

Drought and rewetting responses of soil CO₂ production and emission dynamics in a future climate

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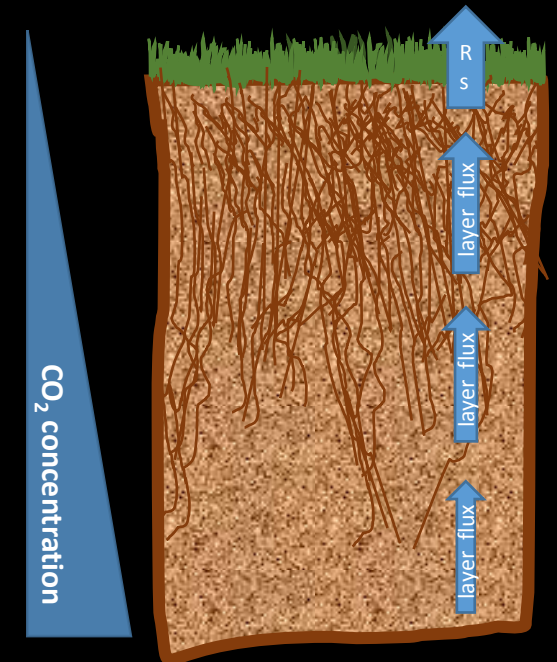
Background

Soil CO₂

- Largest CO₂ flux from terrestrial ecosystems to the atmosphere
- Strongly influenced by temperature and moisture conditions

Grasslands

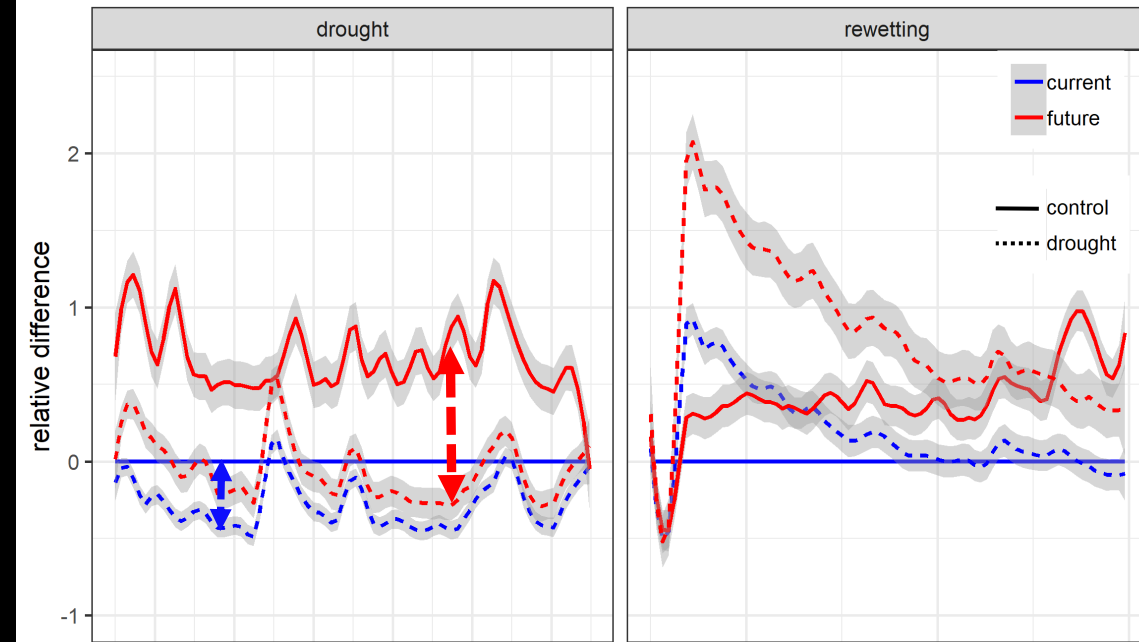
- cover large shares of acreage -> major role in C-cycling



