FROM HECTARES TO TAILOR-MADE SOLUTIONS FOR PRESCRIBED BURNING

PROJECT STREAMS

bushfire&natural HAZARDS CRC

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Q HOW DOES PRESCRIBED BURNING EFFECTIVENESS IN MITIGATING RISK DEPEND ON THE DIVERSE AND CHANGING BIOPHYSICAL, CLIMATIC AND HUMAN CONTEXT OF SOUTHERN AUSTRALIA?
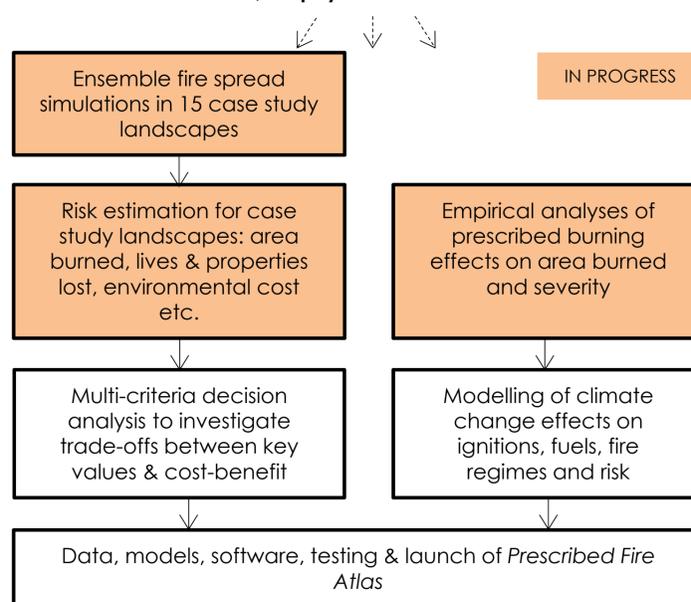
Measuring effectiveness

Despite increasing interest in the effectiveness of prescribed burning, a underlined analysis is lacking.

This project takes a systematic approach to the question of prescribed burning effectiveness by integrating multiple methods and datasets (Figure 1).

Results will be presented in a *Precribed Burning Atlas,* to be developed in consultation with end users to maximise utilisation.

Fire-related, biophysical & human datasets

Ensemble fire spread simulations in 15 case study landscapes

IN PROGRESS

Risk estimation for case study landscapes: area burned, lives & properties lost, environmental cost etc.

Empirical analyses of prescribed burning effects on area burned and severity

Multi-criteria decision analysis to investigate trade-offs between key values & cost-benefit

Modelling of climate change effects on ignitions, fuels, fire regimes and risk

Data, models, software, testing & launch of *Prescribed Fire Atlas*

Figure 1. Project methodology

Findings to date

In each case study landscape there are clear patterns in the response of key risks such as area burnt (Figure 2), property loss, environmental and economic costs to prescribed burning, mediated by both the category and dominant driver of fire weather conditions.

The next project phase after simulations and empirical analysis are completed is multi-criteria decision analysis and climate change effects.
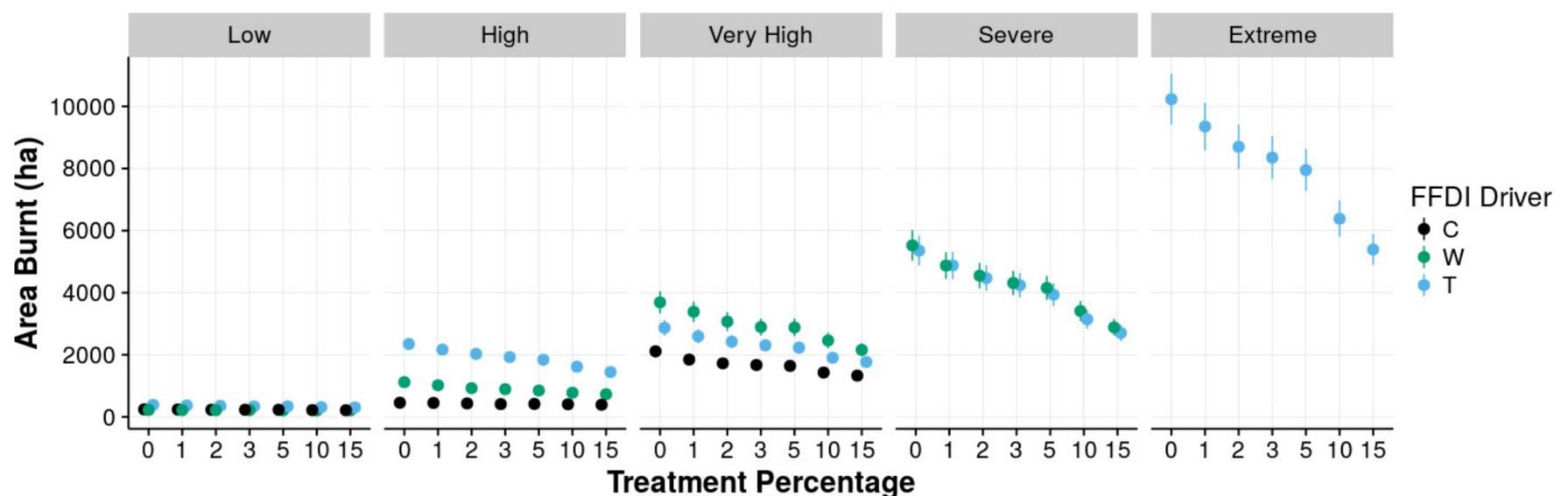

Figure 2. Simulated sensitivity of area burned in the ACT to rate of prescribed burning, fire weather category and fire weather driver (C = wind change, W = wind speed, T = temperature). The ACT is one of 15 regions selected to sample biophysical, climatic and human variation in southern Australia.

END USER STATEMENT Felipe Aires, NSW NPWS

"Projects like this provide vital information and knowledge for fire managers to improve the effectiveness of prescribed burning at each level of the planning process: strategic, operational and tactical."

Australian Government
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