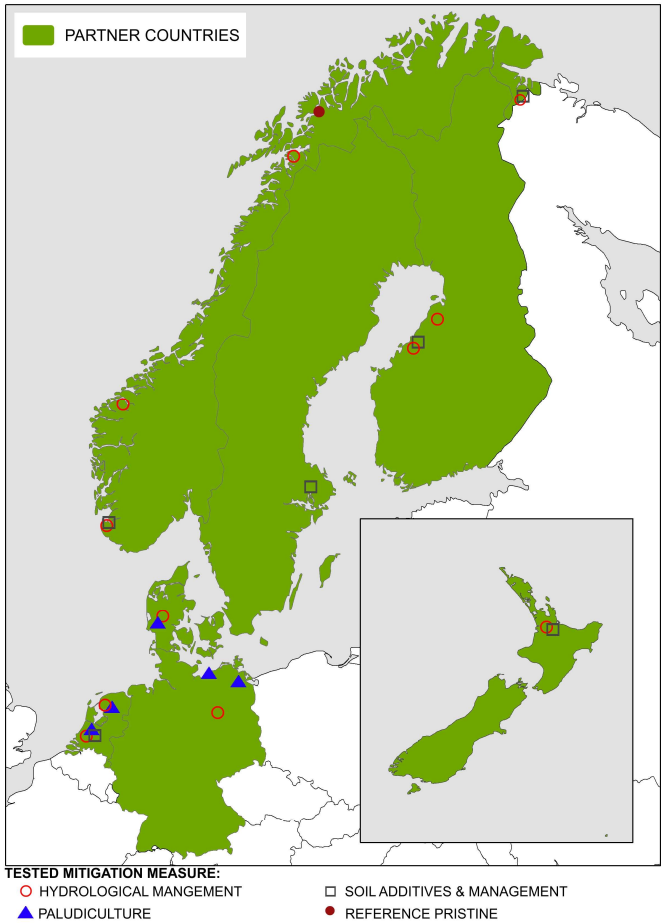
FACCE ERA-GAS

MONITORING & MITIGATION OF GREENHOUSE GASES FROM AGRI- AND SILVI-CULTURE

PEATWISE

Case studies, the Netherlands



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Radboud Universiteit Nijmegen

THE UNIVERSITY OF WAIKATO

Friesland, The Netherlands

Site type:
Grassland on organic soil

Mitigation measure tested:
WTL elevation during summer with submerged drains

Gersloot, Friesland, The Netherlands

Contact person: Christian Fritz (c.fritz@science.ru.nl)

Description, land use history: Intensive grassland on drained peat, No clay layer

Climate		Soil quality and agronomy		Hydrology and drainage	
Location	53° 1'37.13"N, 5°56'24.24"E	**Peat depth**	2m	**Drainage started**	2017
Mean annual precipitation (mm y^{-1})	809	**Underlying soil**	Sand	**Drain depth past (cm)**	Ditch depth ± 100
Mean annual T (° C)	9,9	**Crops**	*Grass (Lolium perenne)*	**Drain depth present (cm)**	Average 70
PET	580 mm yr^{-1}	**Rotation**	No rotation	**Drain spacing (m)**	115
Mean length of growing season	6 months	**Fertilization Kg N ha y^{-1}**	230 Manure; 100 Mineral		
		Harvests	1.1 kg DW m^{-2}		

Koufurderrige, Friesland, The Netherlands

Contact persons (site owner, land owner): Christian Fritz (c.fritz@science.ru.nl)

