Anthea Challis

Biography

Anthea Challis is a PhD student at the Hawkesbury Institute for the Environment, Western Sydney University exploring physiological tolerance to extreme climates in a tree species. She is interested in physiological responses to low water availability and heatwaves in trees.

EcoTAS abstract

Heatwaves coupled with soil water deficit have been attributed to many large scale mortality events in forests throughout the world in recent decades. Heatwave events have been projected to increase in intensity and severity throughout many regions around the world. Plants that are highly plastic in response to heatwave events may be more likely to survive under a hotter future climate.
This study focuses on the impacts of heatwaves on a widespread canopy species, Corymbia calophylla from South Western Australia (SWA). We assessed the intraspecific capacity for phenotypic plasticity and adaptation in physiological traits and growth in C.

SYMPOSIUM: Tree Mortality - When, Where and Why Do Trees Die? - Part 1

Monday, November 27, 2017
11:00 AM - 1:00 PM
Wattagan Room
Oral presentation

Challis A [1] , Ruthrof K [2] , Rymer P [1] , Tissue D [1] , Hardy G [3]
[1] Western Sydney University, Richmond NSW, Australia
[2] Botanic Gardens and Parks Authority, West Perth WA, Australia
[3] Murdoch University, Murdoch WA, Australia

Are trees from warm climates more tolerant to extreme heatwave events than cool-origin trees?

calophylla trees to heatwaves of different intensities. We sought to determine whether plants from warmer provenances were more tolerant of heatwave events than those from cooler provenances and whether plants perform best when grown under conditions similar to their climate of origin.

To test these hypotheses, C. calophylla seedlings from eight provenances throughout its distribution in SWA were grown under ‘cool’ (26 °C maximum) and ‘warm’ (32 °C maximum) growth conditions in a glasshouse. Seedlings were subsequently exposed to two consecutive five day heatwaves at either 40 or 46 °C in a fully factorial reciprocal temperature design. Leaf gas exchange, growth and leaf damage were monitored throughout the experiment. Soil water content was maintained at field capacity for the duration of the experiment.

Initial results suggest that plants from cooler provenances exposed to the 46 °C heatwave experienced the most severe impacts on growth and had the highest levels of leaf damage.

EcoTAS 2017

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Kiri (Reihana) Spraggs

EcoTAS abstract

The widespread degradation of water quality and quantity and its state of mauri, is a significant issue for Māori. This issue is represented by widespread degradation of

Open session (1)

Monday, November 27, 2017

3:45 PM - 5:45 PM

Sugarloaf Room

Oral presentation