

# Geographic Information Systems (GIS): Department of State Needs Assessment

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## Introduction

Foreign policy and diplomacy activities are intrinsically linked location-specific information tied to a locality, a region, a country, or larger area. Geographic information systems and related technologies are tools that Department of State (DoS) personnel including decision-makers and problem-solvers can use to merge diverse data that impinge on the policy issues addressed by the relevant programs. This situation was dramatically manifest recently during the Asian Tsunami Event of 2004. Issues linked to DoS strategic goals include natural disaster response, rural development, environmental restoration, land use management, public health outreach, and field operations. Other objectives are tracking security related incidents, analysis of visa applications, demographics, trafficking, anti-narcotics activities and human rights incidents. GIS allow visualization of spatial relationships unseen in textual representations and facilitates trending as well as relationships between information, topography, physical infrastructure and political boundaries.

The Office of eDiplomacy in the Information Resource Management Bureau (IRM), in collaboration with the Bureau of Intelligence and Research (INR), has compiled GIS user requirements from across the Department. The purpose is to understand how various Bureaus, posts and offices envision the use of data and information tied to geographic locations for reporting, analysis and communication. By examining the various user needs from the Department, we can develop a strategy for investing in a portfolio of tools for GIS users, and eventually an enterprise license agreement. INR leads the GIS User's Group to stimulate interaction between experienced users and prospective implementers. Collectively we also are interested in assisting in the coordination of GIS solutions within and across bureaus, and in information and data sharing where appropriate. The User Needs Assessment activity conducted by eDiplomacy has proceeded to support and grow the User Group.

## Method

### ***Business Case:***

We want to understand the business cases for using GIS as a productive technology with in the Department. How will GIS be applied and used?

- Current situation: What are current workflow examples that demonstrate how information tied to specific locations is utilized? For example, how is information gathered, presented, analyzed, and used? What kinds of questions are being asked that

have answers tied to data at geographic places? How is reporting of such information done today?

- Improved or ideal situation: How could GIS enhance workflow? What are the ideal workflows to answer critical questions and compile reports? What would be possible with a system that allows display of data on maps? Explain how data would be visualized and linked.
  - What needs or requirements exist for handling data and information tied to geographic locations?
  - What goals or objectives should be met by the GIS system implementation?
  - Are changes possible or necessitated for the future within the Department that require GIS applications? What are they?
  - Are there external mandates to be met? Government regulations for providing and exchanging data?
  - How would an improved situation, using GIS, capitalize on the strengths of the organization?
  - What new opportunities would exist or performance enhancements are possible?

### ***Data Types***

What kinds of data are needed in the GIS system? What common “Department-wide” data sets should be available? What data already exists?

- Political boundaries?
- Urban centers?
- Post locations?
- Transportation infrastructure?
- Military infrastructure?
- Locations of buildings?
- Population demographics?
- Funding?
- Etc.

### ***Tools***

What tools and applications to manipulate data are required? For example, display on a map, links to relational databases, etc.

### ***Priorities***

- Are there legal considerations – for example does the law mandate certain data or information to be handled?
- What training is required for personnel within the bureau, post or unit?
- What types of external support is expected and needed?
- Cost-effectiveness: How does the cost of the problem compare to the cost of implementing a solution? What savings or improved capacity will result?