



School of Biological, Earth and Environmental Sciences

Summer Vacation Research Project

Assessing future changes in extreme surface fire weather and atmospheric instability

Supervisors:

Associate Professor Jason Evans and Dr Giovanni Di Virgilio

Project Description:

Extreme bushfires occur under conditions of extreme surface fire weather and atmospheric instability that facilitates coupling between the fire and atmosphere, often generating pyro-cumulonimbus events. Several studies have been performed that investigated future changes in surface fire weather (often using the Forest Fire Danger Index, FFDI) and generally find an increase particularly in the transition seasons. Few studies have investigated the occurrence of severe atmospheric instability (using the continuous Haines index – cHaines). This project will investigate coincident occurrence of extreme FFDI and cHaines, its relationship with large fires, and how it will change in the future.

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