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Environmental GIS Migration from Desktop to ArcGIS Server

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OUTLINE OF TALK

- Background – Environmental GIS (EGIS)
- EGIS Analytical Query Tool (AQT)
- EGIS Case Study - KSC
- ArcGIS Server Migration
- Demonstration

MOTIVATION – COLLABORATIVE TOOL

- Promote the understanding, access, integration, and sharing of data through information systems
- Standardization, centralization, and accessibility of data and associated information
- Ensure consistency, link processes, simplify and automate

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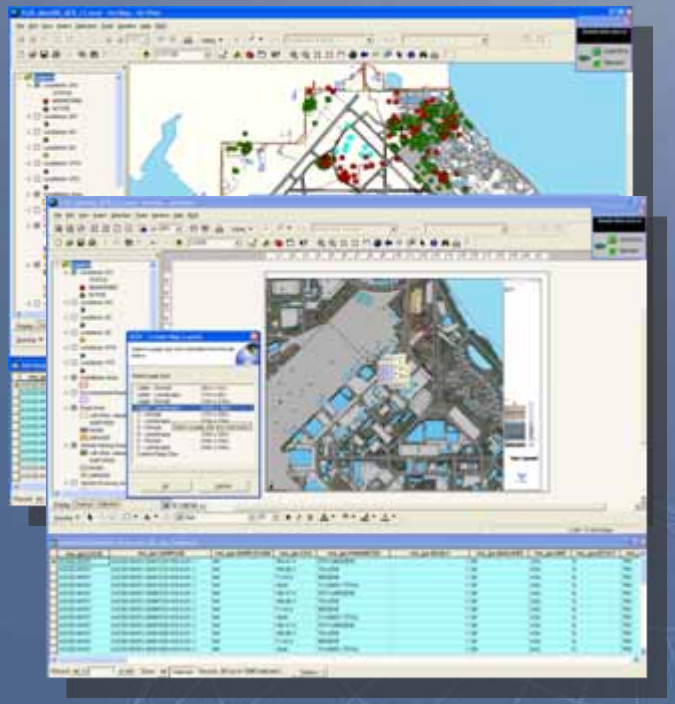
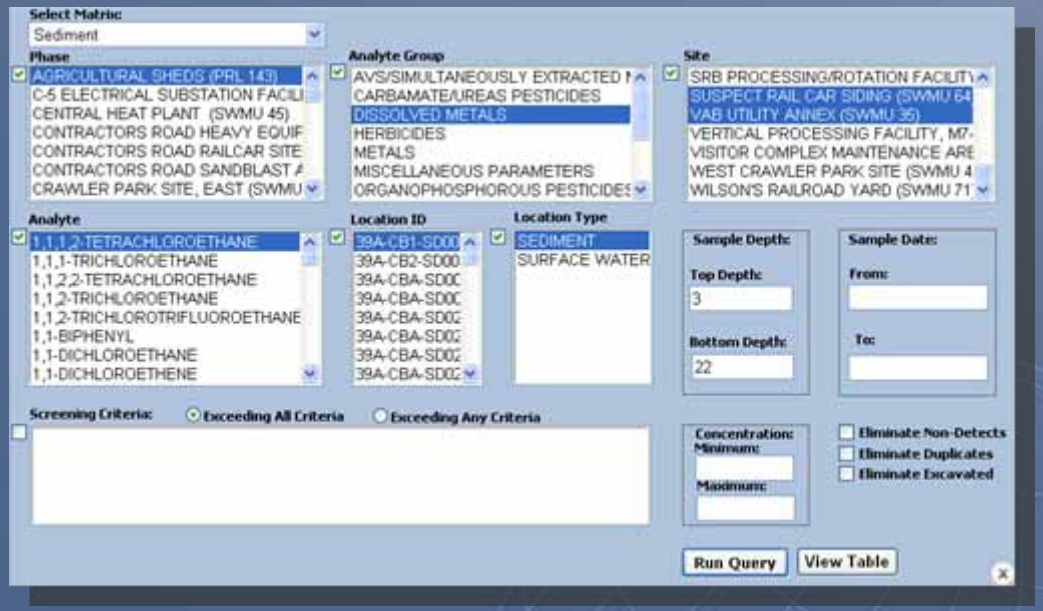
BACKGROUND – ENVIRONMENTAL GIS (EGIS)

