# MITIGATING THE EFFECTS OF SEVERE FIRES, FLOODS AND HEATWAVES THROUGH THE IMPROVEMENTS OF LAND DRYNESS MEASURES AND FORECASTS

bushfire&natural HAZARDS CRC

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Good estimates of landscape dryness underpin fire danger rating, fire behaviour models and flood prediction. Soil dryness also strongly influences heatwave development by driving the transfer of solar heating from the soil surface into air temperature rise.

## Project Strategy and Outcomes

This project will improve Australia's ability to manage extreme events by developing a state of the art, world's best practice in soil moisture analysis that makes use of many different sources of observations and cutting edge land surface modelling and data assimilation. The new information will be calibrated with the old scheme so that it can be used within existing fire and flood forecasting prediction systems.
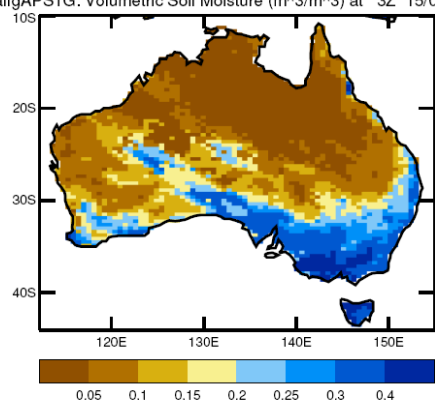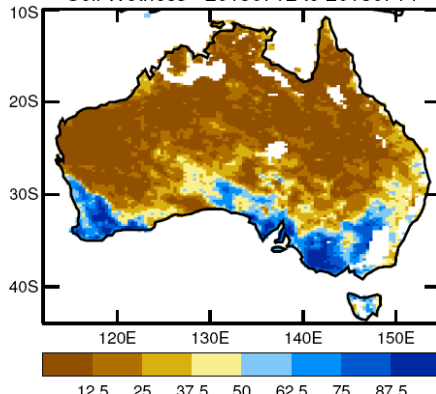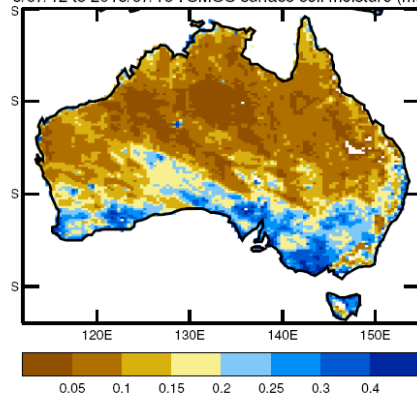


Comparison of Model surface soil moisture (left) with ASCAT surface soil wetness (middle) and SMOS (Soil Moisture Ocean Salinity) surface soil moisture (right).

## Project Benefits

This project provides targeted outputs that will be immediately useful and provides a direct path from scientific research to operational implementation. **The benefits of this project will be far improved versions of the operational systems that emergency planners are familiar with.**

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