

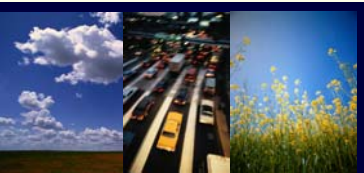
A Web-Based GIS Approach to Environmental Review, Associated Business Decisions, and Distributed Information/Data Sources



March 30, 2004

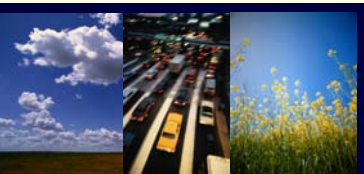
Agenda

- The NEPA Process
- Challenges and Trends
- NEPA Applications and Tools
- What's Next
- Demonstration



The NEPA Process

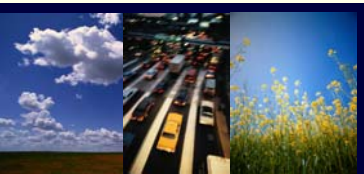
- Statute-driven
- Objective - Productive harmony between competing goals:
 - Environment
 - Economic
 - Social
- EPA's role: Review, file and publish EISs for public comment.



Challenges

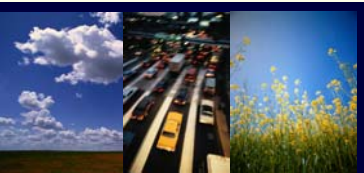
- Multi-agency interactions
- Information-dependent
- Time and cost intensive

“Timely completion of NEPA analyses depends on the availability of and access to existing information and the ability to collect new information. Reducing the accumulation of extraneous background data and emphasizing relevant environmental issues is key to the successful use of information in the NEPA process.” (Source: NEPA Task Force Report)



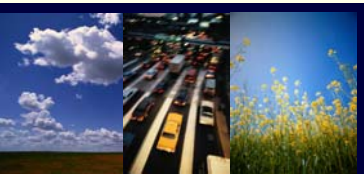
Trends

- Data growth surpassing limits of proprietary data access
- Proliferation of the Internet
- Increased demands for interoperability of sites



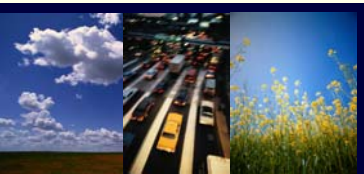
The Requirement

- Better use of available data, tools, resources and personnel
- Expedite interactions between agencies
- Enable internal workflows
- Reduce time and cost



Applications Developed for EPA

- NEPAssist - Assists with streamlining the filing and review process of Environmental Impact Statements and Environmental Assessments
- Environmental Justice (EJ) Geographic Assessment



NEPAssist

U.S. Environmental Protection Agency



NEPAssist

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Area of digitized polygon	.07 sq/mi
Within 400 meters of a Great Lake Shoreline?	No
Within 400 meters of an American Heritage River?	Yes
Within 400 meters of a Wild and Scenic River?	No
Within 400 meters of a drinking water intake?	No
Within 400 meters of a 303(d) listed reaches?	No
Within an area with sole source aquifer?	No
Within 400 meters of a wetland protected under section 404 of the Clean Water Act?	Yes
Within a wetland (National Wetlands Inventory)?	Yes
Within a FEMA Flood Protection Area?	No
Within a Heritage Program identified critical habitat for endangered species?	No
Within 400 meters of Coral Reefs?	No
Within an area of nonattainment of the following National Ambient Air Quality Standards?	No
Within a potential Environmental Justice Area?	No
Within an area that exceeds the median risk indicator amount for the state as determined by the Toxic Risk Inventory Screening Tool?	No
Within an area that exceeds the median risk indicator amount for the state as determined by the National-Scale Air Toxics Assessment?	No
Within a National Estuary Program study area?	No
Within National Forest?	No
Within Fish and Wildlife Service Refuge?	No
Within State and Local Parks?	No
Within Wildlife Refuges?	No
Within Native American Land?	No
Within a USGS quad that has 20 or more archeological citations per quad?	Yes
If your project is in New Jersey, is it located in an Environmentally Sensitive Planning Area as designated in the NJ State Development and Redevelopment Plan?	No
Within 400 meters of a mass transit stop?	No
If your project is not listed in a designated brownfield area, could it be?	Yes
<input type="button" value="Submit to EPA for Review"/> <input type="button" value="Environmental Justice Analysis"/>	

