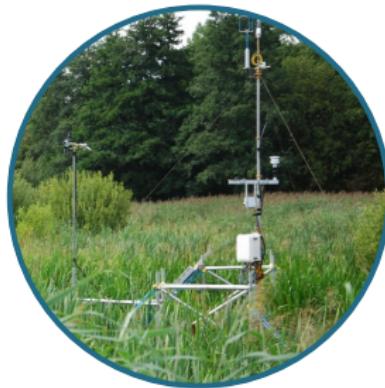


# Modelling the Ecosystem Functional Response of the Dutch Peatlands through EC Data Snapshots

Laurent Bataille, Bart Kruijt, Jan Bierman, Ronald J. Hutjes, Wilma Jans, Wietse Franssen, Ruchita Ingle & Hanne Berghuis

July 4, 2023 - FLUXNET Meeting

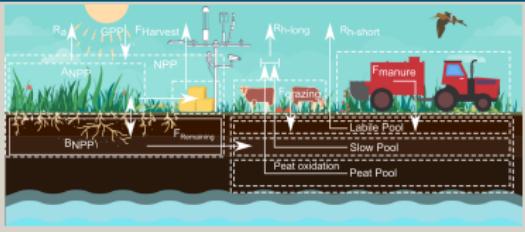


# Peat Soils in the Netherlands and NOBV

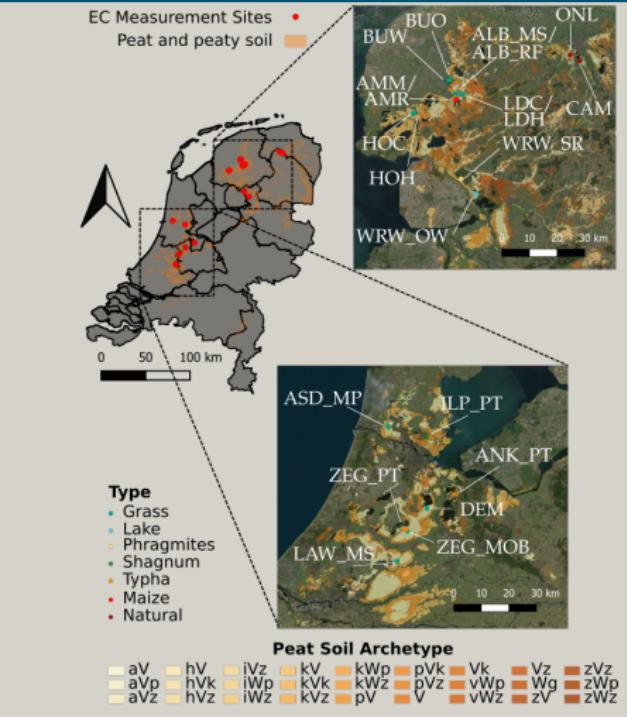
