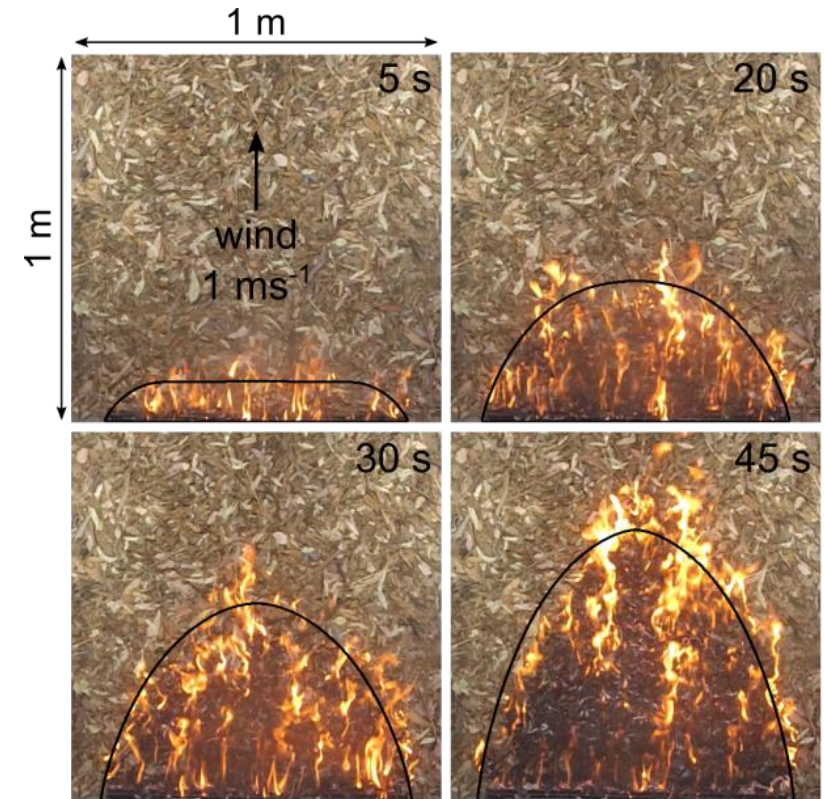# Spot-fire Project: prescribed burning insights?

Research Advisory Forum / April **2019**

Jason J. Sharples [a,e] , James E. Hilton [b,e], Andrew L. Sullivan [c,e] (Research Team)
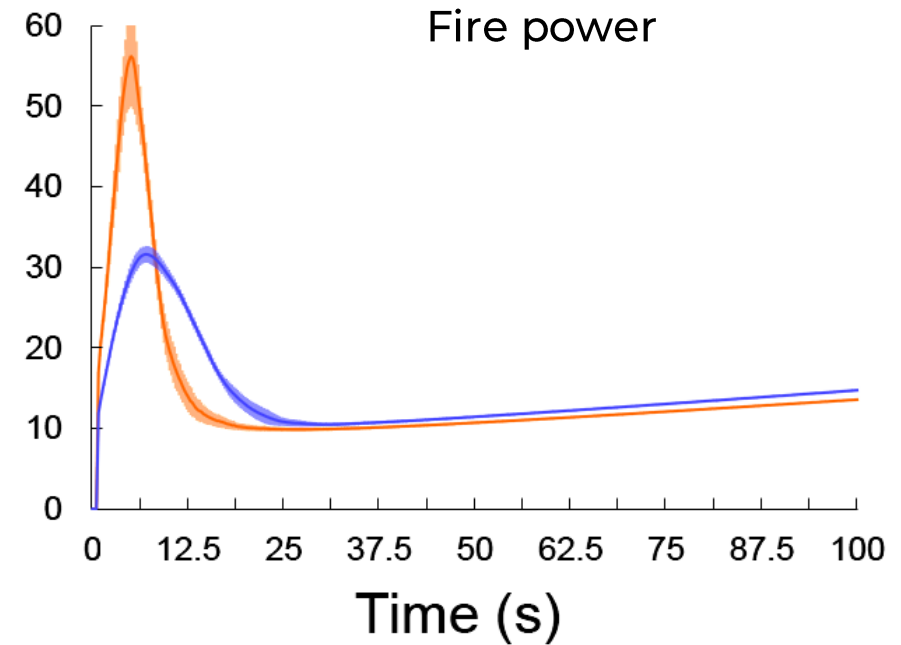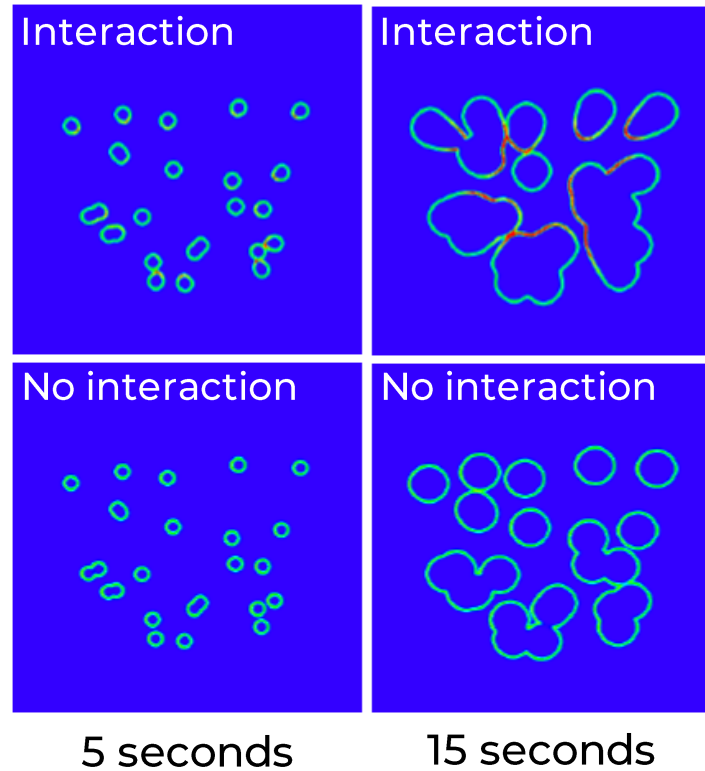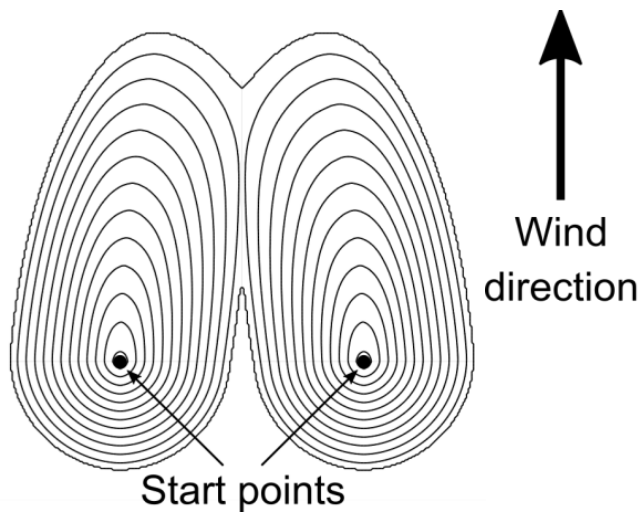
Stuart Matthews [d,e] (End User Representative)

