

GeoRover



The HTML product is easily created using the GeoRover Digital Data Tracker (DDT) Export HTML tool. Once the product is created and displayed, click on any of the colored icons on the browser display to view the collected data (i.e., videos, images, text documents, audio files). There is also a pop-up message that displays the name of the point and the coordinate (in whatever coordinate system the exporter chooses) when you place the mouse cursor above the points.

GeoRover® software is a suite of commercial software extensions for ESRI ArcGIS 8.x/9.x. GeoRover software runs in all levels of ArcGIS licensing (ArcView, ArcEditor™, and ArcInfo®) and enables you to quickly and easily create, import, and edit GIS data. In addition to importing text files, spreadsheets, and databases, GeoRover provides streamlined tools for importing field data collected with a GPS and a variety of collection devices. GeoRover software can be purchased on CD-ROM or installed on a complete field collection system.

Applications

Nearly every piece of information is more meaningful when seen within a geographic context. The best way to visualize location-based information, at any scale, is with GIS software. GIS provides a natural overview, or Common Operational Picture (COP), for a wide variety of applications. GeoRover software gets your real-world data into the GIS, so you can immediately convey meaning with points, lines, and areas of interest including linked documents or Web pages.

GeoRover software provides an interactive interface for the data to be accessed, analyzed, updated, and disseminated.

- Route Reconnaissance: Show the route and critical points of interest with links to details.
- Site Surveys: Show ingress and egress, utility junctions, functional zones, and deployment locations.
- Prepare Convoy Plans: Conduct convoy reconnaissance and prepare convoy strip maps.
- Vulnerability Assessments: Interactively present the vulnerabilities and remedy recommendations.
- Intelligence Plans and Collections: Clearly show status of each target and link collected data to target.
- DoD Crime Scene Investigation: Show overall scene with precise locations and photo evidence.
- Counterterrorism: Conduct reconnaissance for direct action on terrorist cells. GeoRover software can be integrated with SAIC Pathfinder to perform complex analytical queries.
- Emergency Response: Prepare detailed emergency response plans of key facilities with linked images, video clips, voice recordings, and other documents and integrate with SAIC CATS software through the use of ESRI software.

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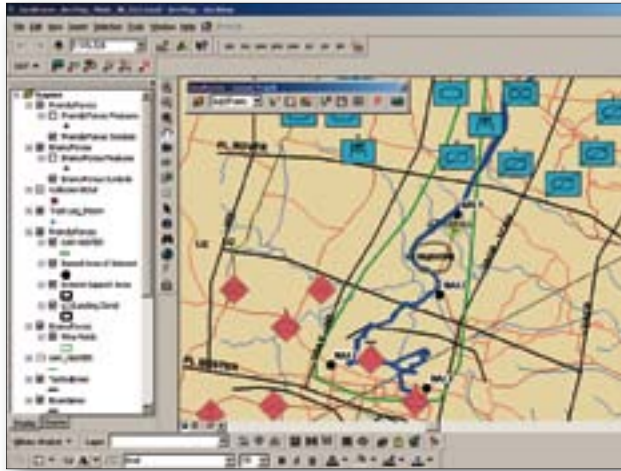
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Who Needs GeoRover Software?

GeoRover software enables soldiers, field agents, scouts, HUMINT/CI teams, emergency responders, defense attaches, combat engineers, civil support teams, and others to gather and disseminate actionable intelligence in a geospatial context. Specifically, multimedia intelligence data in the form of pictures, video clips, and sound recordings can be linked on digital maps for subsequent intelligence analysis.

Dissemination—HTML Export

GeoRover tools also provide the capability to create a self-contained HTML document to disseminate geospatial information to those not equipped with GeoRover and ArcGIS software for interactive briefings or use as an HTML link on a Web site.

