

Background:

Urban development on lands adjacent to installations is currently among the most pressing challenges to military installations. At issue are the consequences of urban development which include safety risks; noise; impacts to plants, animals, and cultural resources; and dust emissions and other air and water pollution. The Department of Defense (DoD) has investigated the use of alternative future scenario modeling (AFSM) to predict and to evaluate potential impacts of civilian development on military bases. However, the AFSM technology requires advanced statistical and computational skills, and consequently, it has not been effectively transferred to military installation officials and natural resource managers.

Objective:

The objective of this project is to build an information system that will significantly reduce the complexity of the AFSM process. The information system will allow the modeling components to be interactive, portable, iterative, and user-friendly.

Summary of Process/Technology:

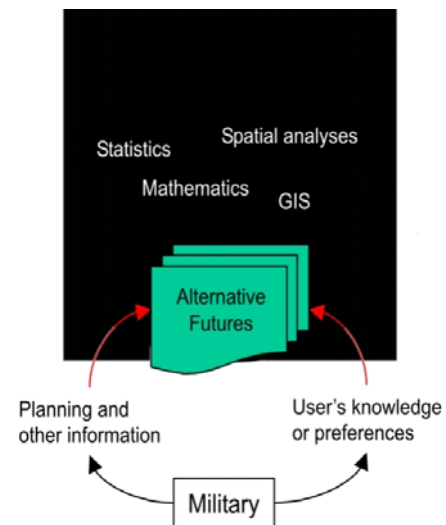
This one-year project will examine technology that can be used to develop an information system for simulating alternative future scenarios. A suite of “standard” variables necessary for simulating/building alternative future scenarios will be statistically evaluated based on an initial assessment of different mathematical and statistical models appropriate for building alternative futures (e.g., deterministic modeling, tree-based models, etc.). A design prototype will demonstrate the components of the modeling tool, including how direct inputs by military officials and their contractors will provide feedback to the modeling process based on local knowledge of the installation and regional specifications.

Benefit:

As a result of this project, land managers and other decision makers gain a user-friendly tool that they can use to (1) identify variables that may conflict with the sustainability of military operations and (2) predict and evaluate environmental impacts and assess risks under alternative land use change scenarios.

Accomplishments:

This project began in FY 2002. Accomplishments will be noted upon completion of the project.



**Schematic of “The black box”
approach: Creating an interface that
allows for a less complicated utilization
of the alternative futures scenario
technology.**

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