HOW DO WET FORESTS BURN?

MANAGING TASMANIA'S MOST DANGEROUS FUEL TYPE

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WET SCLEROPHYLL FORESTS ARE TASMANIA'S MOST DANGEROUS FUEL TYPE

They experience the highest intensity fires, abut Tasmania's most populous region, and cannot be treated by planned burning

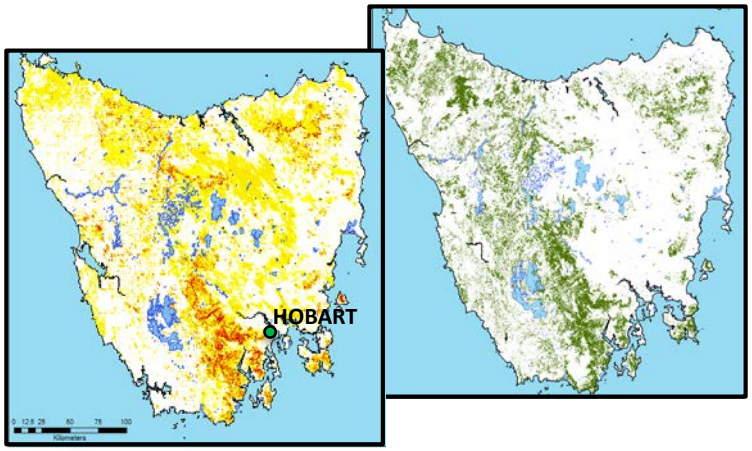


Figure 1: Maps of simulated fire intensity (left) and wet sclerophyll forest extent (right)
11,059 fires simulated using the Phoenix Rapidfire model for a bad fire weather day, assuming a maximum possible planned burning regime

THE PHOENIX RAPIDFIRE MODEL WAS CALIBRATED USING DATA FROM VICTORIAN MOUNTAIN ASH (OBLIGATE SEEDER) FORESTS…

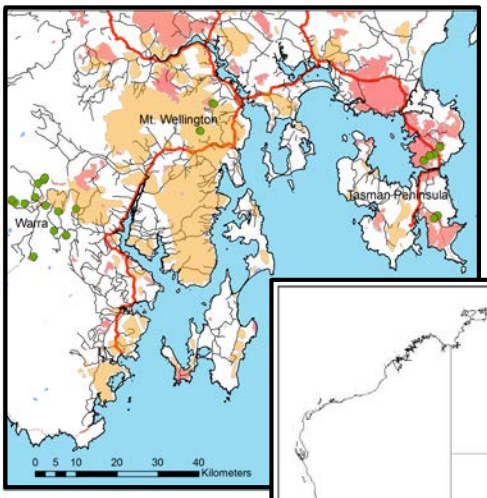
Stand replacing fires are the dominant disturbance type

E. regnans Forest Wallaby Creek, VIC

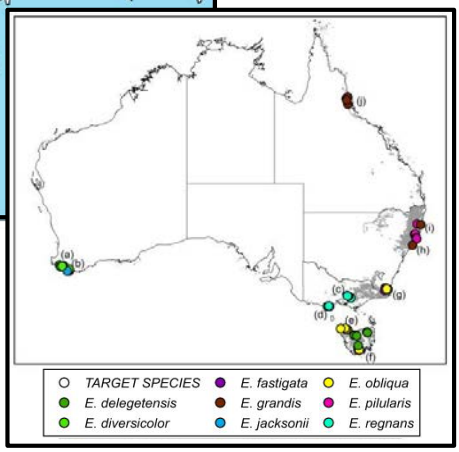
E. obliqua Forest Foresteir Peninsula, TAS

…BUT TASMANIAN WET FORESTS ARE DOMINATED BY STRINGY BARK, AN EPICORMBIC RESPROUTER.

Low-mid severity fires and multi-aged cohort forests are more common.



WE HAVE SET UP 24 CHRONOSEQUENCE PLOTS IN SOUTHEAST TASMANIA TO CREATE A FUEL ACCUMULATION CURVE FOR WET FORESTS



WE WILL COMPARE OUR DATA TO THAT OF OTHER WET FORESTS IN AUSTRALIA USING THE TERN AUSPLOT NETWORK

We collected quantitative (tonnes/hectare) and qualitative (hazard scores) data in 6 distinct age classes of wet forest. We also measured litterfall and decomposition rates as well as temperature and humidity. We will model accumulation rates as a function of time since previous fire.

We will compare the data to data from warmer wet forests to adapt the fuel accumulation curves to different climate change scenarios.

EVALUATING ALTERNATIVES TO PRESCRIBED BURNING

We plan to use simulations of these newly calibrated models to evaluate the risk-reduction potential of alternatives to planned burning in wet forests.

END USER STATEMENT

The Tasmania Fire Service is very excited by the opportunity to better understand the nature of wet forest fuels, as this is a big gap in our current understanding and ability to model bushfires and bushfire risk in Tasmania.
-Sandra Wight, *Tasmania Fire Service*

This project is being undertaken by James Furlaud, a PhD student at the University of Tasmania.
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