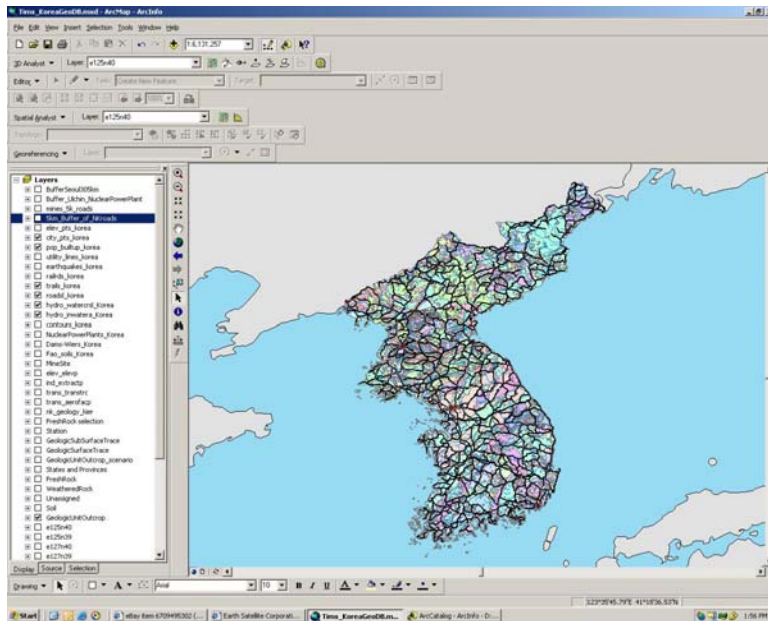


# Geologic Database

## Integrating Geologic Data for Hard Target Analysis and Other Applications



Screenshot of the Geologic Database in ArcMap™

The Geologic Database establishes a framework for the Intelligence Community (IC) to store and integrate world-wide geologic data from various sources in a common form and with a common scientific terminology. This framework is designed to be the foundation feature layer for geologic information in the NSG.

The Prototype Geologic Database uses established standards and commercial off-the-shelf (COTS) technology in a Web-based distribution model.

The operational Prototype contains open source as well as US Government provided data over an area of high current interest. It uses an ESRI© Personal Geodatabase built using the ArcInfo architecture and Microsoft© Access database.

Observera, Inc. was awarded a contract under the 2003 Innovations in Geospatial Intelligence BAA program to develop a Prototype Geologic Database for NGA. A shared geologic layer will enhance the ability of analysts in the Intelligence Community (IC) to perform hard target analysis, detect and characterize Underground Facilities (UGFs), and improve other applications such as infrastructure analysis, weapons effects, site selections, water supply analysis, soils analysis, trafficability studies, broad area searches, road construction analysis, and natural resources assessments.

**Observera, Inc.**  
3856 Dulles South Court  
Suite I  
Chantilly, VA 20151  
Phone: 800 444 6905  
Fax: 703 378 3166  
[www.observera.com](http://www.observera.com)

# Observera

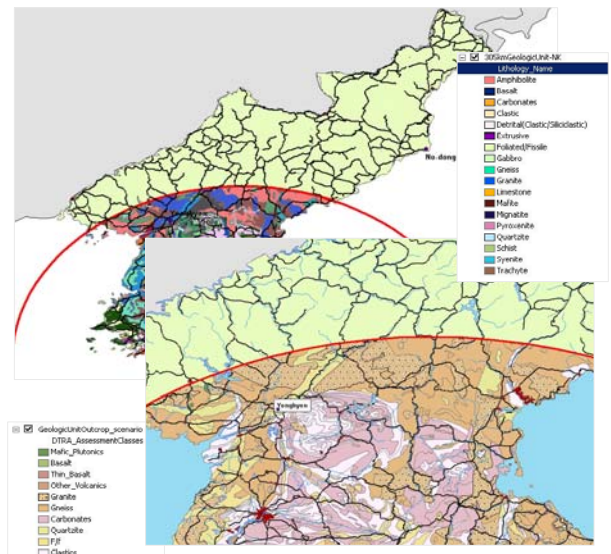
*To See the Truth!*

## DEVELOPING THE GEOLOGIC DATABASE PROTOTYPE

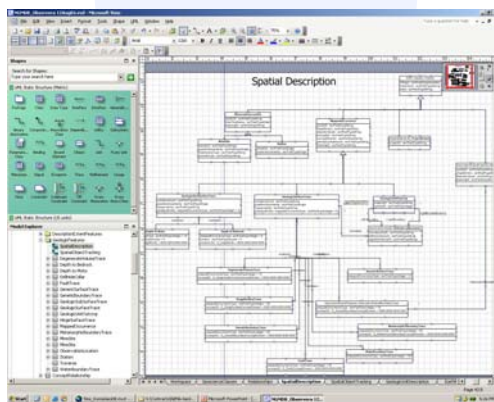
The Geologic Database is expected to benefit studies with broad strategic implications that may not currently have efficient and timely access to this type information. The overall project was organized into four-phases.

- The first two phases dealt with requirements identification and investigating existing data and technology standards.
- The last two phases involved designing and building a prototype Geologic GIS, and populating it with a sample database.

The geologic data model developed follows the North American Data Model Concept 1 (NADM C-1), which was developed as a result of a congressional mandate known as the National Geologic Mapping Act of 1992 that called for a national database of geologic data and information. The architecture of the Prototype Geologic Database (its schema, vocabulary, etc.) is based on a subset of this internationally recognized and utilized concept standard. The implementation accommodates the IC's unique requirements, yet includes all of the "best practices" for geologic data management and exchange. Other industry and government standards implemented include Federal Geographic Data Committee compliant metadata and Open GIS Consortium compliant methods for data transfer and distribution. Web-based access and analysis tools for the Prototype Geologic Database are made available through the ESRI ArcIMS application.



***Different ways of exploiting geologic information***



## DEVELOPMENT STATUS

The Geologic Database is now ready to begin the transition into a formal foundation feature layer within the NSG. This step is straightforward and only requires commitment of resources to complete the transition. The Prototype Geologic Database is complete and successfully accomplished all of its stated goals. It has been demonstrated to numerous IC groups to rave reviews. Please contact Observera if you are interested in a personalized demonstration of the technology.