

FIRE UPDATE

ISSUE 16 NOVEMBER 2006

A MODEL WAY TO MANAGE BUSHFIRES

A PROJECT IS BRINGING TOGETHER THE ESSENTIAL COMPONENTS OF BUSHFIRE RISK MANAGEMENT

A Bushfire CRC project is developing a bushfire risk management model that incorporates a simulation model capable of showing the spread of fire across the landscape under different weather and fire suppression scenarios.

ABOUT THE MODEL

The model produces statistics on the likelihood of fire in the landscape and provides a means of quantifying the effects of mitigation and the likely consequences of that fire.

It brings together three essential components of bushfire risk management:

Mitigation - A bushfire business management model - to understand how the various elements of bushfire risk management interact and effect the likelihood of ignition, the extent of fire spread, the severity of bushfires, and the impact and rate of recovery on various values in the managed area. This includes a model that can be used to test various expenditure models across the established Planning, Prevention, Response, Recovery and Regime

Management model, and compare the resulting risk levels. This was built following extensive interviews with senior fire managers from across the country.

Likelihood - A fire spread simulation model called Phoenix - to quantify the range of fire origin locations, fire intensities, fire sizes, fire frequencies and the speed and impact of fires across the landscape under various management, climate, weather, topography and value characteristics scenarios.

Consequence - A bushfire impact model - to quantify the extent, location and probability of damage to social, economic and environmental values caused by bushfires in the landscape.

WORKSHOP ON FIRE SPREAD SIMULATION

A Phoenix workshop was held in the East Melbourne offices of the Bushfire CRC from 10-11 October with 17 participants representing 12 end-user groups.

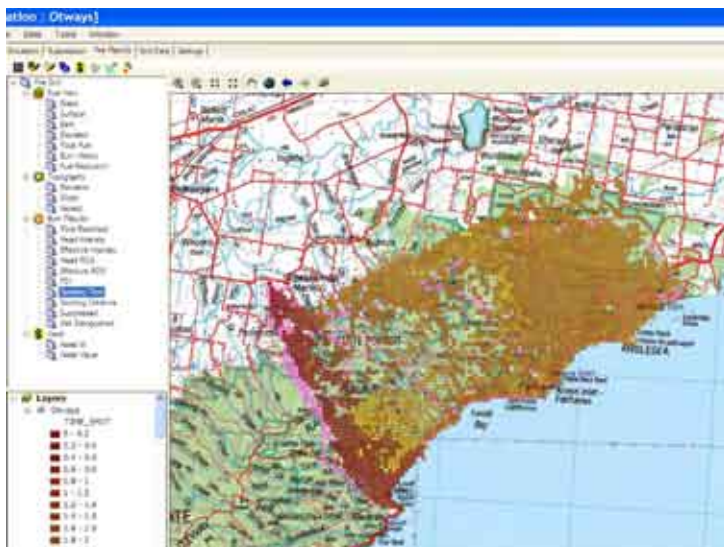
Participants were introduced to the history of the Phoenix fire spread model and told how this component of the Bushfire Risk

Management model fitted in as one of three components. The other two being the Bushfire Management Business Model and the Bushfire Impact Model.

The participants were charged with the testing and evaluation the model. At the end of the training the participants were able to use Phoenix with their own computers using their own data and were able to prepare data for other areas in their state and run fire simulations anywhere they choose.

The participants are now able to use the Phoenix spread model in Australia during this southern bushfire season at going fires to run in parallel with suppression planning. This will only be done to evaluate the software and not to provide a sound basis for decision making as the program is still in its development stage.

It is planned that the group will get together again after the fire season and each organisation will be able to present a case-study of how Phoenix was tested in both a tactical or strategic planning environment together with an evaluation of its strengths and weaknesses.



ABOUT THE PROJECT

Project A 4.1 Bushfire Risk Management is lead by Dr Kevin Tolhurst of the School of Forest and Ecosystem Science at the University of Melbourne, Creswick.

This workshop demonstrated the strength of the Bushfire CRC environment in harnessing a wide range of resources and expertise. There is now a good platform to incorporate a wind-terrain interaction model from the HighFire Program.

The Phoenix model could also house the fire impact models from Bushfire CRC Programs B, C and D, and provide a platform to incorporate the results from the aircraft suppression, fire behaviour, simulation and fuel models from Program A.

◀ LEFT: THE COMPUTER SIMULATION MODEL CAN BE ADAPTED FOR ANY BUSHFIRE SCENARIO ACROSS AUSTRALIA, INCLUDING THIS BUSHFIRE IN THE OTWAY RANGES IN SOUTH-WEST VICTORIA.