NEPAssist Home

Office of Federal Activities

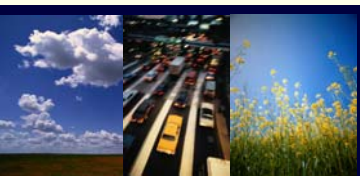
Environmental Review

Strategic Planning & Multi-Media Programs

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EJ Geographic Assessment Tool



Zoom In
 Zoom Out
 Identify
 Select a feature

Recenter
 Digitize
 Locator Map
 Legend
 Choose a view

Statistics represent residential population within a .5 mile buffer around feature of interest

Enter a new buffer value (max. 10 miles)

County and State Comparison

Overview

Total Persons:	661	Land Area:	94.8%	Households in Area:	253
Population Density:	888.26 /sq mi	Water Area:	5.2%	Housing Units in Area:	258
Percent Minority:	30.5%	Persons Below Poverty Level:	31 (4.7%)	Households on Public Assistance:	0
This space intentionally left blank		Housing Units Built <1970:	83%	Housing Units Built	

Race and Age*

Race Breakdown	Persons (%)	Age Breakdown
White:	461 (69.8%)	Child 5 years or less
African-American:	31 (4.6%)	Minors 17 years and younger
Hispanic-Origin:	10 (1.5%)	Adults 18 years and younger
Asian/Pacific Islander:	104 (15.7%)	Seniors 65 years and older
American Indian:	0 (0.0%)	
Other Race:	6 (0.9%)	
Multiracial:	59 (8.9%)	

(* Columns that add up to 100% are highlighted)

County and State Comparison

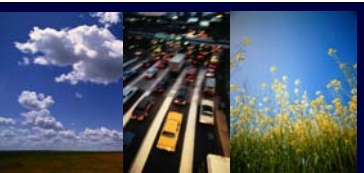
Overview

	Study Area	MERCER County, NJ	MIDDLESEX County, NJ	NEW JERSEY
Total Persons:	661	350761	750162	841435
Population Density:	888.26 /sq mi	1552.53 /sq mi	2422.07 /sq mi	1134.42 /sq mi
Percent Minority:	30.5%	35.8%	38.2%	34%
Persons Below Poverty Level:	31 (4.7%)	28570 (8.1%)	48205 (6.4%)	699668 (8.3%)
Households in Area:	253	125807	265815	306484
Households on Public Assistance:	0	3453	5047	8670
Housing Units Built <1970:	83%	65%	56%	63%
Housing Units Built <1950:	30%	33%	19%	30%

Race

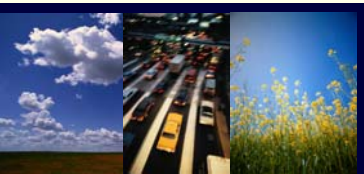
Race Breakdown	Study Area	MERCER County, NJ	MIDDLESEX County, NJ	NEW JERSEY
White:	461 (69.8%)	239827 (68.4%)	511633 (68.2%)	6099439 (72.5%)
African-American:	31 (4.8%)	66582 (19.8%)	67346 (9.0%)	1127266 (13.4%)
Hispanic-Origin:	10 (1.5%)	34140 (9.7%)	102116 (13.6%)	1118149 (13.3%)
Asian/Pacific Islander:	104 (15.7%)	17429 (5.0%)	104114 (13.9%)	481784 (5.7%)
American Indian:	0 (0.0%)	786 (2.2%)	1290 (1.7%)	17997 (0.2%)
Other Race:	6 (0.9%)	15878 (4.5%)	44924 (6.0%)	456829 (5.4%)
Multiracial:	59 (8.9%)	7990 (2.3%)	20801 (2.8%)	228326 (2.7%)

(* Columns that add up to 100% are highlighted)



