



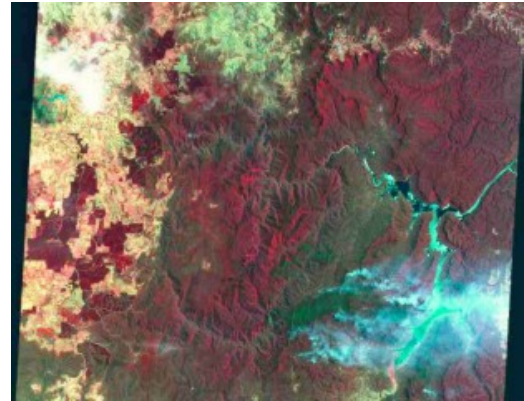
## 220502

# Bushfire and Climate

This subject covers the fundamentals of forest fire behaviour and the factors affecting fire behaviour including fuels, weather, topography, scale and climatic conditions. This knowledge will provide the basic knowledge required for the planning and execution of prescribed burning for land management purposes and for understanding the fundamentals of wildfire suppression strategies and tactics.

### Topics covered

- The role of fuel characteristics including composition and structure on forest fire behaviour, particularly the importance of fuel moisture, fuel availability, fine fuels, live fuels, coarse fuels, fuel accumulation and decomposition processes
- Assessment and mapping of fuels
- The fundamentals of fire behaviour, in particular, the processes of pyrolysis, combustion and heat transfer
- The effects of fuel, weather, topography, fire scale and spotting on fire behaviour
- The use fire behaviour prediction models, computer based models and the use of Geographic Information Systems (GIS) to make fire behaviour predictions
- The effects of climate and weather patterns on fire occurrence and behaviour
- The use of weather observations and forecasts to predict fire behaviour
- Basic composition of smoke (particulates, gases, volatile organic compounds) and the factors affecting smoke production and transport
- The science of prescribed burning including the importance of lighting patterns, fuel moisture, ignition technologies and fire impacts
- Fire suppression strategies, fire suppression tactics, suppression tools and incident control structures





## Subject co-ordinator

Dr Kevin Tolhurst ([kgt@unimelb.edu.au](mailto:kgt@unimelb.edu.au))

[Kevin's webpage](#)

## 2009 study dates and locations

Intensive teaching from 17<sup>th</sup> – 28<sup>th</sup> August at the Creswick Campus of the University of Melbourne

Study materials will be available from mid July via the Learning Management System

## Teaching plan

This subject will be taught using a combination of lectures and practical work. Contact time will be equivalent to 24 hours of lectures and 36 hours of practical work.

## Student costs

In addition to tuition fees, accommodation options for two weeks in Creswick range from \$170 - \$200

## Enrolment options

- This subject is normally offered through the Master of Forest Ecosystem Science but is available to students from other courses subject to their Course Coordinator's approval.
- The subject may also be taken as an individual subject through the University's Community Access Program (CAP). This may be in assessed or non-assessed mode. For further information see: <http://www.unimelb.edu.au/community/access/> or contact [forests-info@unimelb.edu.au](mailto:forests-info@unimelb.edu.au)

## Further information

Information about this subject and the Master of Forest Ecosystem Science is available at: <http://www.forests.unimelb.edu.au> or contact [forests-info@unimelb.edu.au](mailto:forests-info@unimelb.edu.au)