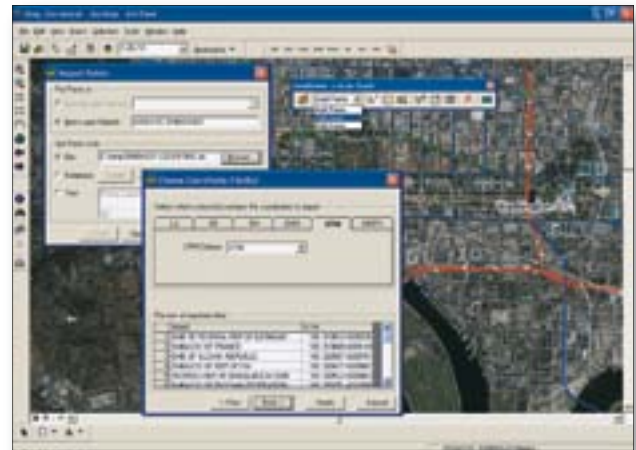


A Common Operational Picture can be displayed in ArcGIS (with MOLE™), and elements of field, HUMINT, and reconnaissance data collected with the GeoRover Digital Data Tracker extension can be displayed over tactical graphics to give the commander, staff, and analysts the complete picture of unit locations. This can be layered with the collection deck, mission platform tracks, and field-collected data that resulted from intelligence requirements in the collection plan. Multiple MGRS, DMS, DD, DM, and UTM coordinates can easily be imported from operations orders, intel summaries, and intelligence databases with the GeoRover import wizard.

Capabilities

GeoRover is fully compatible with other ESRI ArcGIS extensions and can be customized to meet any requirement. GeoRover software includes several extensions/tools that simplify, streamline, and enhance ArcGIS. These tools enable users to

- Create and update data within ArcView, ArcEditor, or ArcInfo using interactive (point-and-click) and coordinate-based tools.
- Import any delimited text (.csv, .txt, .tab, etc.), Microsoft Excel spreadsheet, database (Microsoft Access, Oracle, Microsoft SQL Server, etc.), or typed/pasted text files with coordinates.
- Accepts latitude/longitude, decimal degrees, degrees decimal minutes, degrees minutes seconds, UTM, and MGRS coordinates.
- Use the same tools for working with shapefiles and geodatabases (including ArcSDE enterprise geodatabases).
- Download and plot GPS track logs and waypoints, automatically linking to any data simultaneously collected by digital cameras (still/video), digital voice recorders, handheld computers, and so forth.
- Link any digital document, including Web sites, to any point, line, or area.
- Quickly zoom to specific locations or scale views.
- Export the GIS display and associated files to an HTML Web page for immediate dissemination or inclusion in a Web site.



The GeoRover Locus Track extension has a powerful and easy-to-import wizard for importing data from spreadsheets, databases, and text files. Locus Track supports five coordinate systems and works with shapefiles and geodatabases.



The GeoRover Digital Data Tracker extension automatically georeferences and plots data collected in the field as layers in ArcGIS. The GIS display can be converted to a Web page with one click. GeoRover software provides an interactive interface for the data to be accessed, analyzed, updated, and disseminated.

GeoRover Software Is a Component of USASFC Asymmetrical Software Kit

The Asymmetrical Software Kit (ASK) is a state-of-the-art information analysis and visualization capability used by the U.S. Army Special Forces Command (USASFC). ASK provides GIS, link/temporal analysis, tactical data collection, data mining, data management, and dissemination of actionable geospatial intelligence. Specifically, ASK is a collection of commercial software including i2 Analyst's Notebook®, ORION Magic®, and ArcView and its extensions (ArcGIS Spatial Analyst, ArcGIS 3D Analyst, ArcGIS Tracking Analyst, and ArcGIS Military Analyst) and GeoRover. ASK is intended to be the client-level subsystem of the Area Intelligence Special Tactical Operations Targeting Linked Environment (ARISTOTLE), an enterprise geospatial intelligence system under consideration for fielding to USASFC.

