

Wanted: long-term studies



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Soil CO₂ emissions from Enhanced Weathering change with **biota** and **between growing seasons**



Abstract

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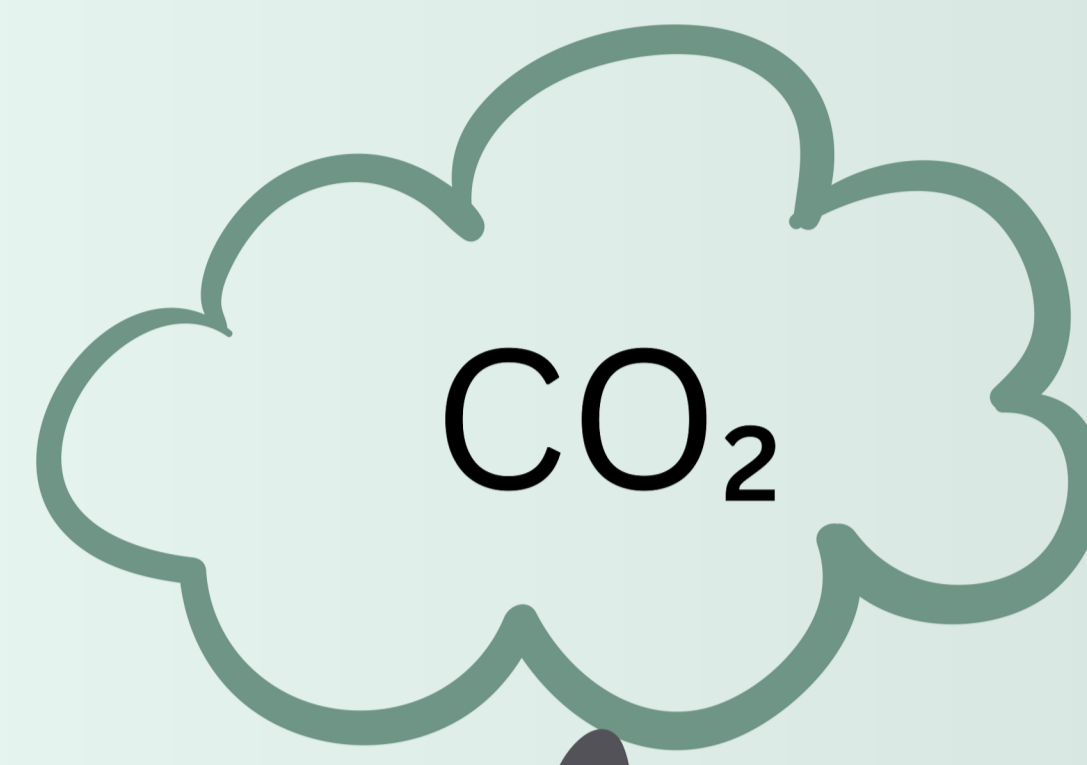
Key finding:

Long-term studies are key to quantify the CO₂ mitigation potential of Enhanced Weathering

