

BATTLEFIELD AND ENVIRONMENTAL EFFECTS ON ATMOSPHERIC TRANSPORT AND Diffusion Models

DESCRIPTION

OptiMetrics has developed various models to predict the transport and diffusion of military aerosols. These models can be used to predict a variety of effects including biological and chemical agent dissemination and lethality, obscurant dissemination and effectiveness, and toxic hazard dispersion. Baseline models developed and verified at government laboratories have been extended by OptiMetrics for specific applications. Major features of these models include:

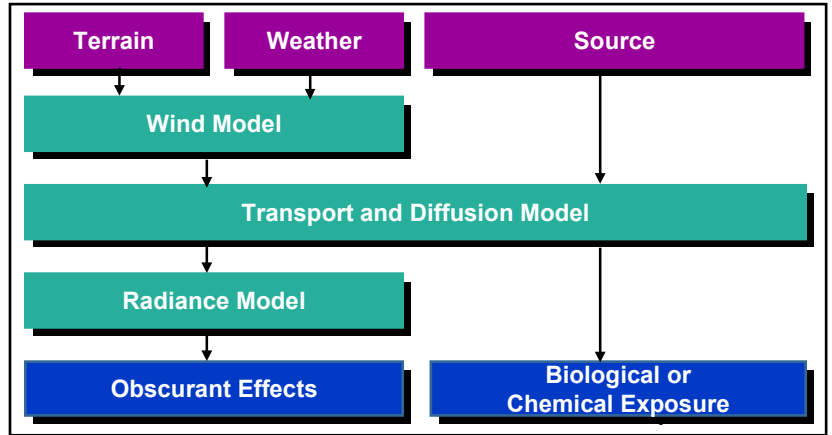
- Spatially variable wind effects, based on terrain
- Dispersion based on atmospheric stability
- Buoyancy and deposition effects
- Radiative transfer effects
- PC and UNIX Workstation versions

CAPABILITIES

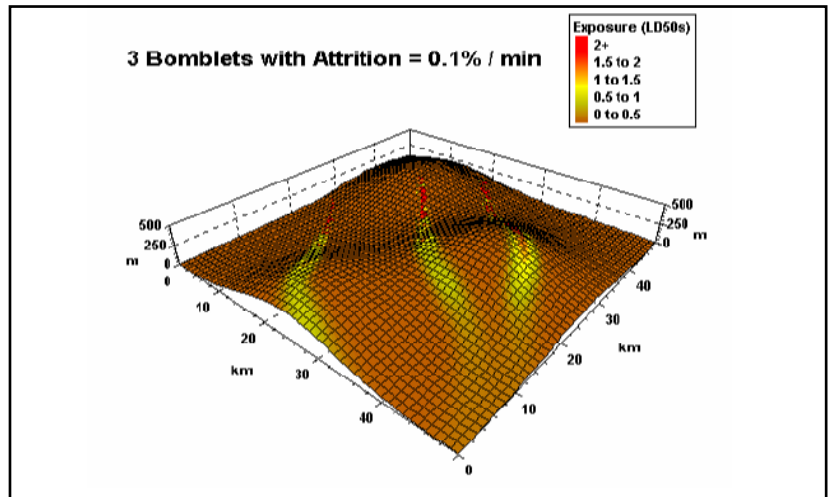
- Predict the extent and lethality of biological or chemical clouds
- Predict the transmission and radiance of obscurant clouds
- Predict deposition of obscurants or toxic materials
- Utilize complex terrain and wind fields for accurate aerosol behavior predictions or comparison with field measurements

APPLICATIONS

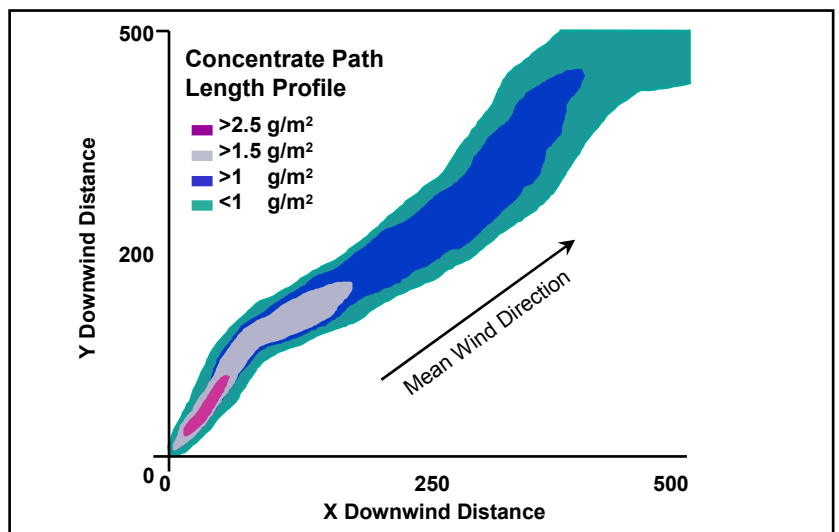
- Analysis of biological threats
- Requirements analysis for biological and chemical sensors
- Effectiveness assessments for vehicle self-protection obscurant systems
- Tradeoff analysis of large area smoke screening of airbases
- Environmental impact prediction of military aerosol materials
- Analysis of obscurant effects on sensors



Battlefield and Environmental Effects Models



Biological Threat Prediction



Large Area Screening Smoke Prediction



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