utility network data and perform quality control of the data.



### ArcFM from Telvent Miner & Miner

Using GIS tools embedded in Telvent Miner & Miner's ArcFM utility management software, public works employees can visualize and analyze a wide range of utility information for planning, work order management, service changes, and maintenance. These GIS tools help personnel working in electric, gas, and water/wastewater utilities develop integrated enterprise utility management applications based on GIS and industry-standard components.

[www.miner.com](http://www.miner.com)



Force Protection and Security



### U.S. Air Force

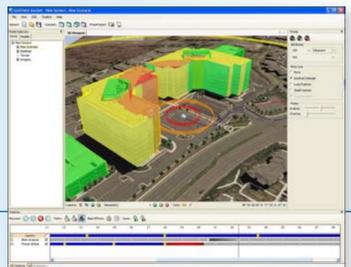
U.S. Air Force security personnel use GIS technology to assess security risks, perform line-of-sight analyses, develop preparedness and security plans, and understand the impact of incidents. They can then share this vital information with managers, commanders, and colleagues.



### Vulnerability Assessment and Critical Protection Software Application from ProLogic, Inc.

ProLogic, Inc., created the ProLogic Vulnerability Assessment and Critical Protection software application, which provides analysts with high-resolution modeling and visualization for 360-degree situational awareness. This application helps analysts develop rapid defense measure plans for assets and personnel to guard against terrorist attacks, including the use of explosives.

[www.prologic-inc.com](http://www.prologic-inc.com)



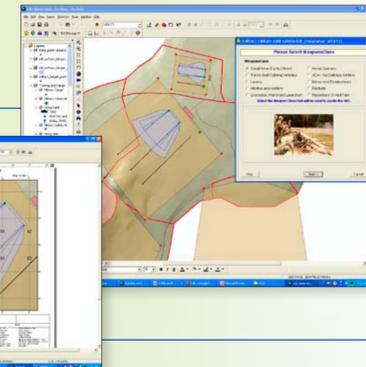
Emergency Operations



### Respond to Emergencies

Emergency managers turn to GIS software technology to help them during all phases of a crisis. They use GIS tools to understand the impact of the incident, decide the level of response, update the status of the response effort, and share this information with officials.

[www.esri.com/defense/emergencyops](http://www.esri.com/defense/emergencyops)



### Emergency Response Tools

Emergency managers use simple GIS-based emergency response (ER) tools to visualize and analyze an incident and its impacts. The application ER Tools allows emergency managers to share data quickly and easily in a standard, easy-to-understand format.

### U.S. Navy—The Navy Emergency Response Management System

The Navy Emergency Response Management System (NERMS) is a computer-aided dispatch/911 system that provides U.S. Navy emergency responders, police, and firefighters with a standard set of easy-to-use tools to manage emergency calls. NERMS integrates GIS data to view, analyze, and share information. The GIS based-system is fully integrated, scalable, and expandable.



### CommandPoint™ from Northrop Grumman

The emergency operations application CommandPoint, a computer-aided dispatch system developed by Northrop Grumman, provides analysts with critical information for first responders including an incident's magnitude, extent, and impact. CommandPoint provides information about road closures, evacuation routes, and the demographics of those affected by the emergency.

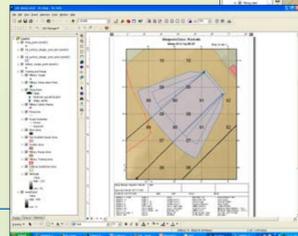
[www.it.northropgrumman.com](http://www.it.northropgrumman.com)

Range Management

### Manage Ranges and Training Areas

Range managers rely on GIS software technology and tools to plan training exercises. They use GIS to visualize, analyze, and decide where to locate surface danger zones (SDZ) as well as to ensure safety during training exercises.

[www.esri.com/defense/ranges](http://www.esri.com/defense/ranges)



### U.S. Army Integrated Training Area Management Mapper

The U.S. Army's Integrated Training Area Management (ITAM) Mapper is a multiuse GIS training application. With the ITAM, users can easily visualize and analyze land use and natural resources using different data sources such as topographic maps, elevation data, and satellite imagery.

### Surface Danger Zone Tools from Geographic Information Services, Inc.

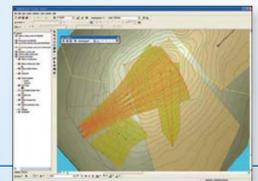
Geographic Information Services, Inc. (GISI), produces surface danger zone (SDZ) tools. These comprehensive design tools provide users with the ability to designate safety areas for different types of weapon systems during testing and training. The tools can combine multiple SDZs into an integrated SDZ and allow for interactive editing.

[www.gis-services.com](http://www.gis-services.com)

### Army Range Mapper from Geographic Information Services, Inc., and ManTech SRS Technologies, Inc.

With GIS technology, Geographic Information Services, Inc., and ManTech SRS Technologies, Inc., developed the Army Range Mapper application to help users visualize, analyze, and select surface danger zones (SDZs) for training on ranges in Europe. The application helps support mission readiness so combat units receive critical training.

[www.mantech.com/mrs](http://www.mantech.com/mrs)  
[www.gis-services.com](http://www.gis-services.com)



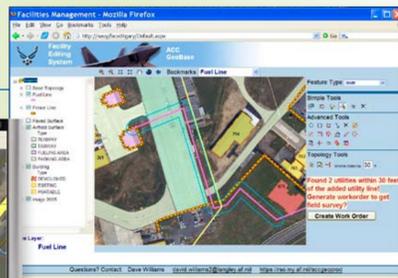
Environmental Management



### Manage Environmental and Cultural Resources

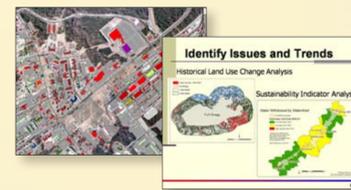
Environmental managers use GIS to make land-use planning decisions, monitor environmental remediation sites, and comply with environmental regulations.