Benefits

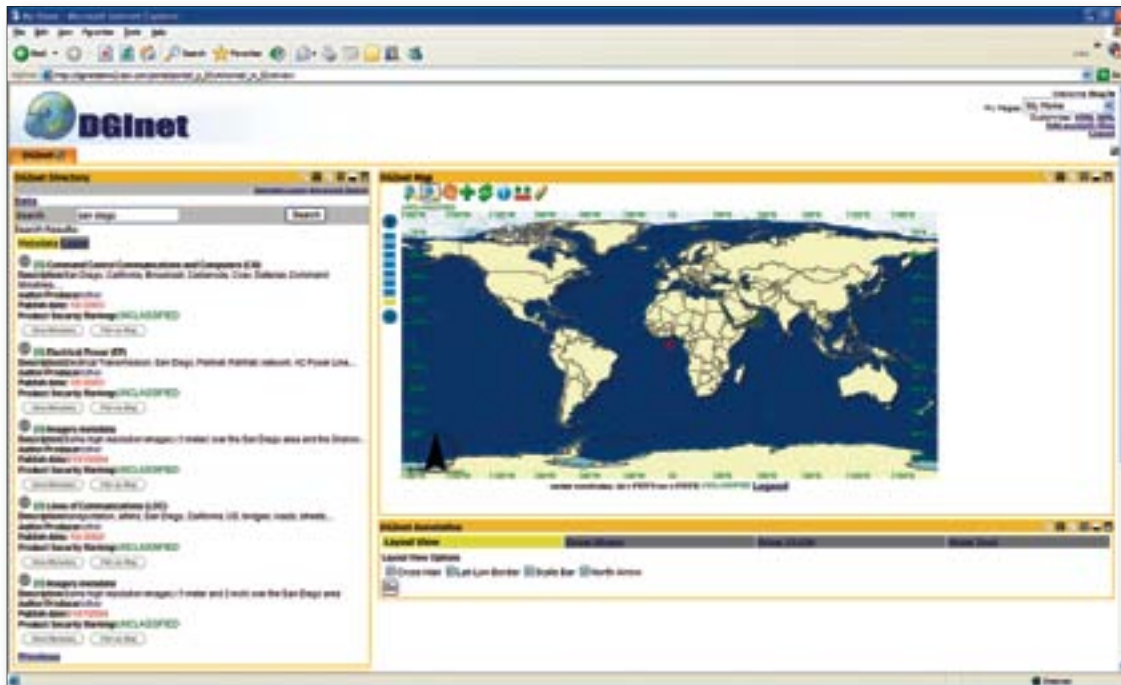
GeoRover software streamlines many processes in ArcGIS Desktop, whether you are a new user or an experienced GIS professional. GeoRover software is mobile and can make use of practically any data collection device. GeoRover provides

- Discrete collection capability with no connection required in the field between GPS and data collection devices
- Significant training time reduction for fundamental ArcGIS editing operations
- Option to upgrade to a complete, ruggedized field system customized for your requirements and collection needs
- Simple installation via CD-ROM directly into ArcGIS—no additional software necessary
- Data sharing via standard shapefiles, geodatabases, and Web pages

Coming in 2005

A new GeoRover for ArcGIS software release is planned for 2005. Major software enhancements will include multiple coordinate system and datum support, real-time GPS capabilities, and improved export options. Many of these new features will provide additional capabilities for DoD, intelligence, and federal/state/local government applications.

Distributed Geospatial Intelligence Network



Overview

Distributed Geospatial Intelligence Network (DGInet) technology can be employed by defense and intelligence organizations to provide an enterprise solution for geospatial intelligence data. DGInet was designed as a Web-based enterprise GIS for non-GIS-savvy intelligence analysts, military planners, and war fighters. It enables the utilization of thin clients to search massive amounts of geospatial and intelligence data, using very low bandwidth Web services, for data discovery, dissemination, and horizontal fusion of data and products. It also allows for discovery and utilization of GIS and non-GIS application Web services.

DGInet core technology has been deployed at several defense and intelligence community sites.

