

Spatial and Temporal Optimization of Fuel Treatments

JFSP 06-3-3-14

Magis Application Framework: Landscape-level Spatial Decision Support System for Scheduling Vegetation Treatments

WHY

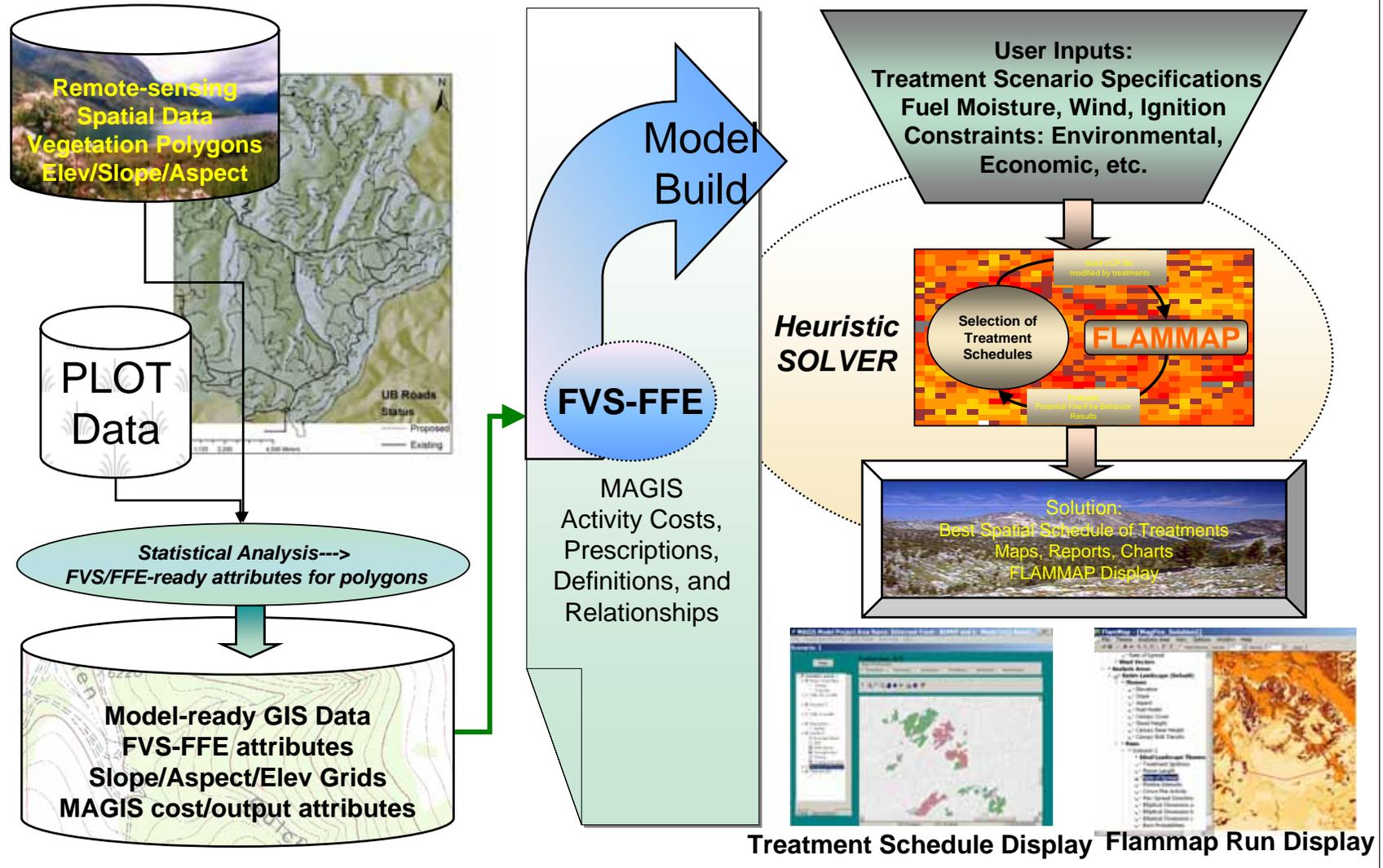
Forest managers faced with limited budgets, limited prescription-burning days, air quality issues, and effects on other critical forest resources must determine priorities for where, when, and how to apply and maintain hazardous fuel reduction treatments.

What

This study integrates existing fire behavior, vegetation simulation, and land management planning tools into a system for optimizing fuel treatments in time and space, given resource constraints (such as wildlife or hydrologic effects), and management constraints (such as budgets, accessibility, and operational feasibility of treatments).

How

The new system integrates existing applications: ArcGIS (spatial modeling), MAGIS (Decision Support System), FVS-FFE (vegetation modeling) and FLAMMAP (potential fire), and includes the graphical interfaces of its model components to specify problem setup and view results. It adds a new integrated heuristic solver that determines the best spatial arrangement of fuel treatments that accounts for both change in fire behavior as well as other resource issues (economic, environmental etc)



When

Summer 2008: System ready for test applications
 Summer 2009: Web-enabled software delivery, including user's manual and active tutorials

Who

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