[a] University of New South Wales
[b] CSIRO Data 61
[c] CSIRO Land and Water
[d] New South Wales Rural Fire Service
[e] Bushfire and Natural Hazards CRC

Modelling dynamic fire propagation

Attraction through pyroconvective interaction

Wind direction

Start points

Interaction

Interaction

No interaction

No interaction

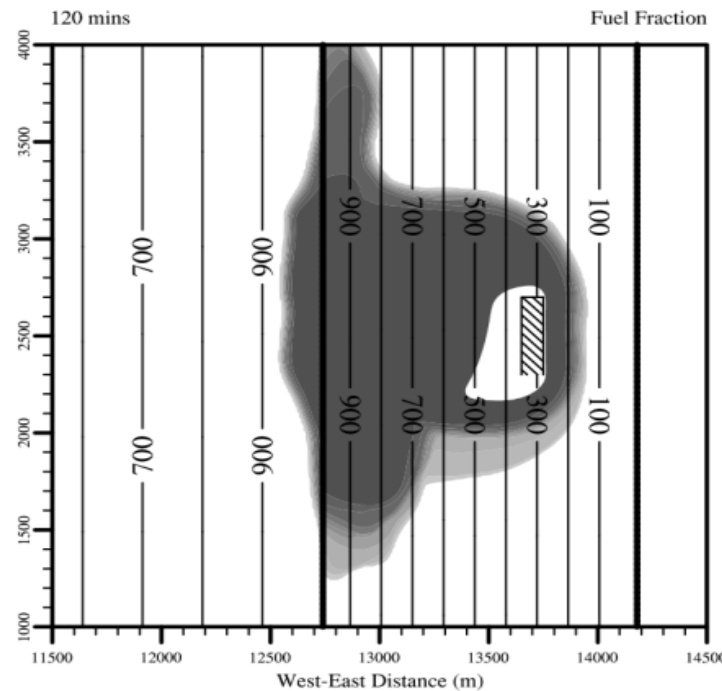5 seconds

15 seconds

Intensity

Fire power

Time (s)

These considerations are critical for effective establishment of hazard reduction burns and for meeting prescription, especially regarding burn severity!
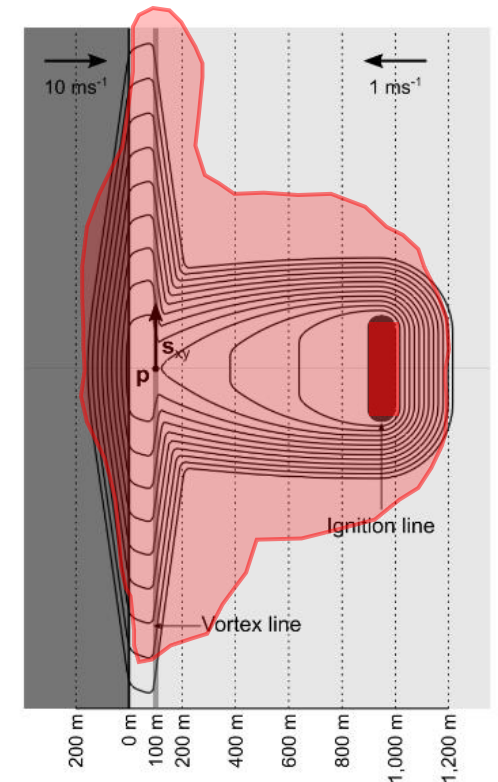
Modelling dynamic fire propagation

PYROGENIC POTENTIAL (NEAR FIELD) MODEL

VLS Laboratory Experiment

Coupled fire-atmosphere
model simulation
(about 10 hours)

Pyrogenic potential model
simulation
(about 10 seconds)

Tactical prescribed burning

Bemboka Fire, NSW: 13:20, 15 September 2018

Tactical prescribed burning

Wind

Bemboka Fire, NSW: 14:17, 15 September 2018