## Mobile Site - Example



## CO<sub>2</sub> Fluxes in a dutch pasture on peats

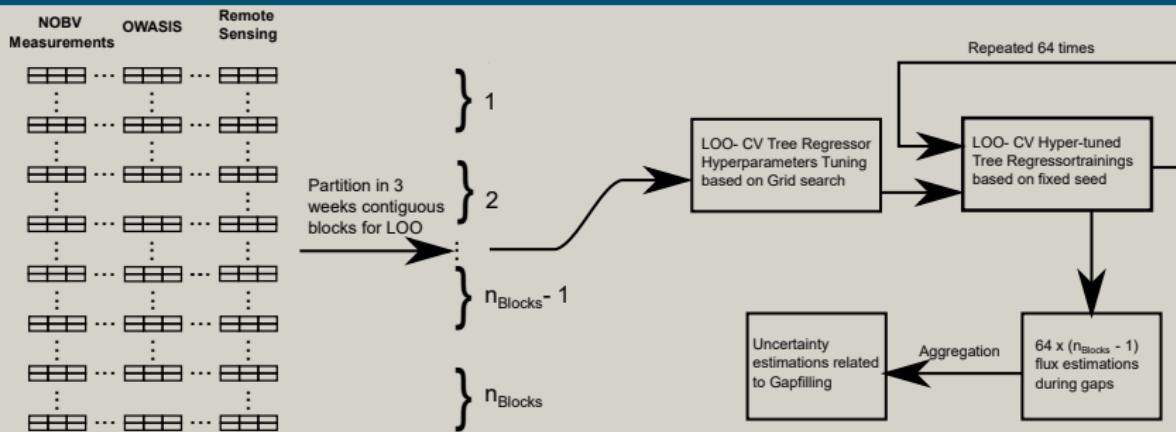


## NOBV - Measurement network



# Intermittent time-series and Gap-filling (1)

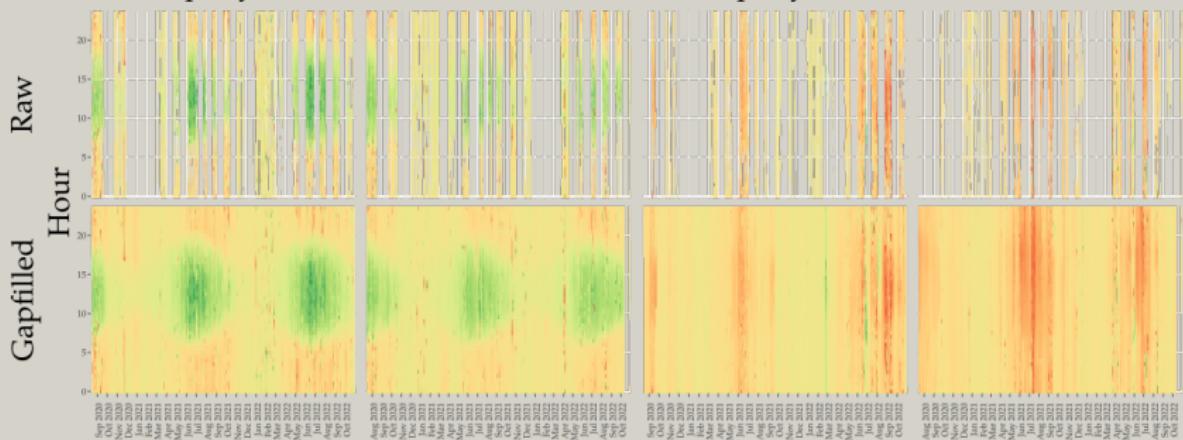
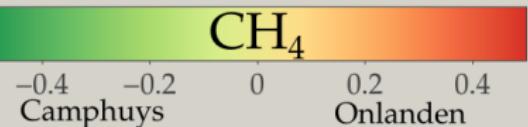
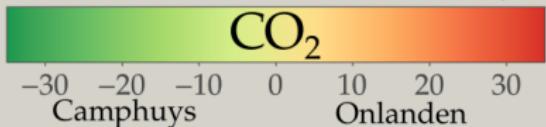
## Gap-Filling Algorithm



# Intermittent time-series and Gap-filling (2)

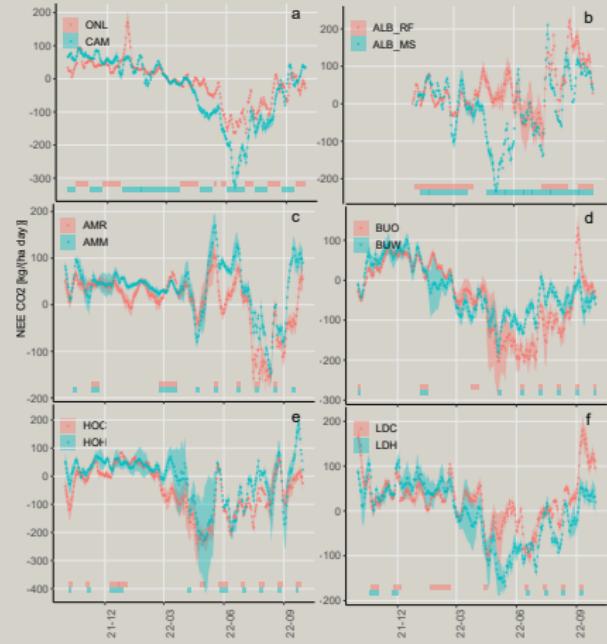
## Site Rotation gaps and Results of GF process

