

# Forest Fuel Structural Measurement & Fuel Load

## Estimation using LiDAR data

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under the joint supervision of

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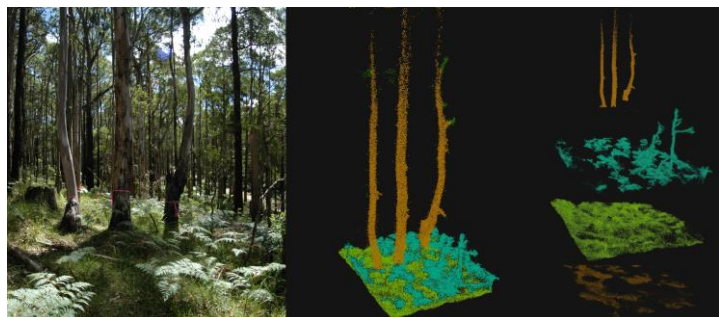
MONASH University



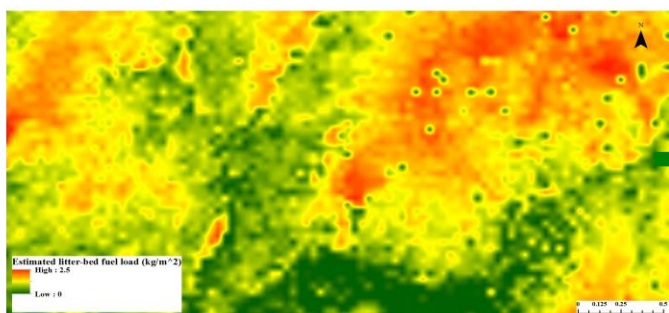
Sydney Morning Herald (2009)

Our study developed:

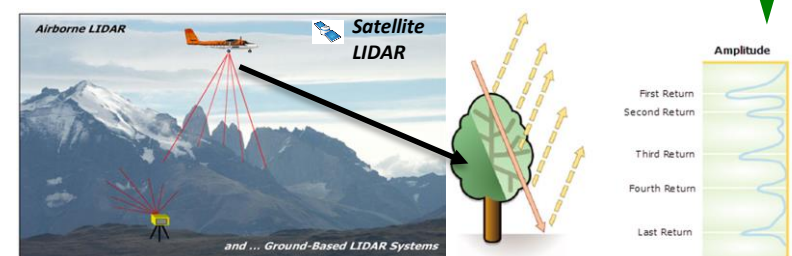
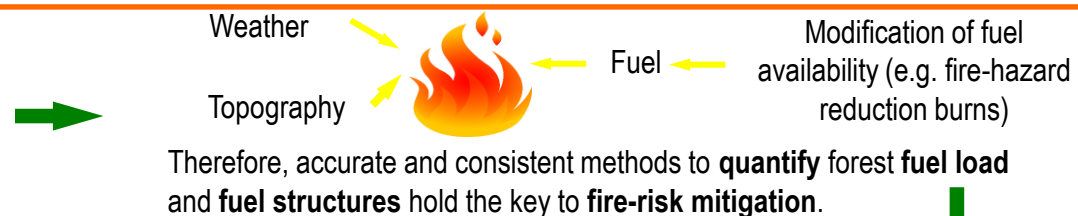
- 1) An automated tool for classifying understory fuel layers using terrestrial LiDAR data.
- 2) A predictive fuel load model using airborne LiDAR indices.



Fire history map.



Estimated spatial variation in litter-bed fuel load.



LiDAR sensors measure the roundtrip time for a laser beam to travel between the sensor & a target.

- Waveforms are **sensitive** to the structural **changes** through forest succession.
- Providing **3D forest structures** with **high spatial accuracy**.

Implication:

- 1) The **stratification** of forest vegetation, is of interest for **land cover** classification, **habitat** mapping, and forest **ecosystem** and **wildlife** management.
- 2) The **fuel load models** can assist forest **fuel management**, **suppression difficulty** assessment, and **fire hazard** assessment