OptFuels: Spatial and Temporal Optimization of Fuel Treatments

Why

Forest managers faced with limited budgets, limited prescription-burning days, 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), management constraints (such as budgets), and operational feasibility of treatments.

How

Combine existing application systems with new solution processor to take advantage of previous investments and efficiencies.

Who

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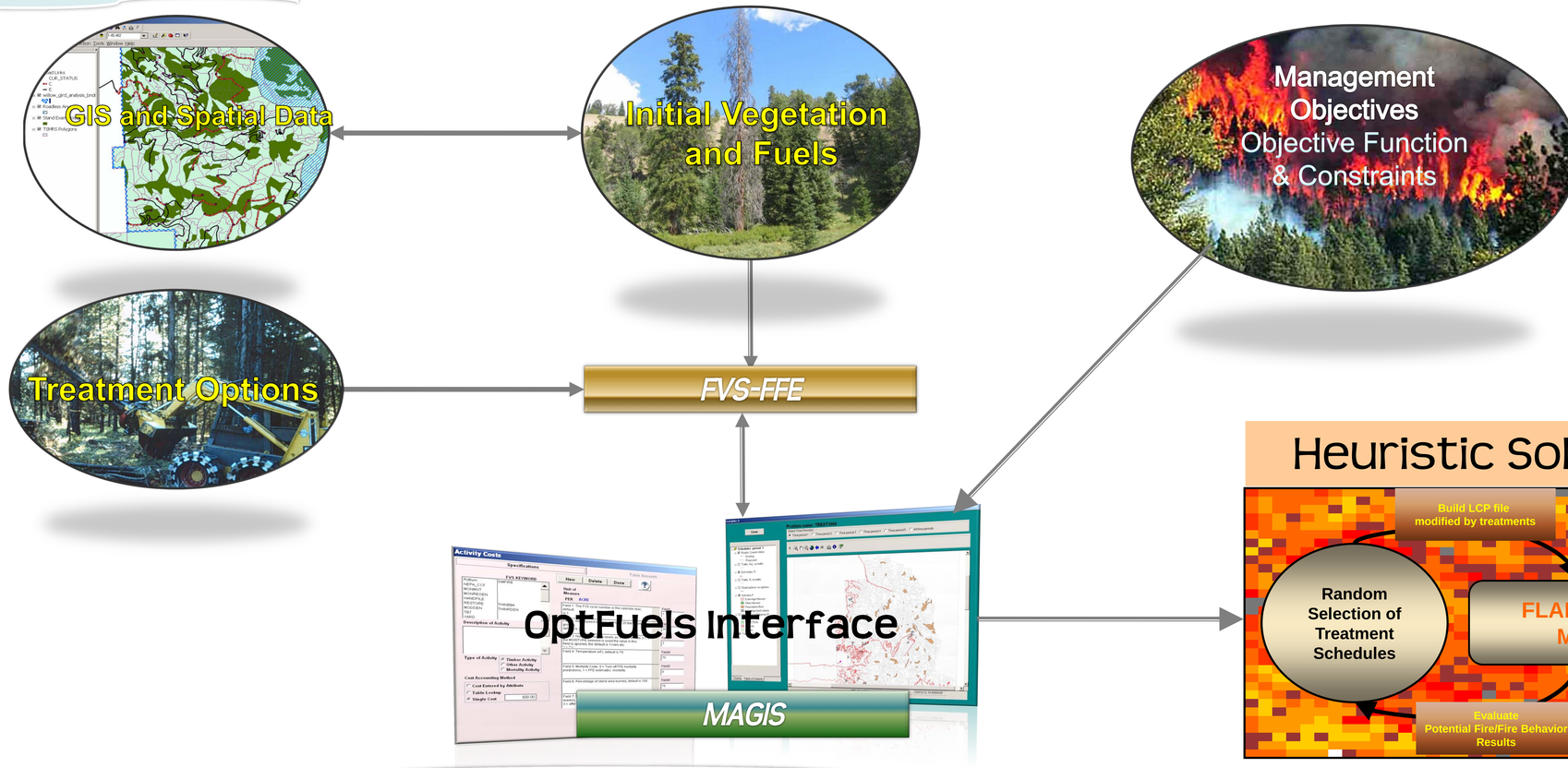
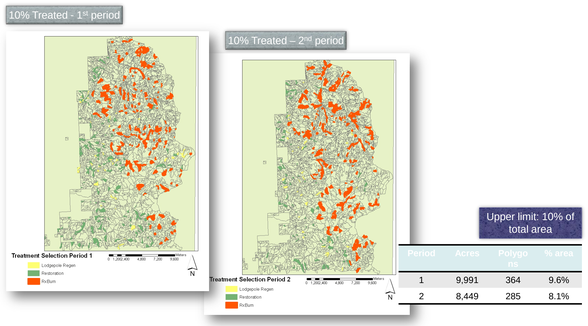
Conceptual Design:



Results from Willow-Gird Project Area, Bitterroot National Forest:

Treatment Selection by Period



Upper limit: 10% of total area

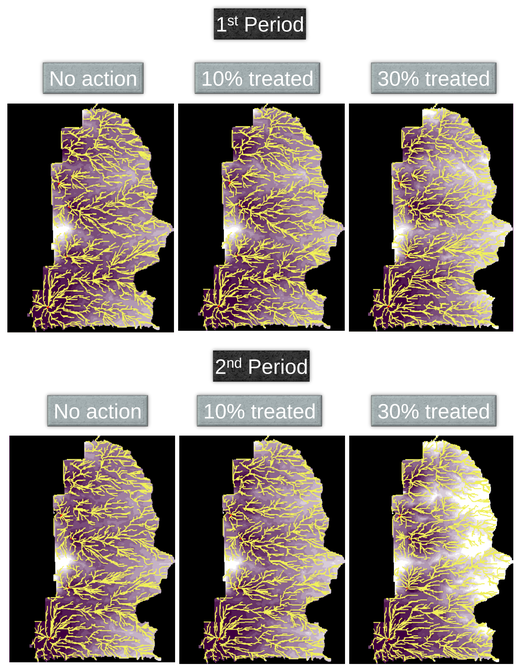
Period	Acres	Polygons	% area
1	9,991	364	9.6%
2	8,449	285	8.1%

Upper limit: 30% of total area

Period	Acres	Polygons	% area
1	30,634	963	29.5%
2	24,812	752	23.9%

Minimum Travel Time Paths from MTT

constant fire conditions and ignition points



Fire Travel Time and Flame Length