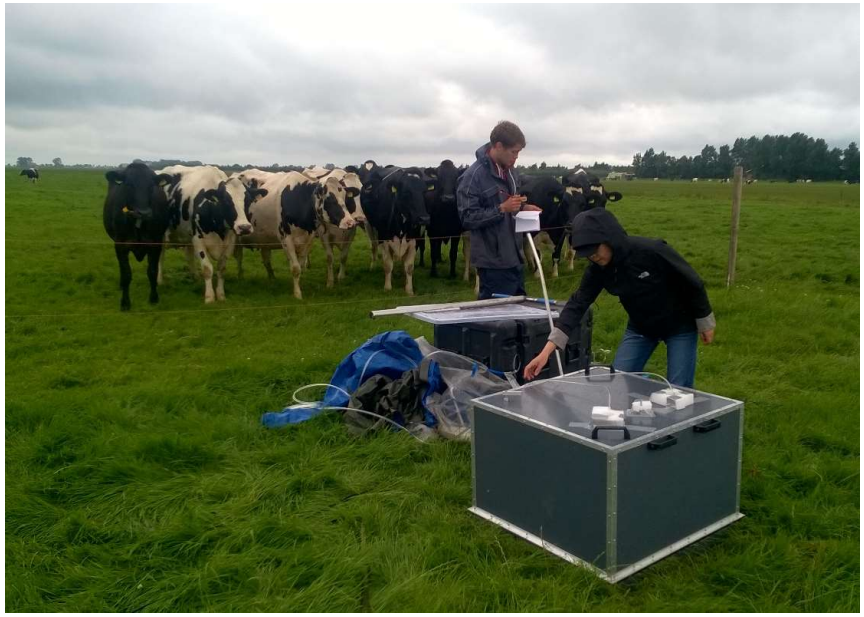
Description, land use history: Intensive grassland on drained peat, With 30-40 cm clay-layer

Climate		Soil quality and agronomy		Hydrology and drainage	
Location	52°56'57.60"N, 5°39'40.04"E	**Peat depth**	1,5m	**Drainage started**	2017
Mean annual precipitation (mm y^{-1})	809	**Underlying soil**	Sand	**Drain depth past (cm)**	Ditch depth ± 100
Mean annual T (° C)	9,9	**Crops**	*Grass (Lolium perenne)*	**Drain depth present (cm)**	Average 70
PET	580 mm yr^{-1}	**Rotation**	No rotation	**Drain spacing (m)**	125
Mean length of growing season	6 months	**Fertilization Kg N ha y^{-1}**	150		
		Harvests	1.2 kg DW m^{-2}		

Site description Friesland

Layered, unpentrable peat

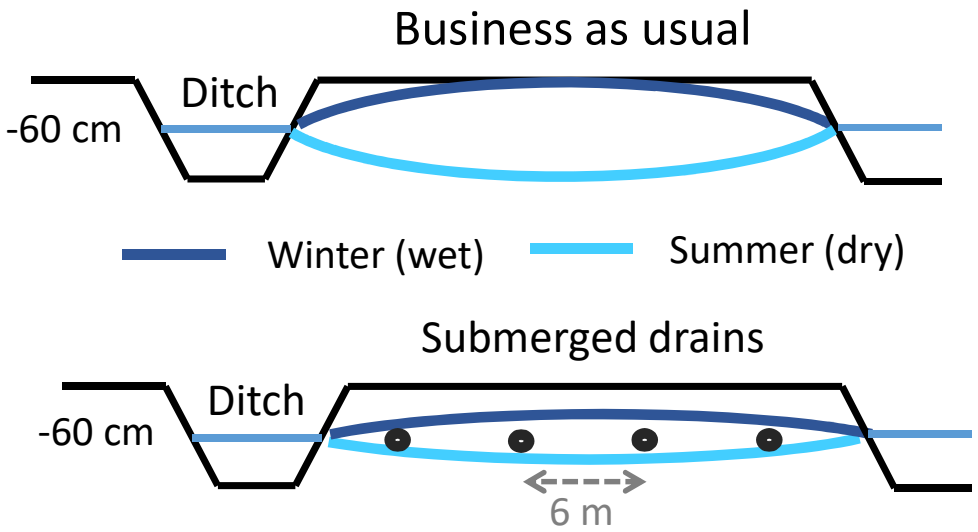
Clay layer of around 30 cm



Pasture land, mainly for milk production.

