



The Computer-assisted Protective Action Recommendation System (CAPARS) is an atmospheric dispersion modeling system used for real-time emergency response projections of plume impacts from radiological and chemical releases over complex terrains.

THE BENEFIT

CAPARS is designed to meet the key decision support needs of emergency managers, incident commanders, field monitoring teams, and regulatory agencies. The system:

- Automates the emergency response consequence projection process over time and space for much improved transport accuracy
- Reduces user input error
- Minimizes the time required to obtain key decision-support estimates
- Automates meteorological data collection from multiple sites
- Shows a three-dimensional, complex-terrain wind field that changes over time and space for improved dispersion accuracy
- Displays independently moving, growing, and depositing puffs

THE ARCHITECTURE

CAPARS contains several independent systems:

A mapping system

- Uses geographical information system (GIS) displays of projected plumes and impacted features

A meteorological data system

- Automatically obtains, processes, quality checks, and stores all meteorological data that is available

A user interface

- Allows users to specify the characteristics of a simulated release

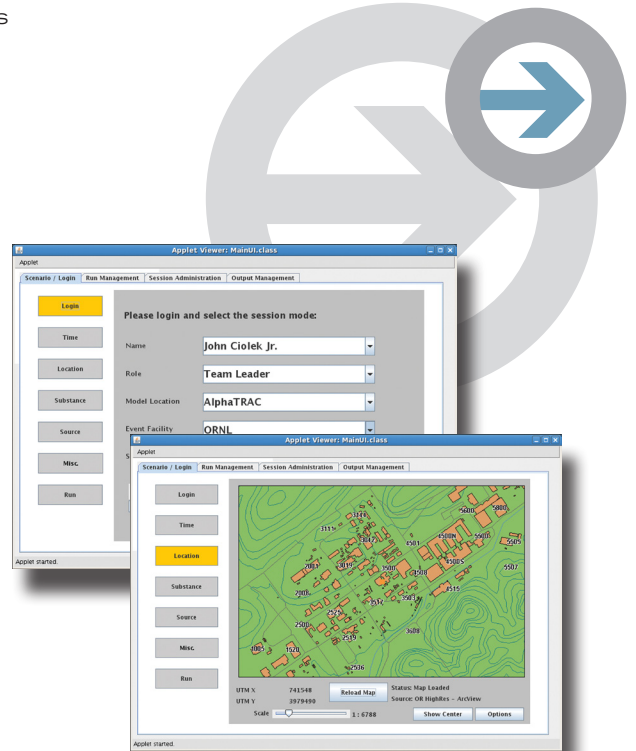
An atmospheric dispersion model with a health-effects subcomponent

- Converts concentration-based exposure projections into health-based consequences

ADDITIONAL FEATURES

CAPARS also:

- Uses independent Gaussian ellipsoidal puffs to simulate plumes
- Has a standby (contingency) mode that allows for automated model projections
- Can create, store, and reuse scenarios through the user interface
- Automatically generates output maps including:
 - Dose projections
 - Protective actions
 - Plume timing
 - Deposition
 - Concentration
- Addresses radiological in-growth and decay
- Offers four modes of operation:
 - Emergency
 - Test
 - Exercise
 - Standby
- Can assess elevated, stack, ground-level, and buoyant releases
- Provides GIS-based output maps with features pre-defined by the user



FOR MORE INFORMATION

Contact AlphaTRAC to learn how the CAPARS modeling system can meet your emergency response modeling needs.



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