REWET: Hydrologic impacts of water table management on carbon-rich grassland soils

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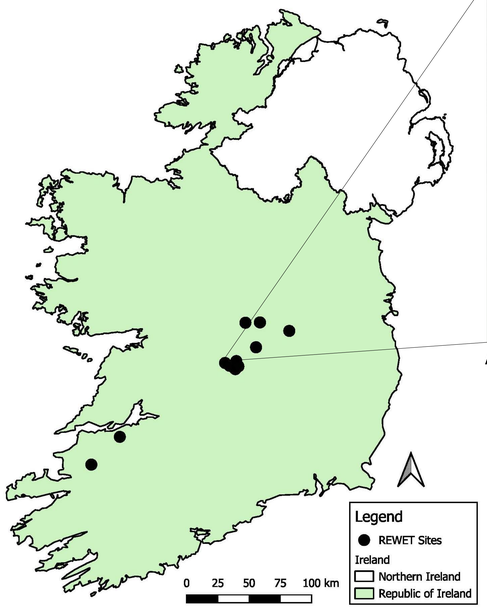
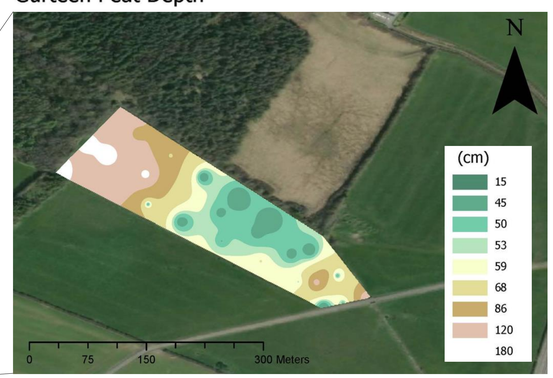
The main objective of REWET is to assess the application and impact of water table management on carbon-rich grassland soils

Study sites





Above: Map of Gurteen peat depth (courtesy of Ian Clancy)

Above: Plastic pile dam

Above: Flume

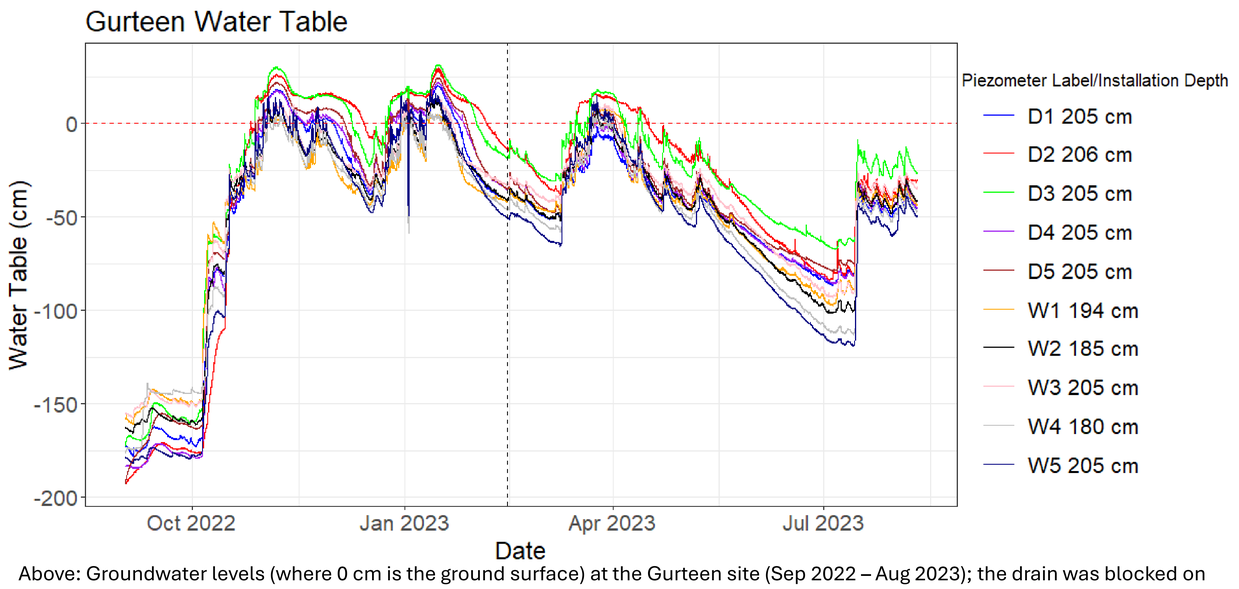
- In Ireland, 80,000 ha (of 350,000 ha total) of permanent grassland on peat soils are targeted in the Climate Action Plan for restoration
- REWET sites are located on these historically drained grassland sites throughout the midlands of Ireland

Project aims

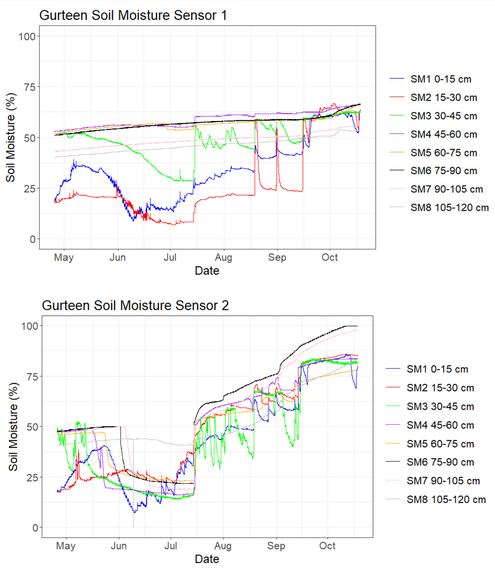
- Identify optimal lands for water table management efforts
- Determine the most efficient methods to undermine existing artificial drainage features
- Quantify impacts on field-scale hydrology
- Measure impacts on the hydrology of surrounding lands
- Evaluate the benefits in emission reduction, biodiversity and wider ecosystem services, and consider alternative land use options in rewetted areas

Preliminary data: Gurteen site

Above: Gurteen site with groundwater piezometer (fully screened) locations



Above: Groundwater levels (where 0 cm is the ground surface) at the Gurteen site (Sep 2022 – Aug 2023); the drain was blocked on 14/02/2023 (black dashed line)



Above: Soil moisture (Apr – Oct 2023); sensor 1 is located near piezometer W4 and sensor 2 is located near D5

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