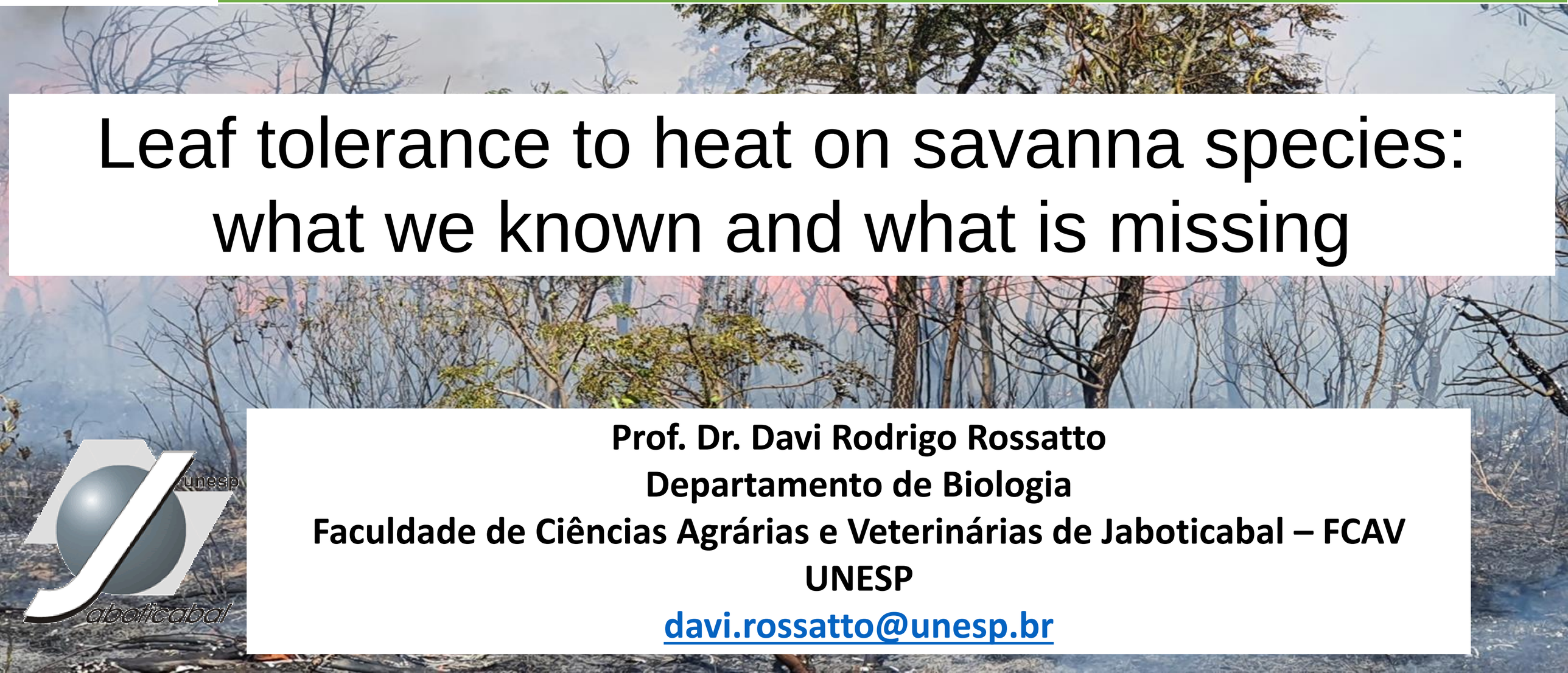
South African NATIONAL PARKS

Savanna Science Network Meeting 2025



Leaf tolerance to heat on savanna species: what we known and what is missing

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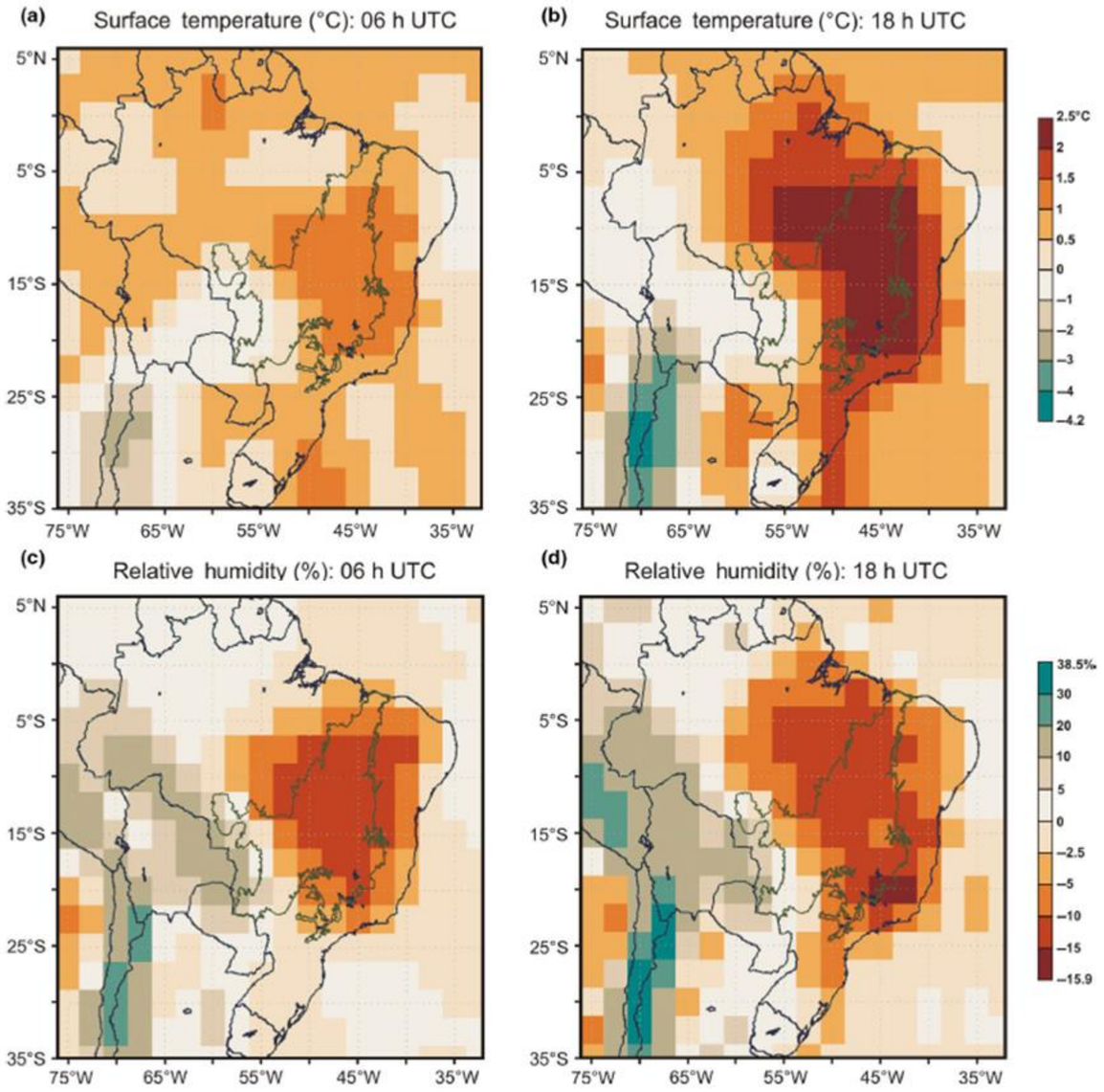
Data on meterologial station showed that Cerrado areas are becoming hotter and drier