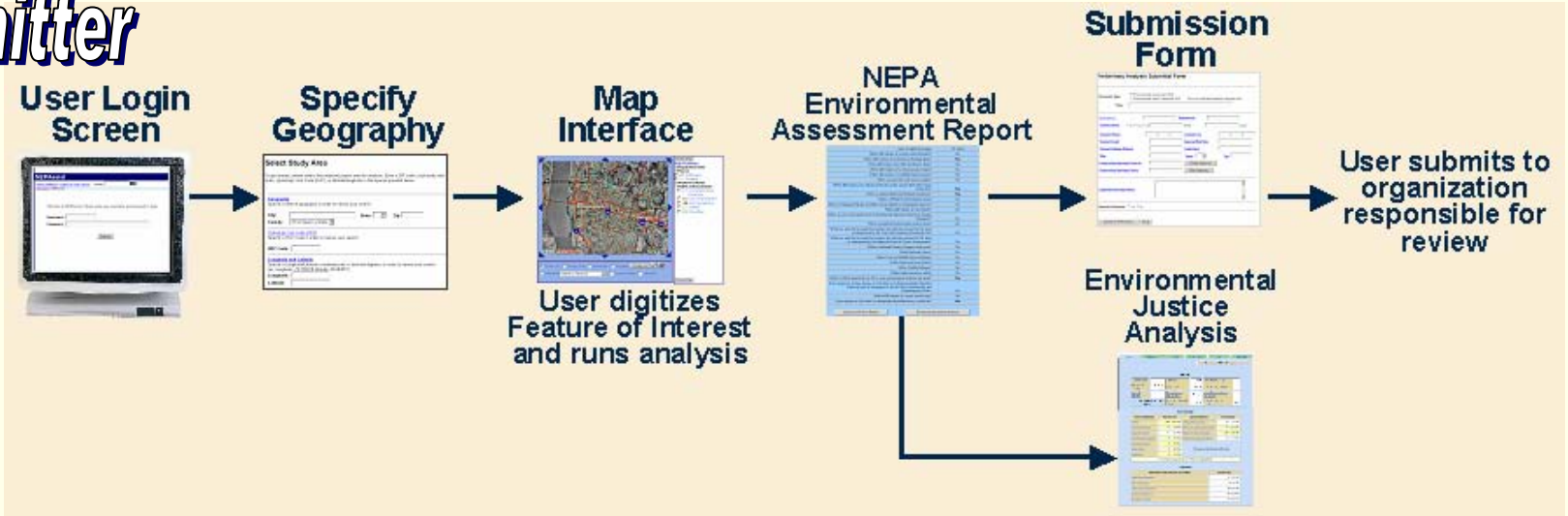
The Technical Architecture

- Web-enabled GIS
 - ArcIMS
 - Oracle Spatial
 - Web Services (Geography Network, TerraServer)
- Exploiting
 - National databases (Census, EPA, FEMA, USGS)
 - Regional databases (currently EPA Region 2)

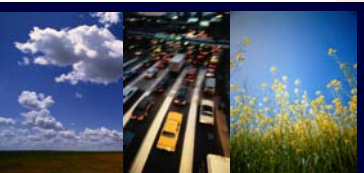
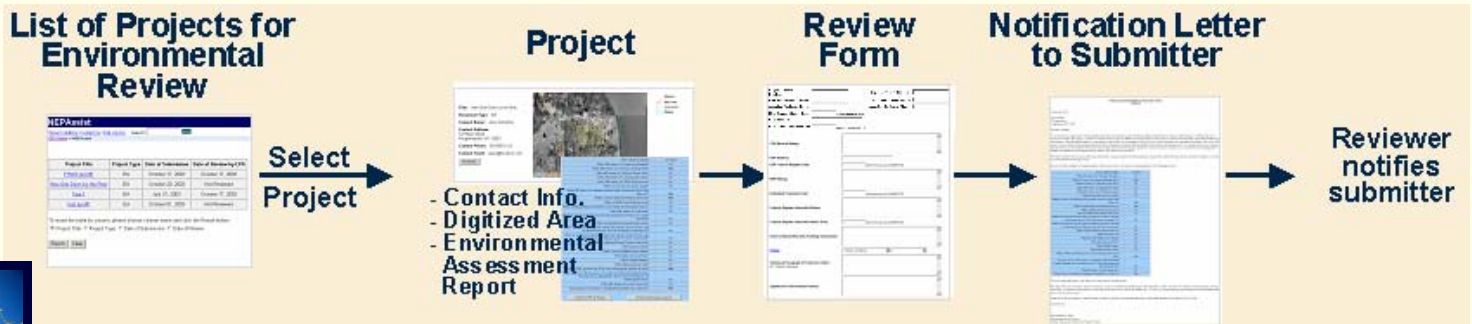


NEPAssist Workflow

Submitter

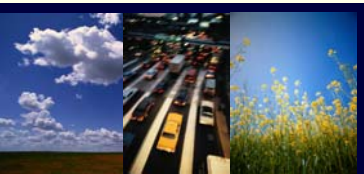


Reviewer



What's Next?

- Additional NEPA-related functionality
 - Data (e.g., land-use, historical resources)
 - Analyses/Models (e.g., cumulative and future effects)
 - Assisting state/local partners
 - Enabling concurrent vs. sequential reviews
- Potential other uses
 - Context-sensitive design
 - Alternative scenarios



For More Information

Tricia Iveson, SAIC
(703) 292-6014
ivesonp@saic.com

Matt Moss, SAIC
(703) 292-6239
mossm@saic.com

