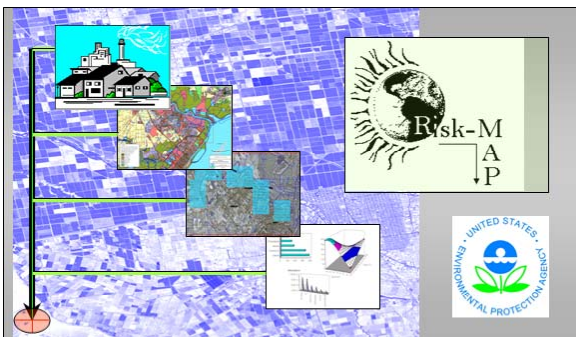

RAIMI Tools Fact Sheet: Risk-MAP

Cumulative-type, risk-based assessments are increasing in popularity because permitting and enforcement actions need to consider the bigger picture, rather than source-by-source permitting. However, historically it has been quite difficult to find mechanisms that support cross-program cooperation and resource sharing. Regulatory and national program pressures challenge the EPA regions to develop localized assessment capabilities, such as Urban Air Toxics Strategy.



Capitalizing on experience gained in conducting localized pilot studies, EPA developed Risk-MAP (Risk Management and Analysis Platform) to support the data-intensive and analytically complex nature of these types of assessments. While capacity has now become widely recognized as a critical requirement for cumulative-type assessments, the design and functionality of Risk-MAP has been driven by the need to go a step beyond analytical analysis and serve as a direct and seamless platform to support solution selection, implementation, and tracking. As such, Risk-MAP represents a unique shift in risk tool design.

Management and Analysis Platform

Risk-MAP integrates data management, risk analysis, and solutions support. The GIS architecture of Risk-MAP provides a tremendous advantage for conducting data management (e.g., emissions data, source attributes, etc.) and risk analysis in a spatial environment. This architecture provides the ability for Risk-MAP to:

- Calculate exposure pathway-specific values in a spatially layered data environment
- Support capacities (number of sources and contaminants) typically required of cumulative-type studies conducted at a high level of resolution
- Provide custom visual displaying of interim and final results in traditional (tabular, etc.) and mapped (isopleths, spatial attributes, attribution tracking, etc.) formats
- Link results directly to source attributes to support solution consideration, implementation, and tracking

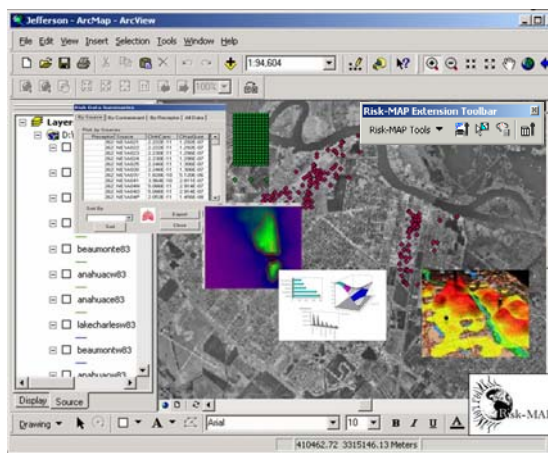
Risk-MAP employs a fully scaleable, receptor-based approach to identify and prioritize potential impacts to target receptor neighborhoods or areas (e.g., census blocks). It enables each target neighborhood to have customized exposure inputs that may influence results, management decisions, and communication. You can generate and manage data at the neighborhood or receptor level, while maintaining coverage over large geographic areas (such as county, state, or region). Risk-MAP allows direct incorporation of mapped and database demographic

information to support consideration of risk results in conjunction with population data (such as diurnal distributions) and area average concentrations.

Example of Risk-Modeling Inputs

Risk-MAP requires multiple inputs:

- Emissions Characterization Data
 - Facility and source-specific attributes
 - Speciated source-specific emissions data
 - Air-modeling results data
- Exposure and site-specific parameters
 - Implementation of HHRAP defaults
 - Parameters without HHRAP defaults
- Chemical-specific fate and transport parameters
- Chemical-specific toxicity parameters
- Other site-specific data
- GIS data – background maps
 - Land use land cover (LULC)
 - USGS topographic files
 - Aerial photographs
 - Facility boundary files



System Requirements

To run Risk-MAP, you need:

- Pentium 459 MHz (650 MHz recommended)
- 128 MB RAM (256 MB recommended)
- Windows 2000 Professional, XP, NT 4
- ArcView Version 8.2
- Drive space requirements depend on the scope of the project, but can be as high as 20 gigabytes for a typical county-wide risk analysis

Additional Information

For additional information on Risk-MAP or the RAIMI Program, contact Jeff Yurk, EPA Region 6, at yurk.jeffrey@epamail.epa.gov or via phone at 214-665-8309.