Features

DGInet provides

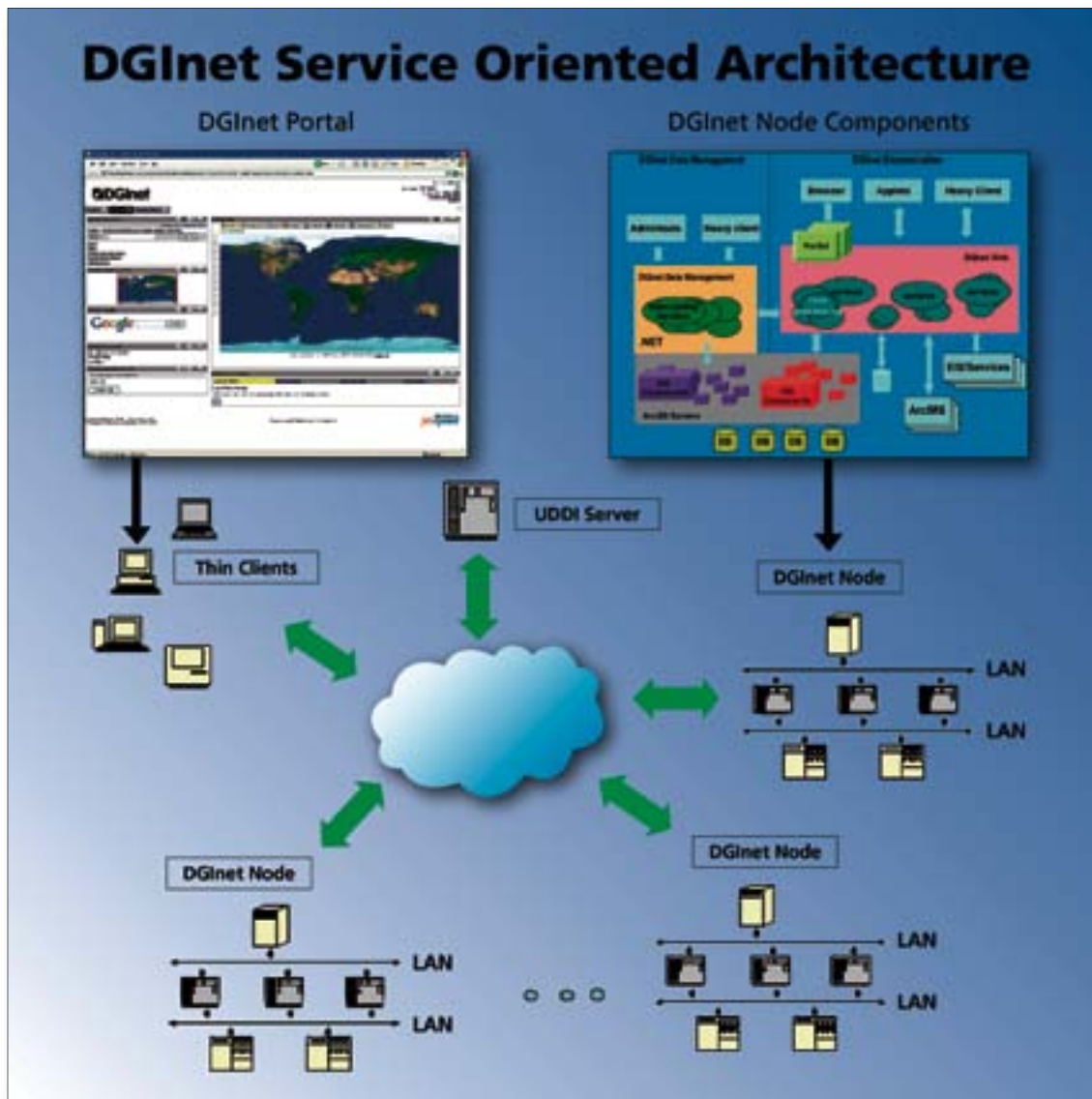
- A scalable Java™ Web service environment within which Web services can be easily utilized, added, exposed, maintained, and integrated with collaborative geospatial capabilities
- A powerful architecture that will satisfy every agency and organization's operational need for a geospatial enterprise system for dissemination within a robust collaborative environment
- A Services-Oriented Architecture (SOA) accessible via portlet-based browsers, applets, and heavy clients
- A collection of distributed Web services implemented as Java Web services
- Web map services and geoprocessing Web services across multiple organizations/nodes
- XML-based metadata broadcast search
- Selective data display/data fusion
- Data download capability
- Data management services