Research set-up Friesland

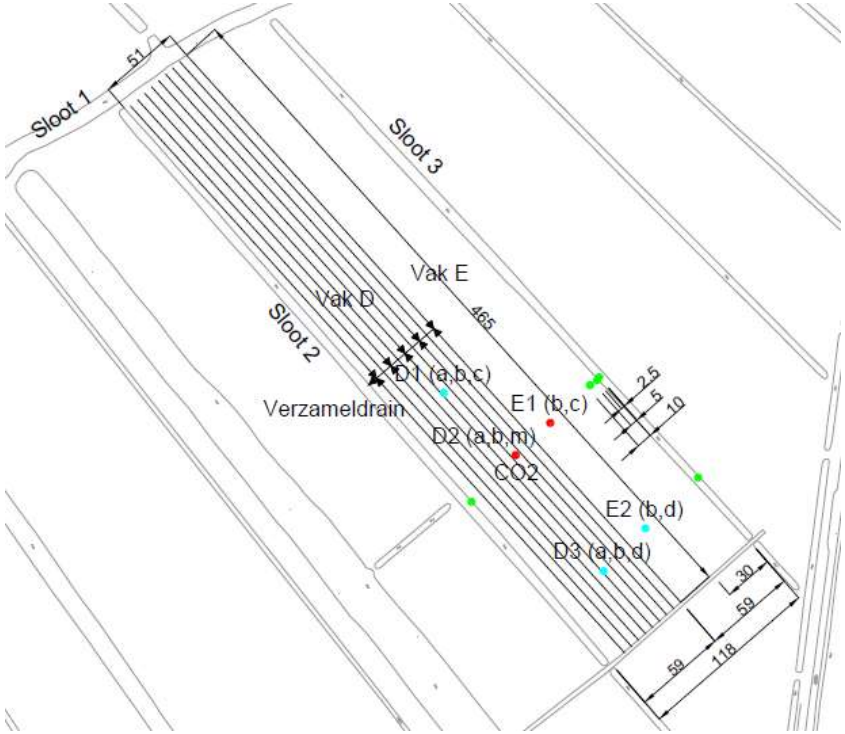
On 4 farms (2 included as case study site) 1 field with submerged drains and 1 control field.



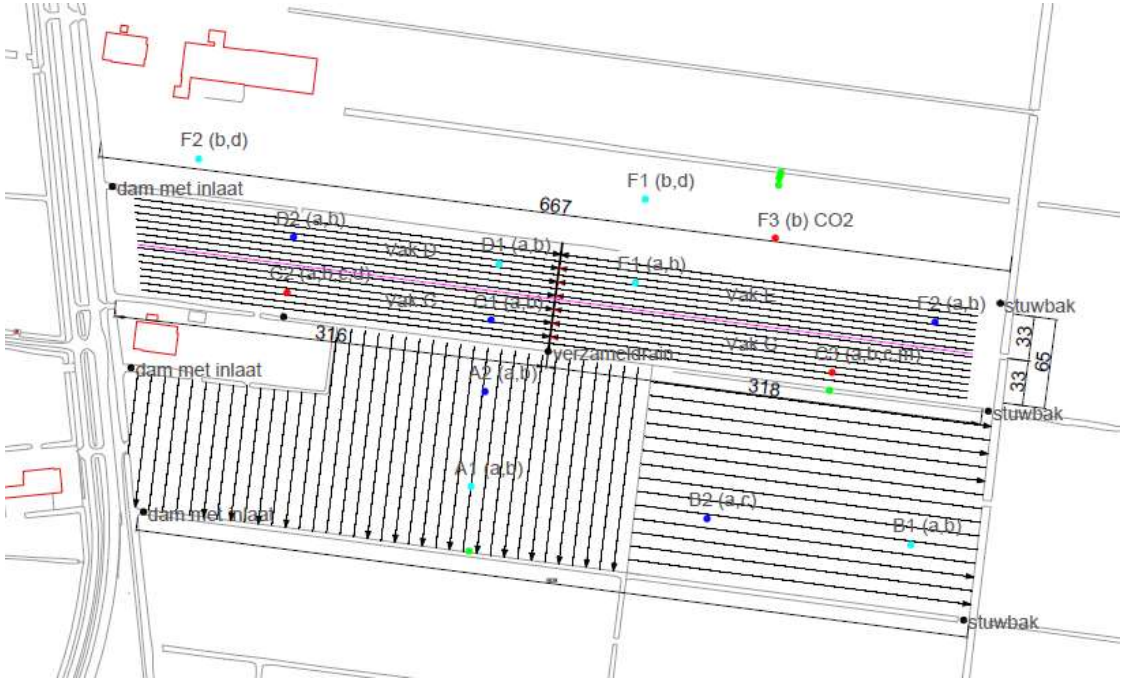
Measurements on all fields: CO_2 flux, CH_4 flux, water table, soil moisture, subsidence, …and more.

