



Ben-Gurion University of the Negev
Jacob Blaustein Institutes for Desert Research
The Swiss Institute for Dryland Environmental and Energy Research
Mitrani Department of Desert Ecology

Seminar

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Tuesday, January 10, 2017, 12:00

Seminar Room, Old Administration Building

Participants are invited to meet the seminar speaker at the MDDE meeting room immediately after the seminar (~ 13:00). Please bring your lunch; snacks will be provided.

Drier, hotter, CO₂-richer: Tree growth in an uncertain future

The young trees of today are growing into an uncertain future of drier, hotter, and CO₂-richer conditions. Drought-induced tree mortality has already become a global issue of concern. Understanding how trees can cope with the changing conditions is hence of key importance. Three recent projects of the Weizmann Tree Lab have attempted to challenge this question.

First, we show that elevated CO₂ can compensate for drought effects in young lemon trees, via multiple eco-physiological mechanisms. Second, drought-induced xylem embolism is formed and recovered on a daily basis in mature forest and fruit tree species. And third, in acacia trees growing under hyper-arid conditions, cambial growth takes place in the summer months, despite the heat and drought.

Our results indicate new pathways in which trees can grow and survive under future conditions. At the same time, they inform predictions of future changes in tree growth in both forests and orchards, due to the forecasted environmental effects.

<http://www.weizmann.ac.il/plants/klein/>