- EGIS - custom tool for environmental project personnel working with environmental restoration & remediation data
- Combines the functionality of a Relational Database Management System (RDMS) and the visual/spatial interface of a GIS
- Valuable for managing & evaluating extremely large datasets
- User-friendly interface for non-GIS professionals but scalable platform for “power” users



EGIS ANALYTICAL QUERY TOOL (AQT)

- Custom application that allows for advanced query of chemical and analytical data in the GIS environment
- Simple to complex data queries based on user input
- Locations are activated in the GIS and records can be exported as spreadsheets or map documents



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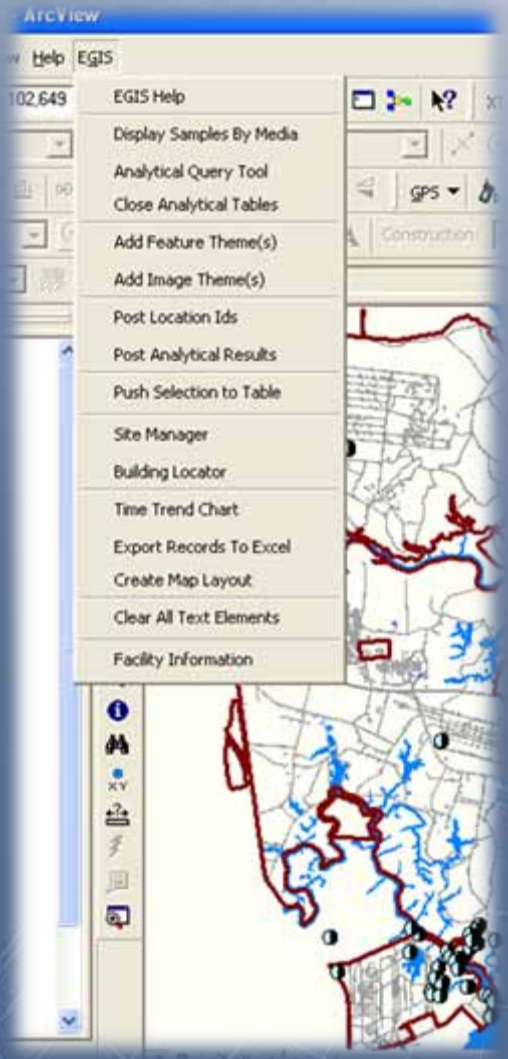
EGIS DEPLOYMENT

- Originally designed as an ArcGIS Desktop application
- Custom interface provides functionality for layperson
- Full geoprocessing and analysis tools still available for advanced GIS users
- Deployed via a web portal and disseminated using terminal services



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EGIS AT NASA KENNEDY SPACE CENTER (KSC)

- NASA-KSC's Remediation Program responsible for evaluation, management, and restoration of contaminated sites

- Extremely data intensive program – involves spatial data (sites, environmental constraints) and analytical data from field investigations; millions of records

- Information used by variety of stakeholders – project/program managers, field staff, scientists, engineers at KSC; as well as contractors & consultants

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EGIS AT NASA KENNEDY SPACE CENTER (KSC)

- Remediation Information System (RIS) established at KSC to facilitate data management & program coordination

- Knowledge management portal provides stakeholders access to IS and project management tools:

- EGIS launched from RIS web service and tied to Information Management System (IMS)

TRANSITION TO ARCGIS SERVER

- ArcGIS Server an improved setting for the EGIS leveraging current ESRI technology
- Growing database (over 2.5 million records) prompted need for performance enhancements
- Improved security provisioning
- Greater flexibility for customization