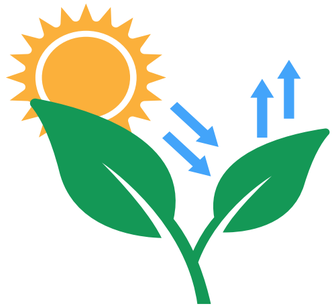


Hofmann et al. (2021) Global Change Biology 27

Increases of **2.2−4.0ºC** in the maximum temperatures and **2.4−2.8ºC** in the minimum temperatures (1960-2019)

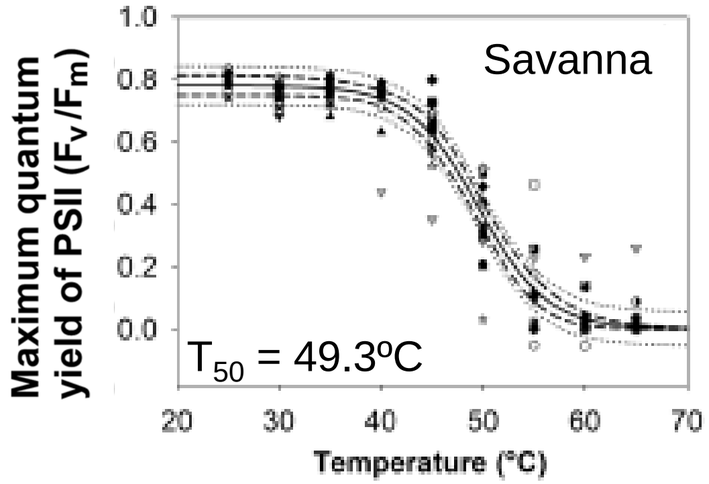
Decreases of humidity ~15% (1960-2019)

