

Cross-Boundary Transformation: Making It Happen with Geographic Information Systems

Leadership for a Networked World

Molly O'Neill
Assistant Administrator and
Chief Information Officer
U.S. Environmental Protection Agency



GIS as an Enabler for Transformation

- GIS has become a mainstream, core enabling technology in the IT enterprise
- EPA and other organizations are at various stages in the identification of business processes that can benefit from spatial intelligence
- EPA is a place-based organization – multiple requirements for deep integration of geospatial data and analytics
- GIS tools and services are transforming cross jurisdictional and sector boundaries in many ways at EPA:
 - Empowerment of stakeholders to carry out their own spatial visualization of key data (mashups)
 - Standardization of data capture, management and presentation across geographically distributed programs
 - Location is a critical element that enables the merging of multi-media data stovepipes into common picture (Air, Water, Land, etc.)



The Importance of Standards

- Open standards are critical to success within the EPA geospatial program and among EPA and our partners
 - Open Geospatial Consortium standards have come a very long way in a short time and are rapidly being adopted and supported in government
- Data collection, storage and distribution standards
 - Ensuring that data received from our partners is ready for integration with new and existing data warehouses / marts and ready for exploitation with geospatial tools (e.g., GML / GEORSS adoption by Exchange Network partners)
 - Federated data and services architectures require common standards



Future (Near Term) Focus

- Geospatial application interface development becoming less of a focus
 - ESRI ArcGIS Explorer, Google Earth, MS Virtual Earth, etc. are now in wide use
 - Geospatial visualization reaching (has reached?) critical mass on the internet – now mainstream
 - Little need to spend development time on base map and associated cartography – can spend effort on presentation of Agency data
 - Focus changing to making data services available in consistent, *discoverable* manner
 - Interfaces and tools developed to provide access to geospatial analytical capacity



EPA GIS Yesterday / Today / Tomorrow

- Yesterday
 - Successful branding of multiple EnviroMapper applications
 - <http://www.epa.gov/enviro/html/em/>
- Today
 - Migration to geospatial web services
 - <http://geodata.epa.gov>
 - Continued expansion of EnviroMapper suite of applications with view towards updating with commercial data services and toolkits (ESRI ArcWeb / Microsoft Virtual Earth / Google Maps)
- Tomorrow
 - More geospatial data and application services
 - Geospatial Mashups – Let the community determine how to visualize and present EPA data
 - <http://niceguy.wustl.edu/DataFedGoogle>
 - <http://www.terraims.com/webservices/superfund.php>
 - <http://www.wikimapia.org>



Transformation.....is here

- Drivers

- Technology is ready
- Public Demand
- Communities, including partners are willing
- At EPA, environmental data is becoming a commodity...
 - Land revitalization locations for developers and real estate agents
 - Beach quality/closure for hotel industries



Transformation.....

- Is Government ready to work with collaborative tools?
 - Enviro-Wiki-Mapia for public to locate new releases to environment?
 - Partners vs. Public
- Is Government ready to expose data to serve up to networked world?

