

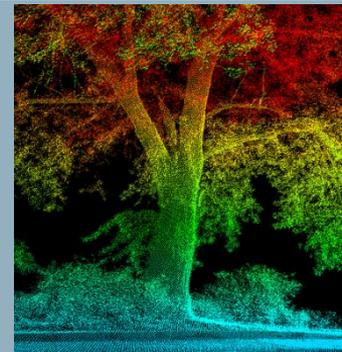


Australian
National
University

Mapping forest fuel load and structure from airborne LiDAR data

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Background

Fact...

Australia is a dry continent and is also continually vulnerable to frequent natural hazards like bushfires and floods across the country.

So..

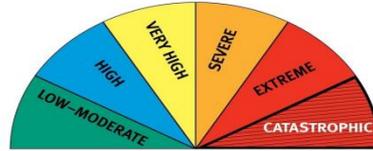
In order to better mitigate with these emergency challenges the availability of detailed geographic information is much critical for the disaster and emergency management

We know that...

LiDAR has the unlimited potential to provide more detailed and accurate 3D information on fuel load and structure that help to model and estimate the bushfire risk and severity.

Actually...

The ACT Government is scheduling to capture new full wave form LiDAR and discrete pulse airborne LiDAR data (ALS) capture for the whole of capital territory including the surrounding regions in March 2015 (funded by TERN).



Research objectives :

Aim: To estimate, map and evaluate the fuel parameters critical for fire danger assessment and fire behavior modelling within ACT and surroundings using LiDAR data.

Further specific goals also include to

- Develop **robust procedures** to extract forest fuel information from the point clouds for bushfire mitigation purposes
- Produce spatially explicit information on **fuel load and structure** to develop a **fire danger index** at local scale (suburb & street level)
- Assess the **accuracy of the LiDAR classification and the derived products** based on the standard product specifications.
- Integrate the developed models into the readily available National Exposure Information System (**NEXIS**) to develop fire risk index and danger maps.
- Document the techniques and methodology involved and communicate the benefits to the community and fire industry



Significance & benefits:

- LIDAR derived products that were to be developed from this research will be able to accurately assess fuel loads and provide fire danger indicators relevant for the fire management authorities in the ACT and region.
- Upon completion of this project the responsible agencies will have access to detailed geographic information on topographic, forest fuel load and structure as well as integrated fire danger maps.
- Fill in the knowledge gaps on the utilization of the latest remote sensing technologies and products on bushfires management.
- Opportunity to review the LiDAR specifications and develop the standards to maintain consistency at all levels of the government.
- The products and techniques developed in the project will ultimately benefit the ACT government and project stakeholders particularly in emergency, environmental & disaster managements to make effective informed decisions.



- Any questions and feedback???
- Thank you!!!