- Contemporary design, customizations using web-based programming tools with .NET architecture

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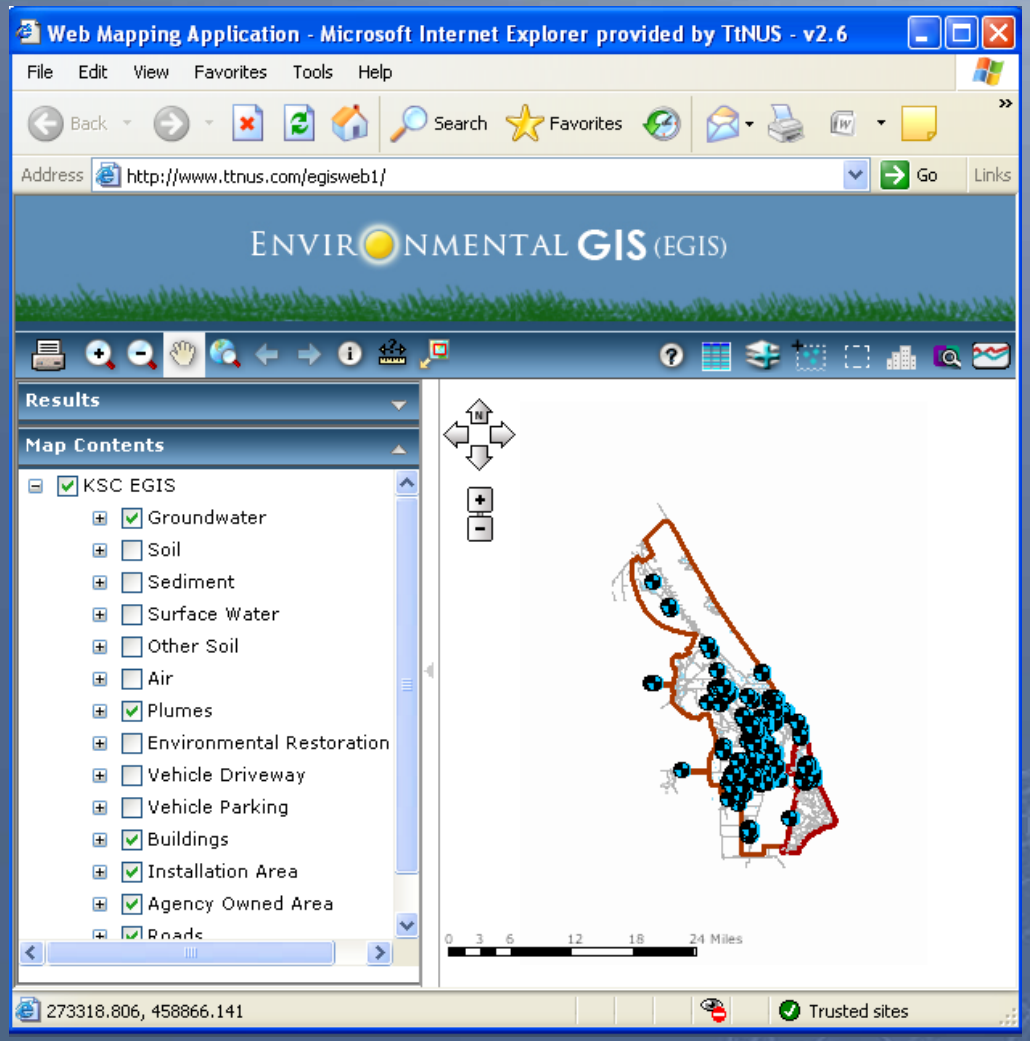
ARCGIS SERVER APPLICATION

- KSC ArcGIS Server Tools:
  - Standard functions (pan, zoom, measure, etc.)
  - AQT
  - Building / Site Locator
  - Time Trend
  - Data Export Functions

DEMONSTRATION – ARCGIS SERVER EGIS



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THANK YOU!

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