[www.esri.com/defense/environment](http://www.esri.com/defense/environment)



### U.S. Army Corps of Engineers

The U.S. Army uses GIS to manage the environment of its installations. GIS analysts can, for example, assess the sustainability of critical habitats, analyze water and air quality along with energy issues, and maintain an adequate supply of affordable housing. The corps' Sustainable Installations Regional Resource Assessment Web site provides GIS tools to help planners understand how environmental and policy factors affect an installation's future land-use options.



### U.S. Marine Corps—GEOFidelis

GIS supports facilities management and planning at marine corps base Camp Lejeune through the GEOFidelis program. By combining data and imagery from the GIS database with others, such as the Naval Facilities Assets Database (NFADB), analysts can make better decisions and create more dynamic master planning processes.

### Flood Mapping Tool from Penobscot Bay Media LLC

At Langley Air Force Base in Virginia, emergency managers use Penobscot Bay Media's Flood Mapping Tool to analyze real-time flood data and identify impacted areas. The GIS tools help provide real-time data for emergency response teams, facilities managers, and commanders.

[www.penbaymedia.com](http://www.penbaymedia.com)



### GeoConsole from CH2M HILL

The U.S. Air Force Academy uses CH2M HILL's GeoConsole Web-based application to train cadets in contingency support and planning for forward-operating locations. The application provides students with mapping capabilities and access to GeoBase installation and environment data.

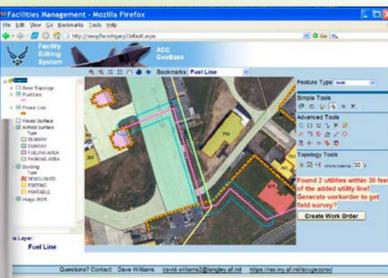
[www.ch2m.com](http://www.ch2m.com)

Facility Management

### Manage Facilities and Properties

Facility managers use GIS to bring together real property, building, and asset data with utility, financial, and human resources data to make decisions such as determining the best use of space and managing energy use and work order workflows.

[www.esri.com/defense/facilities](http://www.esri.com/defense/facilities)

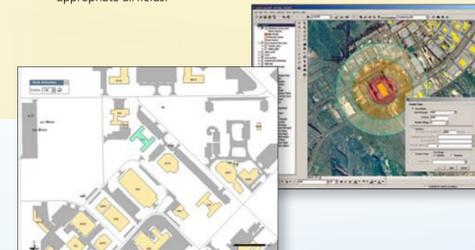


### U.S. Air Force—Facility and Environmental Management

U.S. Air Force facility managers use GIS for comprehensive environmental planning such as preparing for rocket launches and managing launch procedures and the launch control area.

### U.S. Army Corps of Engineers

The corps uses the Joint Rapid Airfield Construction (JRAC) application for selecting airfield sites. Soldiers use this GIS tool for planning and developing the sites and identifying appropriate airfields.



### U.S. Air Force—Facility Management and Data Sharing

Using GIS software, U.S. Air Force facility managers share standards-based, authoritative GIS data for a wide range of projects. GIS tools provide accredited mapping solutions and help analysts develop maintenance workflows and plans and facilitate data sharing.

### Geospatial Extensions for ESRI from ARCHIBUS, Inc.

Facility managers use Geospatial Extensions for ESRI to analyze, visualize, and query summary financial, human resource, asset, operations, and building information and report it to the military's senior commanders. The tools help GIS analysts seamlessly manage building space.

[www.archibus.com](http://www.archibus.com)

### Maximo Spatial Asset Management Software from IBM

IBM® Maximo® Spatial Asset Management software, based on ESRI® ArcGIS Server technology, provides users with a Web-based application for visualizing, analyzing, and tracking utility outages, work orders, and maintenance requests. IBM Maximo Spatial Asset Management is the first spatially enabled enterprise asset management solution that unifies the full functionality of industry leaders ESRI and IBM.

[www.mro.com](http://www.mro.com)

### TRIRIGA Real Estate, Facilities, and Workplace Applications

GIS supports real estate management and space utilization. The TRIRIGA® suite of real estate management applications links historical property management data with operational planning information and location. These GIS-based comprehensive applications provide tools to better visualize and manage real estate portfolios, workplace processes, and facilities.

[www.tririga.com](http://www.tririga.com)





## About ESRI

For four decades, ESRI has been helping people make better decisions through management and analysis of geographic information. Our culturally diverse staff work with our business partners and hundreds of thousands of people who use GIS to make a difference in our world.

A full-service GIS company, ESRI offers support for implementing GIS technology from the desktop to enterprise-wide servers, online services, and mobile devices. GIS solutions are flexible and customizable to meet the needs of all our users.

## Our Focus

At ESRI, we focus on promoting the value of GIS and its applications throughout the world and pay close attention to our users' needs. Our software development and services respond to our customers with products that are easy to use, flexible, and integrated. Our technology is multidisciplinary, productive, and valuable to our users.

We have a strong commitment to educating our customers through ESRI's various training programs. ESRI is a socially conscious business and invests heavily in issues regarding education, conservation, sustainable development, and humanitarian affairs.

## Contact ESRI

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