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DGInet Service Oriented Architecture

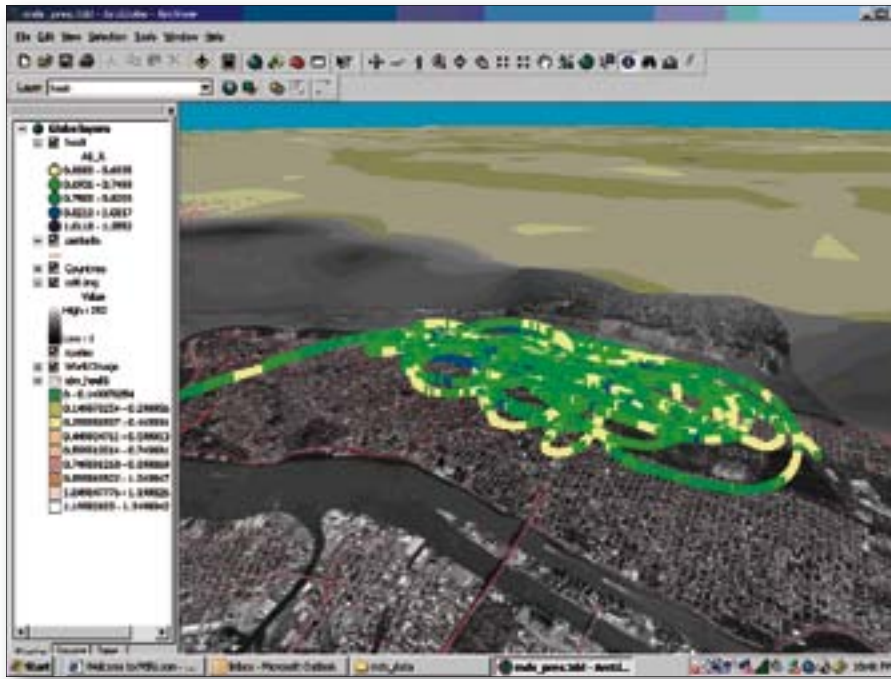


Benefits

DGInet technology provides a robust geospatial solution for the military/intelligence customer by making very large (multiterabyte) databases available through a common Web-based interface. It provides clients with the capability to quickly and easily find, overlay, and fuse georeferenced data from multiple sources via Web map services for use as map background displays or to support analytical functions.



Mobile Reconnaissance for WMD Response



Introduction

The ability to rapidly assess and provide initial detection at a Weapons of Mass Destruction (WMD) incident is one of the main missions of the Civil Support Teams (CSTs). CSTs deploy to an area of operation to assist the civil authorities at a domestic WMD incident site by identifying WMD substances/agents, assess current/projected consequences and advise on appropriate response measures, and assist with appropriate requests for state response. To assist this mission, CSTs have three core competencies: They provide analytical function to obtain, process, and presumptively identify unknown agents; establish and maintain a robust interagency communications capability; and provide the incident commander with an array of civil and military response options and advice.

Real-Time Solutions

The Mobile Detection System (MDS) is a modular, lightweight radiation reconnaissance system designed for use in air or ground space. It is optimized to detect and locate lost or stolen threatening gamma radiation sources or survey large areas that have been contaminated.

