

FIRE IN THE LANDSCAPE

Lead End User: Neil Cooper

Project Leader: Tina Bell

FACULTY OF
AGRICULTURE, FOOD
& NATURAL RESOURCES



THE UNIVERSITY OF
SYDNEY

bushfire CRC

The logo for bushfire CRC, featuring a stylized flame icon in green and red above the text "bushfire CRC".

Four research projects:

- › 1. Greenhouse gas emissions from fire and their environmental effects*
- › 2. How does fuel reduction burning influence forest carbon storage?
- › 3. Quantifying water quality risks following bushfire
- › 4. Fire and hydrology of south eastern Australian mixed-species forests*

Shared sites, students, data and outcomes

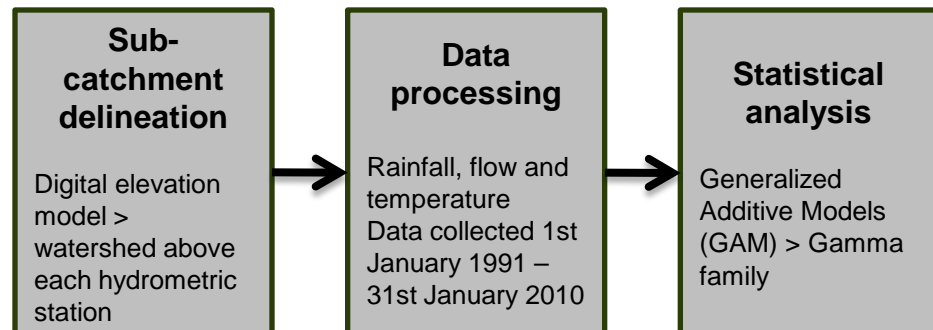
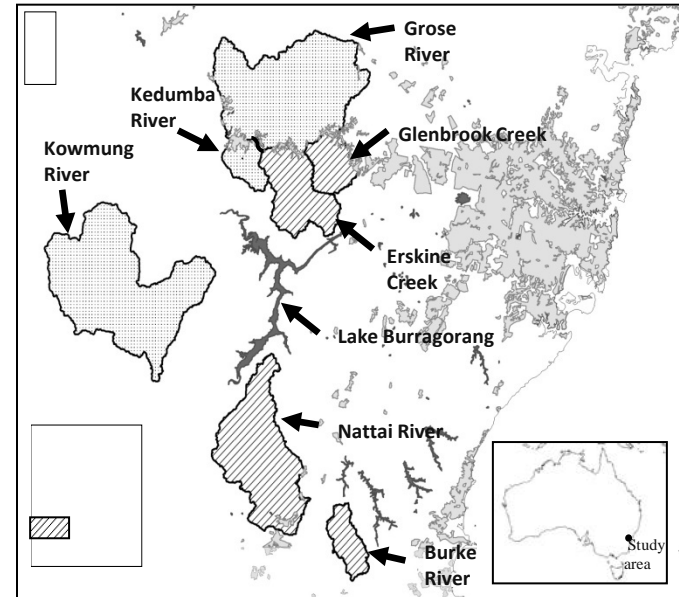
CATCHING UP AND KEEPING UP

› How we are dealing with delays and other technical problems

- Delays due to initial downtime of analytical equipment
 - Solution: Literature review completed early while waiting for parts, simultaneous analysis of material from several different experiments
- Health and family issues and inclement weather
 - Solution: Alternate scheduling of field work, campaign-style field trips with prioritised work tasks, pool of skilled technical staff and willing students
- Tyranny of distance - difficult to organise field visits for End Users
 - Solution: Long lead up time (but slow completion of milestones), alternative delivery of site or equipment information
- Attracting students
 - Keep advertising internally and externally

WILDFIRE IMPACTS ON HYDROLOGY WITHIN SYDNEY'S DRINKING WATER SUPPLY CATCHMENTS

- › Student: Jessica Heath
- › Commenced: March 2010
- › Supervisors: Tom Bishop, Chris Chafer, Floris van Ogtrop
- › End User: James Lonergan, NSW Parks and Wildlife Service
- › Aim: To determine if summer wildfires in 2011-2012 have had an impact on the post-wildfire water yield



EFFECT OF SMOKE FROM BUSHFIRES ON PLANT PHYSIOLOGY

- › Student: Vicky Aerts
- › Commenced: October 2010
- › Supervisors: Tina Bell, Paul Struik, Mark Adams
- › End User: Steven Bishop, Forests NSW
- › Aim: To analyse the effect of smoke from prescribed burning and bushfires on agricultural and native plant physiology



IS ALIEN PLANT INVASION A THREAT TO BURNING OF AUSTRALIAN FORESTS?

- › Student: Felipe Aires
- › Commenced: March 2011
- › Supervisors: Tina Bell, Stuart Matthews
- › End User: Neil Cooper
- › Aim: To predict and test changes in fuel accumulation and fire behaviour in forests of eastern Australia caused by invasion by woody weeds



DO WOODY LEGUMES USE FLAMMABILITY TO PROMOTE THEIR PERSISTENCE?

- › Student: Valerie Densmore
- › Commenced: March 2011
- › Supervisors: Mark Adams, Tina Bell
- › End User: Steve Bishop, Forests NSW
- › Aim: To investigate the interaction of fire, soil nutrient status and occurrence of woody legumes



Four research projects:

- › 1. [Greenhouse gas emissions from fire and their environmental effects*](#)
- › 2. How does fuel reduction burning influence forest carbon storage?
- › 3. Quantifying water quality risks following bushfire
- › 4. [Fire and hydrology of south eastern Australian mixed-species forests*](#)