Short-term response



Long-term response

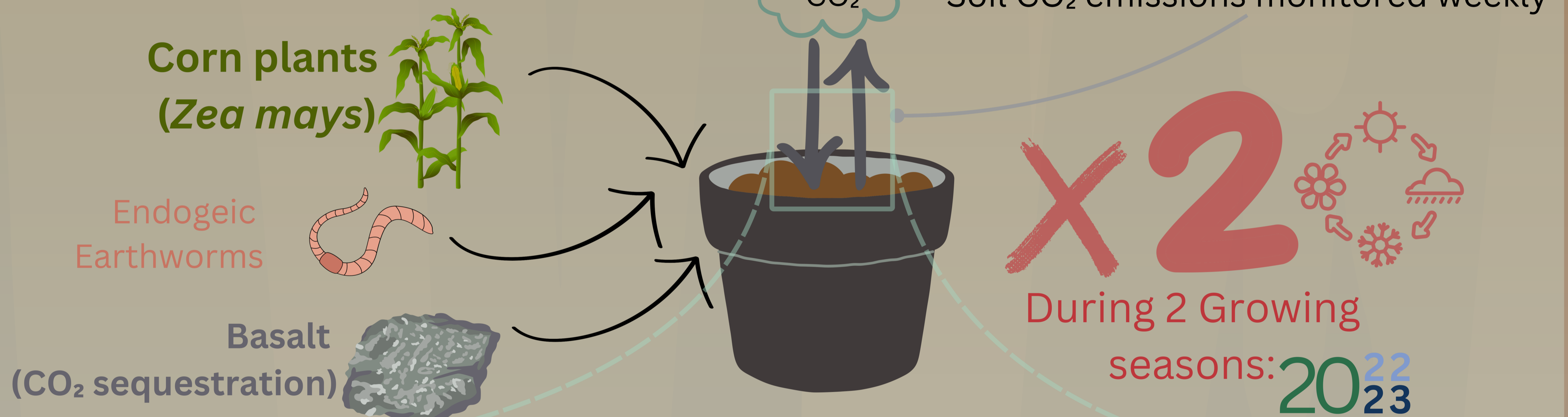


Enhanced Weathering in agriculture: nature-based solution for climate change mitigation

How much CO₂ is really sequestered?

- 1) Does **biota** stimulate weathering?
- 2) Does CO₂ sequestration change between years?

Mesocosm Experiment

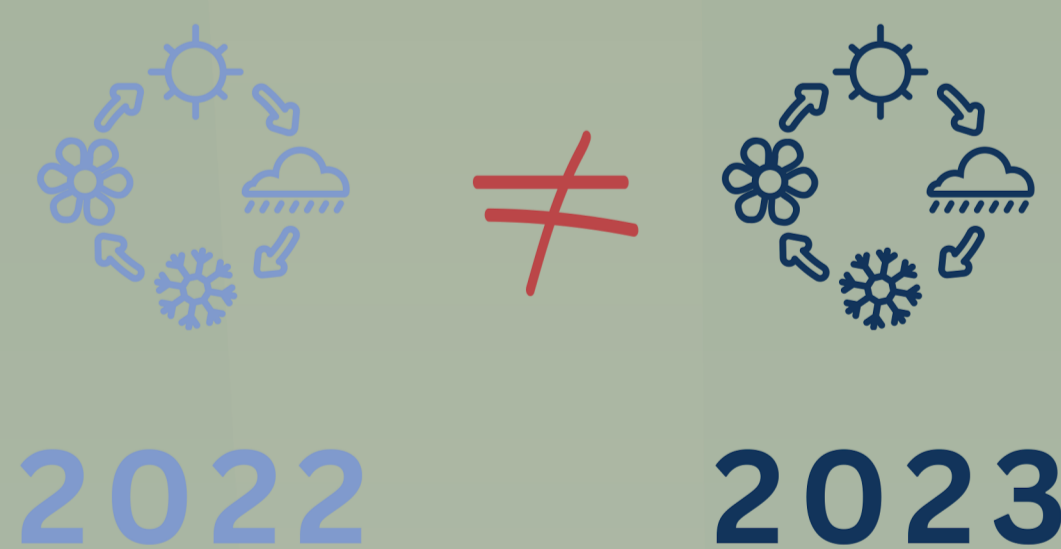
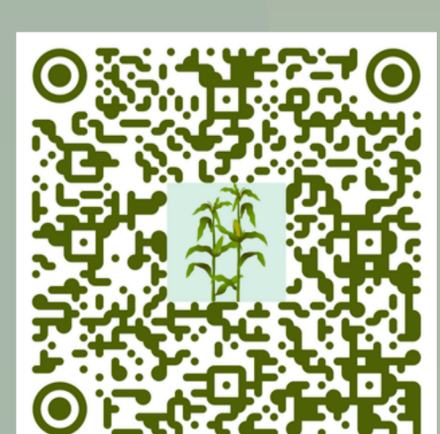


Basalt effects on CO₂ emissions depend on:



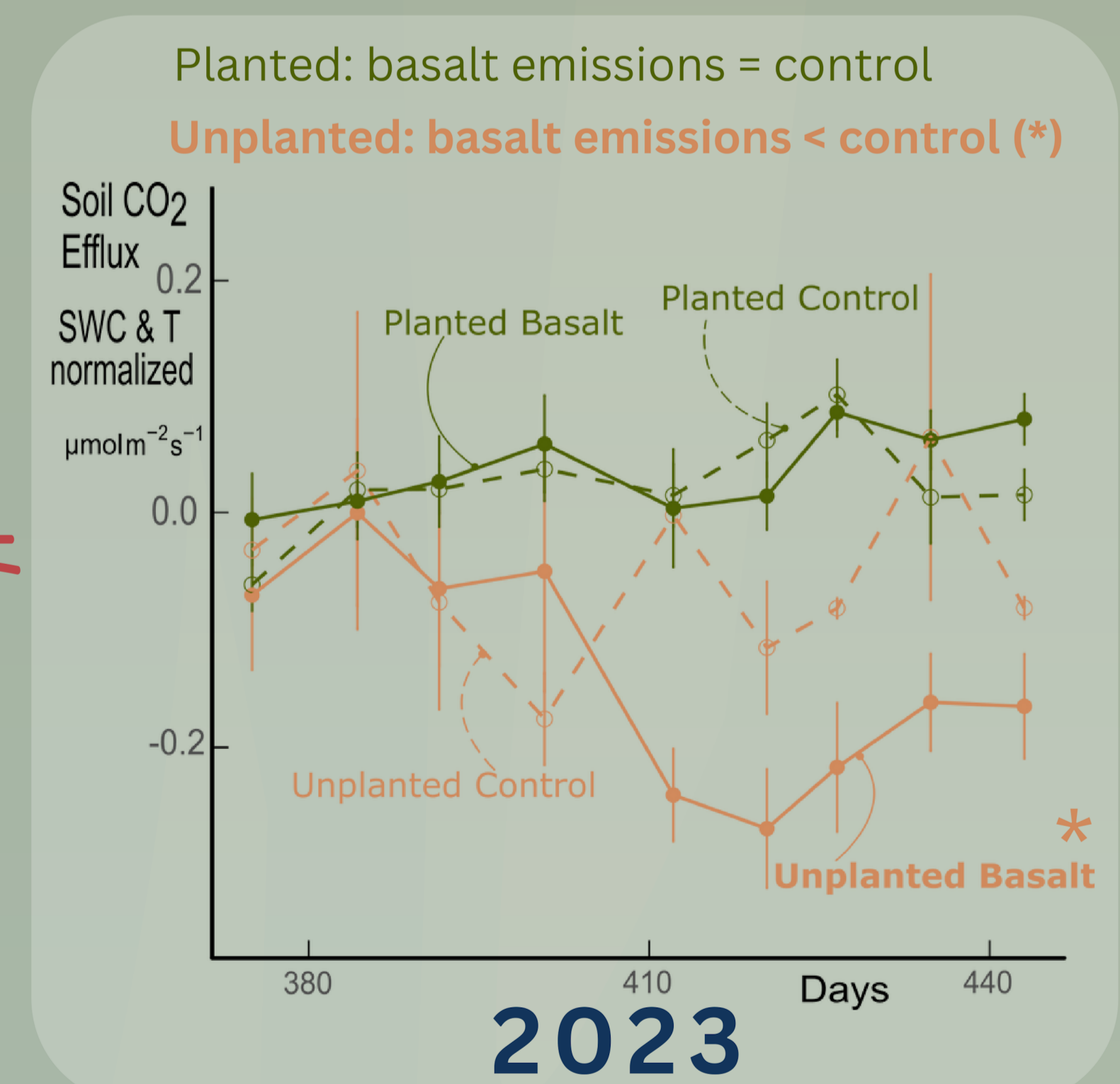
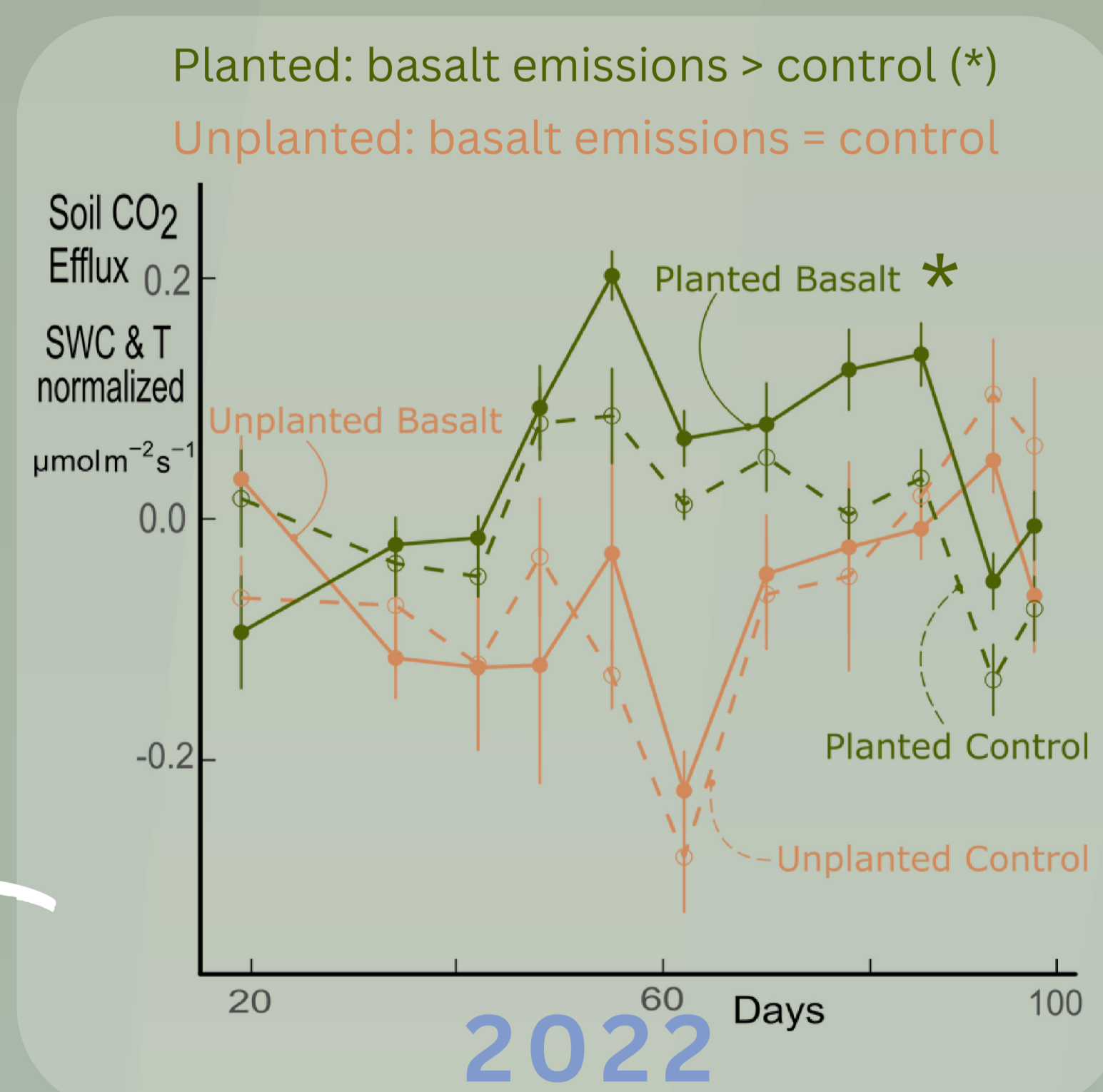
1) Plant presence

Biota stimulates weathering!



2) Growing season

Soil CO₂ emissions from basalt weathering change with **biota** and **between seasons**



Long-term studies including **effect of biota** are key to quantify the CO₂ sequestration potential of Enhanced Weathering:

Basalt effect in **2022** ≠ **2023**