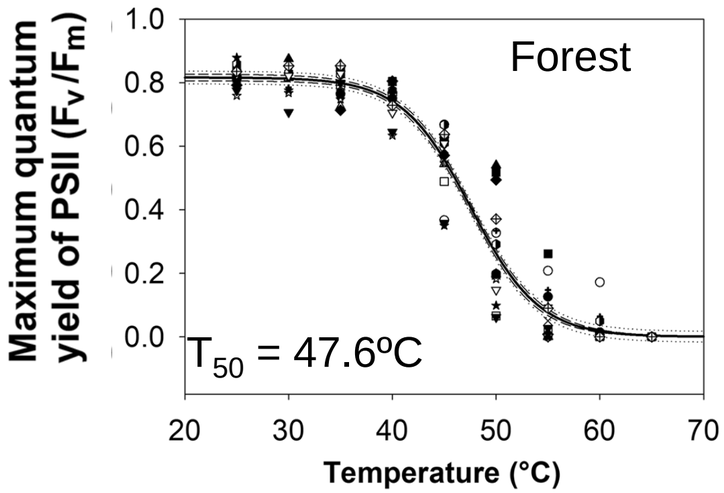
Impacts on leaf transpiration and leaf thermal balance

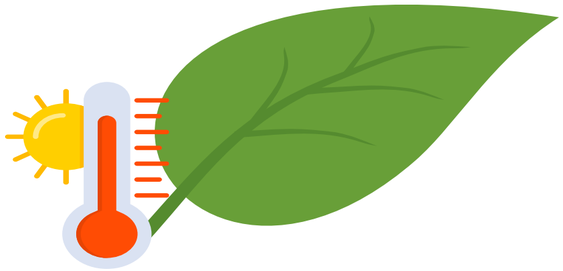


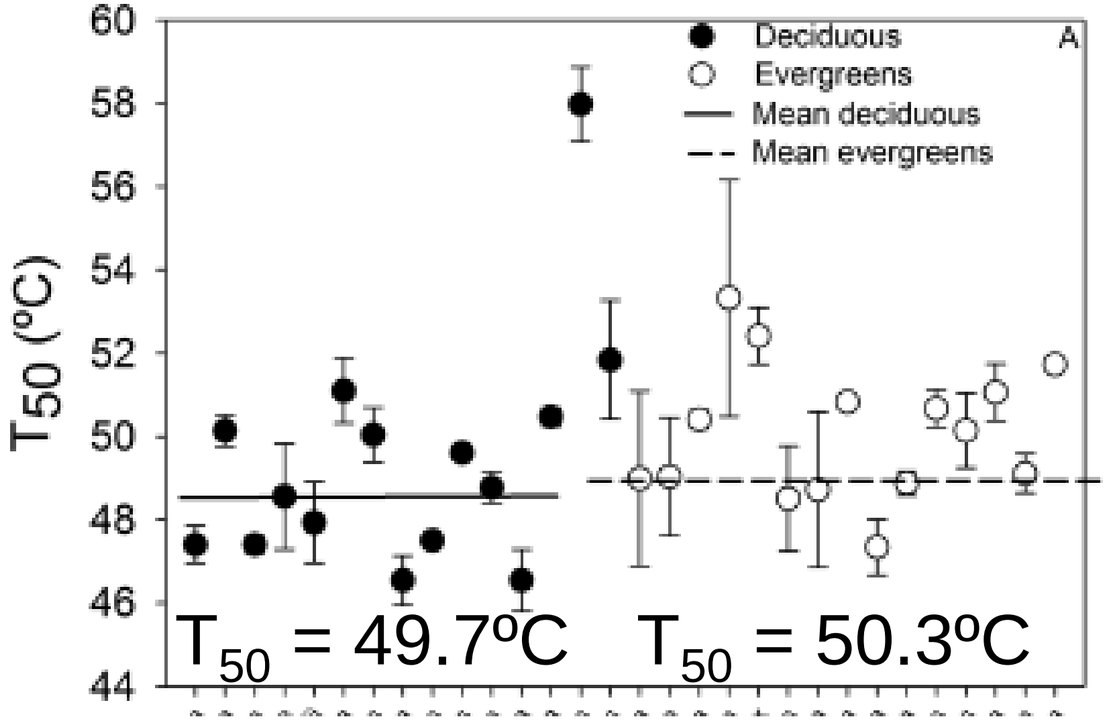
What we know.....

Leaves of savanna trees are more tolerant to heat than semidecidous forest species....









....but there are no diferences for phenological groups!

Da Silva & Rossatto (2022) The. Exp. Plant. Phys
Da Silva & Rossatto (2024) Trees

... what is missing

- A broader comprehension on heat tolerance of C4 grasses and forbs;
- How experimental fire may shape leaf heat tolerance;
- How drought impact leaf heat tolerance;

Thank you very much!

Conselho Nacional de Desenvolvimento Científico e Tecnológico

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SÃO PAULO RESEARCH FOUNDATION

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45ºC

50ºC

55ºC

60ºC

Examples of leaf death after exposure to elevated temperatures