The system uses a large-volume plastic scintillator, combined with Natural Background Rejection (NBR) algorithms, to quickly and effectively distinguish between harmless levels of varying background gamma radiation and artificial radiation. Altitude

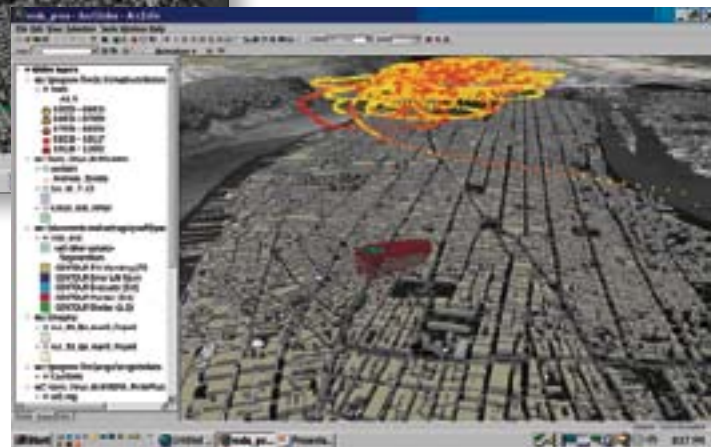
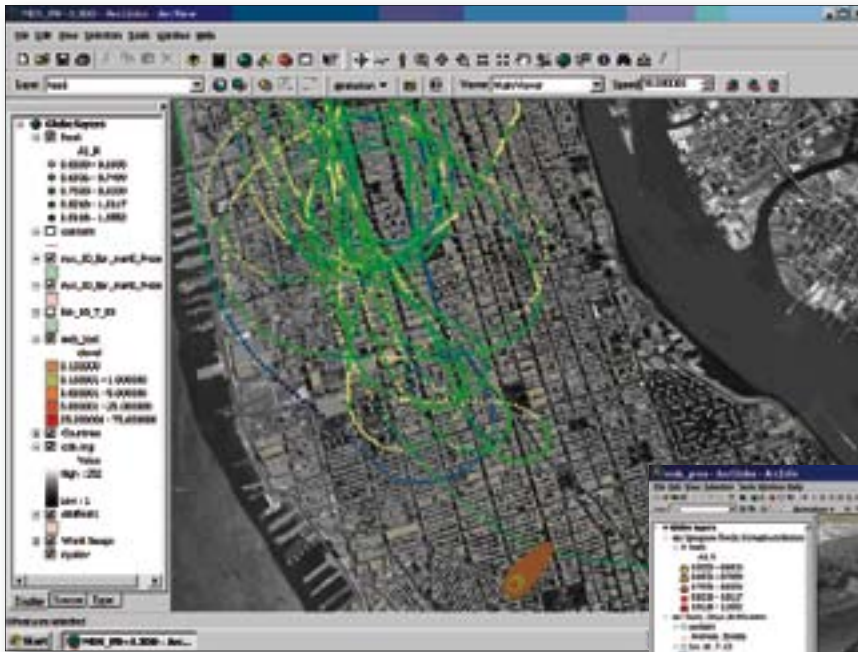
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correction factors also enable the system to be used by helicopter to safely survey areas of widespread contamination and to detect and map localized hot spots. Additional external probes for neutron and alpha/beta detection and underwater surveying can also be implemented.

Real-time radiological data is transmitted to a notebook PC via serial connection for viewing locally in the onboard dynamic mapping software (Maptrack) or in ArcView. Data can also be transmitted wirelessly via radio modems or GSM wireless devices for remote control of the mission or to relay back to the incident commander.

Benefits

MDS was originally developed per request of the German Military Institute (WIS) and German Civil Defense and is currently in use by the German Army and Navy. The system carries a NATO stock number and meets military specification standards.

The system has been modified to suit the CST mission by bringing the radiological data into ArcView so that hazard models can be generated and viewed simultaneously alongside real-time data. Models can be instantly confirmed or denied on scene. The incident commander is provided with instant threat assessment and dynamic perimeter monitoring for the rapid establishment of an effective multitiered interagency response. All detection levels are documented with a time, date, and location stamp.