Set-up submerged drain fields

1. Gersloot



2. Koufurderrige



Zegveld, The Netherlands

Site type:
Paludiculture

Mitigation measure tested:
Crop (*Typha*) production on rewetted peatland

Zegveld , The Netherlands

Contact person: Christian Fritz (c.fritz@science.ru.nl)

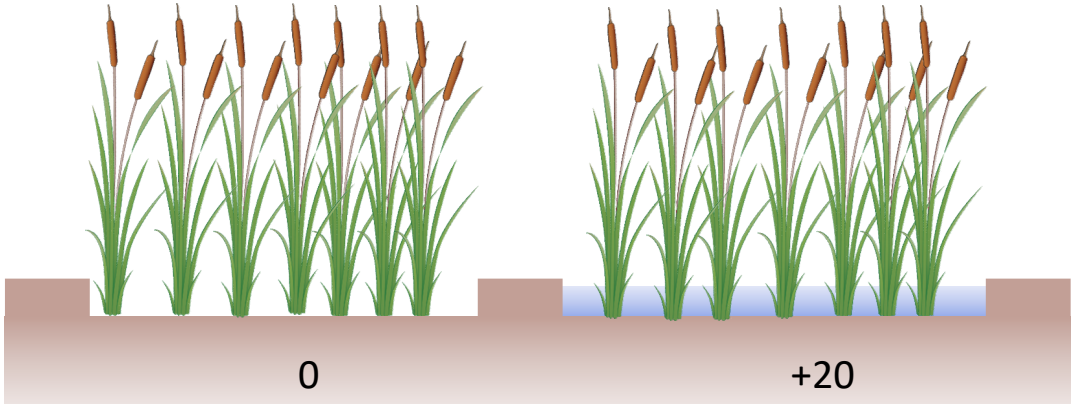
Description, land use history: An experimental field with Typha

Climate		Soil quality and agronomy		Hydrology and drainage	
Location	52° 8'21.27"N, 4°50'19.58"E	**Peat depth**	3-6m	**Rewetting started**	2015
Mean annual precipitation (mm y^{-1})	831	**Underlying soil**	Sand	**Drain depth past (cm)**	-60(?)
Mean annual T (° C)	10,7	**Crops**	*Typha latifolia*	**Drain depth present (cm)**	No drains
Mean length of growing season	6 months	**Rotation**	No rotation	**Drain spacing (m)**	No drains
		Fertilization Kg N $ha\ y^{-1}$	No fertilization or 150 kg N ha^{-1}		
		Harvests	0.5-1.0 kg DW m^{-2}		

Site description Zegveld

Research set-up Zegveld

+ 150 kg N ha^{-1}



Control