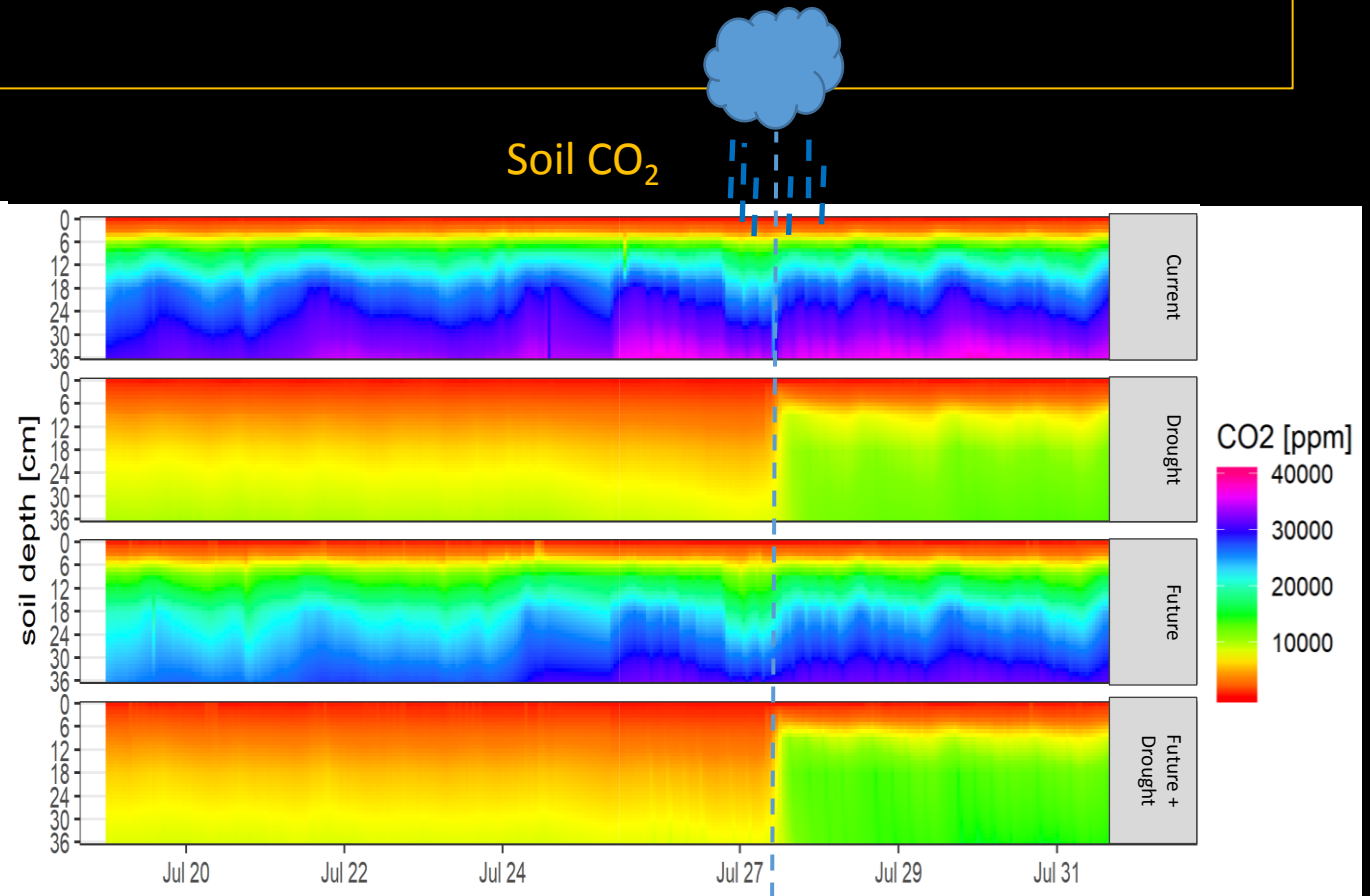
How will soil CO₂ distribution respond to future climate and extreme climatic events?

Results

Soil respiration



Soil CO₂



- (1) Stronger drought and rewetting effect on R_{soil} under future climate
- (2) Slow post drought recovery of soil CO₂ production profile, esp. in future climate

Relevance

Combination of drought responses under future climate has potential to offset CO₂ budgets of grasslands

