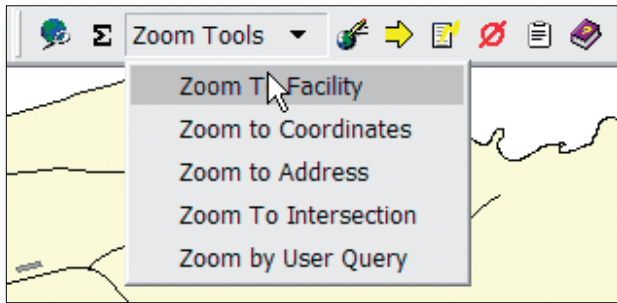
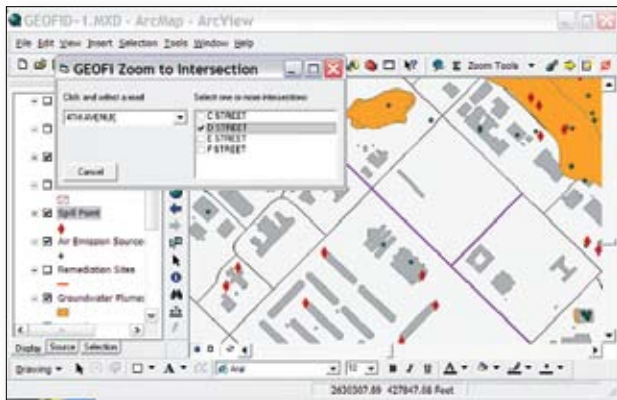


USMC GEOFidelis Tool Set



Zoom tools include predefined queries and the ability to develop ad hoc queries.



Example of Zoom to Intersection tool and results

Overview

In support of USMC business process modernization, Installation and Environment (I&E) established the GEOFidelis program to define its approach to enterprise geospatial systems. It is based on a common infrastructure foundation that supports interoperability across the Marine Corps. By establishing a uniform approach to GIS, GEOFidelis enables users to effectively manage their resources and accomplish the Marine Corps mission.

A survey of GIS managers in 2002 found redundancies in custom tool development as well as wide disparity in the availability of GIS resources among the installations. Moreover, many bases were facing the need to fund projects to upgrade tools to keep up with changes in the underlying technologies and the testing requirements for the Navy Marine Corps Intranet (NMCI). Based on these findings, the Marine Corps GIS Working Group (MCGWG) recommended the creation of a standardized Marine Corps GIS Tool Set. In 2004, Headquarters Marine Corps began development of the GEOFidelis Tool Set as part of its program to establish GIS standards for the Marine Corps.

The GEOFidelis Tool Set is based on common user requirements and processes. The long-term project goal is to develop a set of GIS tools that can be installed and used at any Marine Corps installation that meets minimum standards (i.e., use the CADD/GIS Technology Center's Spatial Data Standard for Facilities, Infrastructure and Environment—SDSFIE—for data storage and to comply with NMCI policies).

The first version of the Tool Set is a set of ArcGIS extensions, most of which are based on existing products. Wherever possible, the developers have reused existing codes to minimize costs and leverage the government's investments in technology. The cost of maintaining the Tool Set will be HQMC's responsibility, and the tools will be deployed to users' desktops through an NMCI or a Citrix® server. Guidelines for developing applications for the Tool Set and establishing a change control process for future enhancements and updates have been developed.

Contact Information

Denise Smith

MCAS Cherry Point, GIS Manager
GEOFidelis Toolset, Project Director
Cherry Point, NC 28533
Phone: 252-466-4524
E-mail: smithdl@cherrypoint.usmc.mil

Rebecca L. Peer, Ph.D.

Group Leader, Information Technology Services
URS Corporation
E-mail: Becky_Peer@URSCorp.com

Capabilities

The GEOFi Tool Set, version 1, consists of several ArcGIS extensions. The General GIS tools are intended for all GIS users. The others are more specialized applications for Noise Complaint Tracking and Anti-Terrorist/Force Protection (ATFP) planning.

The GEOFi General GIS tools augment the native ArcMap functions and provide shortcuts for commonly used processes. The General GIS tools are designed to work with shapefiles, personal geodatabases, and enterprise geodatabases and, as much as possible, be independent of the underlying data structures. The tools in this application include

- Data Loader, which allows the user to view a list of available shapefiles, layer files, and geodatabase tables in a user-friendly tree structure and select the datasets to be loaded; save a collection of datasets as named sets (i.e., a theme manager); and preview selected datasets before loading them to ArcMap.
- “Zoom to” tools, which include a Zoom to Road intersection and Facility locator. A new function allows the user to create and save commonly used “zoom to” queries.

The ATFP tools are intended to support military planners in the preparation of maps and plans for each security alert level. By using these tools, the planner will be able to

- Define values for various attributes required for different threat levels (e.g., stand-off distances).
- Define assets to be managed for ATFP including buildings, aircraft parking areas, and ships and manage the ATFP attributes associated with each feature.
- Display maps showing ATFP features automatically for a selected threat level.
- Generate reports including curtailment plans, lists of critical assets, and number of barriers required for a selected feature.
- Utilize the same common GIS dataset as all other users, but the ATFP attributes are stored in a secure database.

The Tool Set also includes Administrator and Edit applications for publishing a data catalog, batch exporting data, and editing shortcuts. The Noise Complaint tracker associates a noise complaint with an address and adds it to a point layer.

Benefits

The development of a common set of tools is expected to reduce development costs, ensure USMC-wide implementation of best-in-class GIS, and streamline the C4/NMCI application approval process. Deployment of the Tool Set will reduce the total number of applications in use, thereby furthering the goal of streamlining information management systems. By supporting application development and deployment at the HQ level, GEOFidelis ensures that money spent on software development benefits all GIS users in the Marine Corps. Decision makers are provided with tools that leverage their GIS data and make business processes more efficient.



Example of a user-defined “zoom” that can be saved, edited, and reused



The ATFP tool allows planners to develop maps for different levels of alert status.



This dialog box is an example of the user-friendly interface that allows the user to select layers to view and condition code to apply.