BIO299

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Research practice in biology

Does drought impact soil respiration in Atlantic heatlands?

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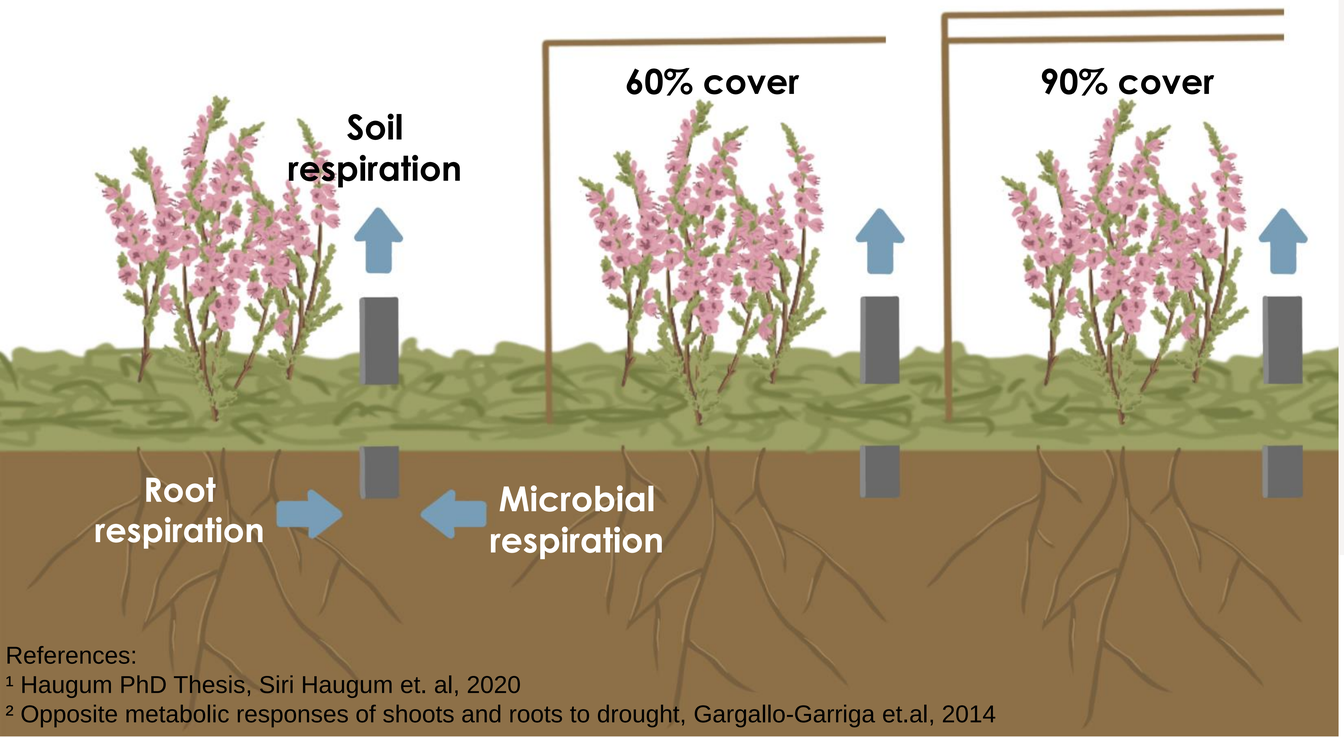
Introduction

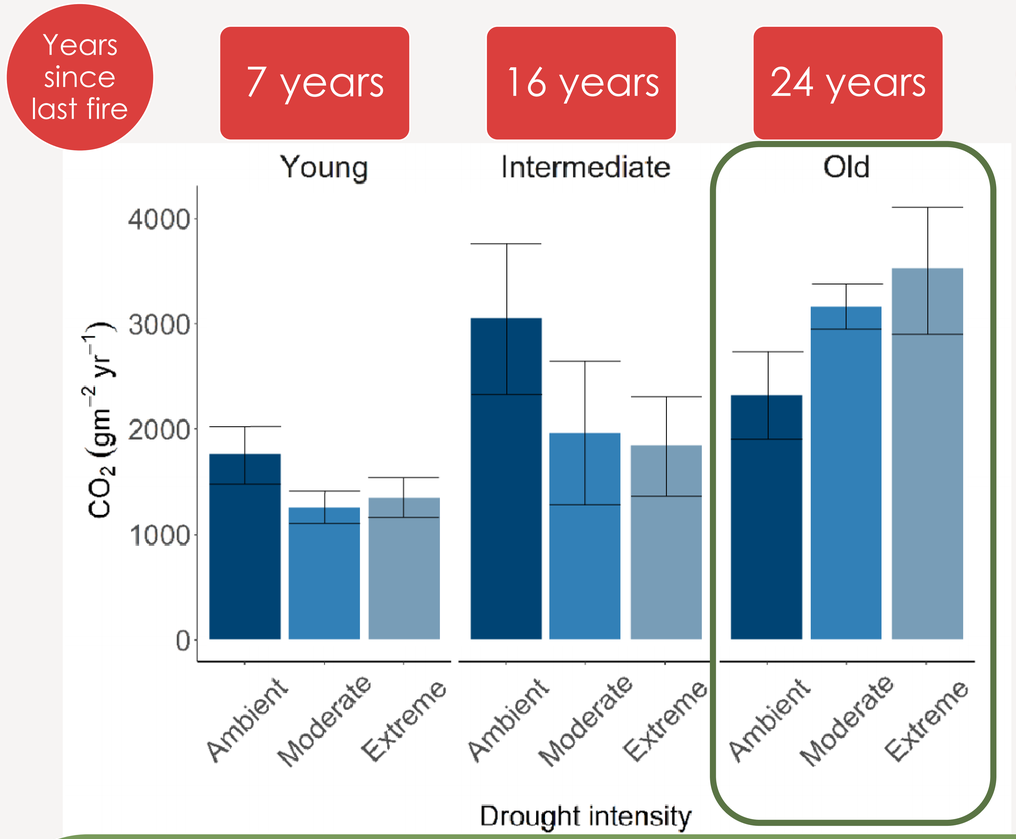
This project investigates how drought impacts the soil respiration in the Atlantic heathlands by using different gradients of rainout shelters. Plastic tubes was used to create a closed chamber system so it is possible to measure soil respiration

Soil respiration emits around 10 times more CO_2 annually compared to fossil fuel combustion

Research setup



Results



Discussion

The ambient bars show that soil respiration is highest in the intermediate phase. And both young and intermediate phase gets a reduction in soil respiration as a response to drought. In comparison the old phase gets an increase in soil respiration in response to drought. This could be a result of plants response of shifting its ratio between shoots and roots. If the ration goes from shoots → roots there will be a higher production of young roots, + a higher root biomass. A higher root-ratio can result in more root respiration

References:
[1] Haugum PhD Thesis, Siri Haugum et. al, 2020
[2] Opposite metabolic responses of shoots and roots to drought, Gargallo-Garriga et.al, 2014