The simple, flexible platform allows for easy route navigation and radiological threat detection by a survey team, while providing standard format .dbf files for use by GIS analysts. Among the benefits of MDS are

- Navigational tool en route to incident
- Route reconnaissance
- Early warning device
- Establishes routine background levels
- Investigative tool
- Situational awareness
- Brings intelligence assets to bear
- Verification of the hazard model
- Can be used to refine the source term
- Provides a historical record



Submit Your Story for Print

Each article in this publication represents a real program that is making a difference to our defense and intelligence communities. Sharing experiences lessens program risk, reduces cost, and fosters understanding of the road map toward seamless spatial information infrastructures in defense.

It is our intent to reproduce this publication at least once a year. If you are interested in featuring your program in the next edition, please read the instructions below.

Requirements

We feature defense and intelligence programs from around the world that make use of GIS. The aim is to communicate capabilities and benefits of the program, not to advertise a system integrator or solution provider.

Text

- All text submissions should be in either Microsoft Word format or plain text.
- There must be one to three paragraphs of text. The standard format is Title, Overview paragraph, Capabilities paragraph, and Benefits paragraph.
- There must be captions for each screen shot, image, graphic, and picture submitted.
- Point of Contact information. Include appropriate names, titles, affiliations, addresses, phone numbers, fax numbers, e-mail addresses, and Web URLs for the contacts. Example: For more information, contact ...
- Include imagery, pictures, graphics, and screen shots.
- Please do not embed digital graphics in the text, document, or word-processed file. Digital graphics must always be sent as separate files.
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- Imagery, map output, and photographs should be 300 dpi or higher.
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Questions?

Contact Fred Woods at fwoods@esri.com or at 909-793-2853, extension 1017.



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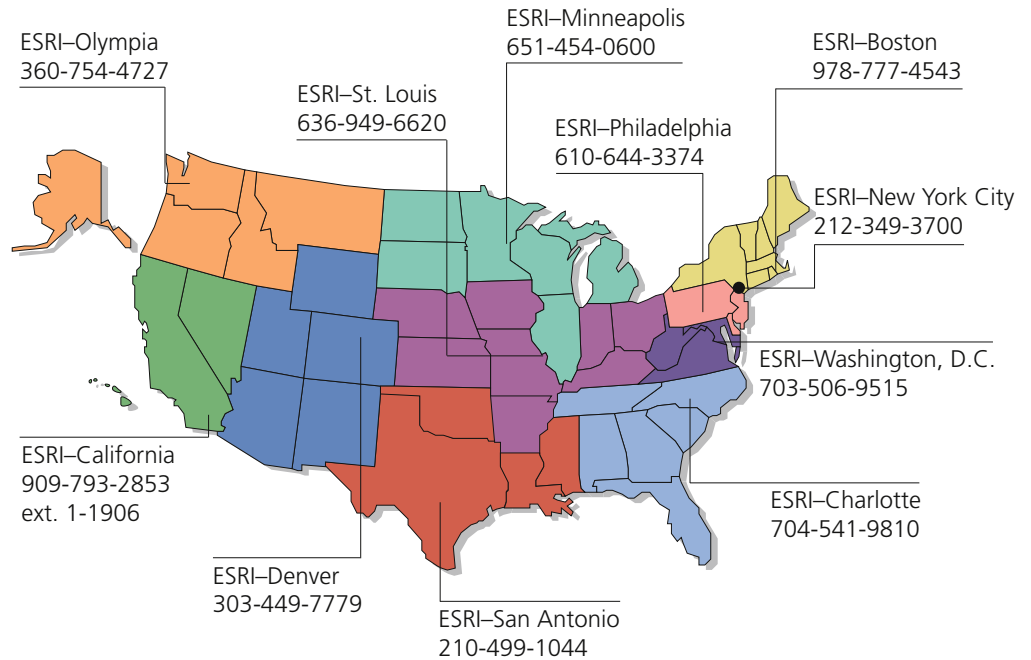
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