NEE [ $\mu\text{mol}/(\text{m}^2\text{s})$ ]

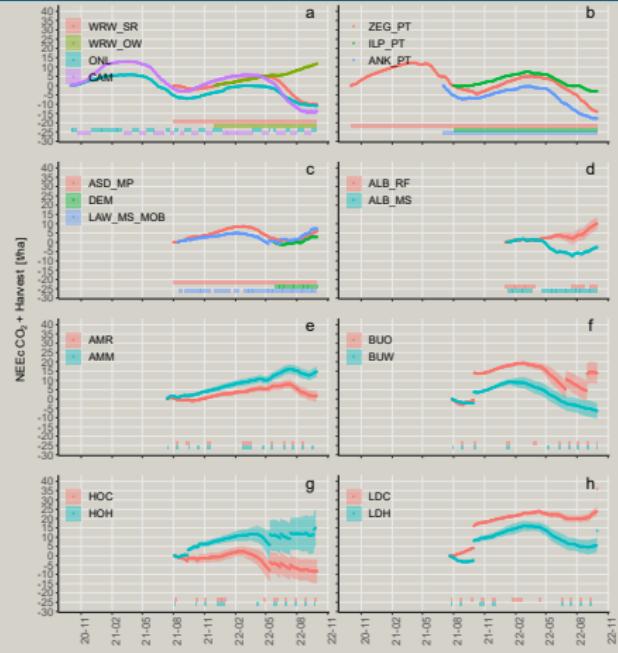


# Results - site curves

## Weekly CO<sub>2</sub> Fluxes

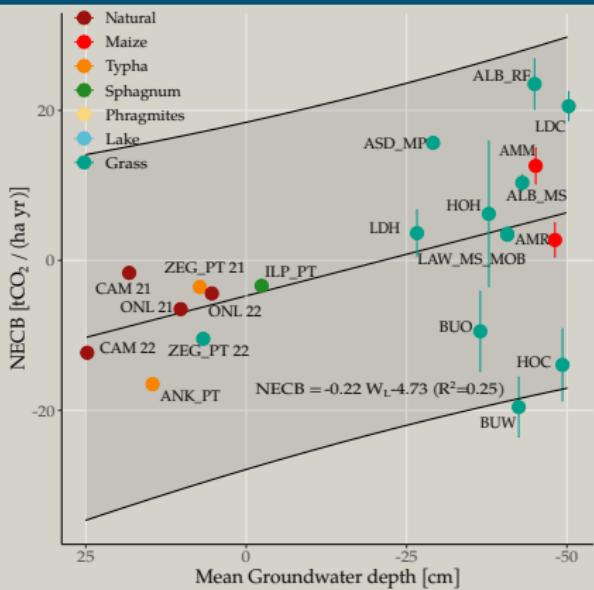


## Cumulated Fluxes

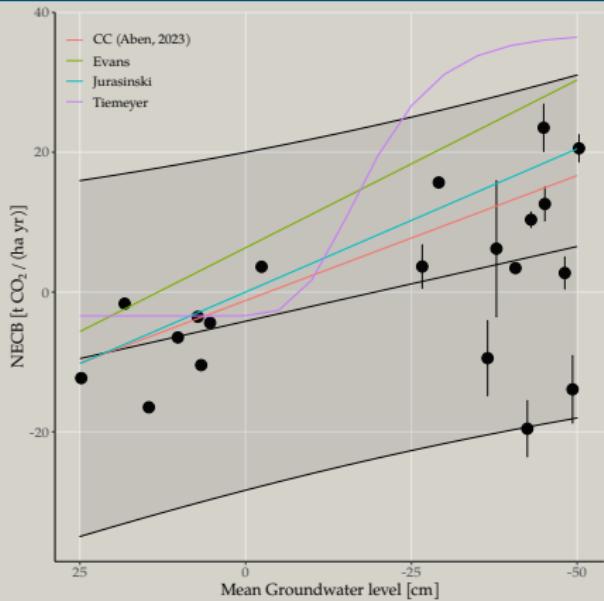


# Groundwater depth effect (1)

## Groundwater depth effect by site typology

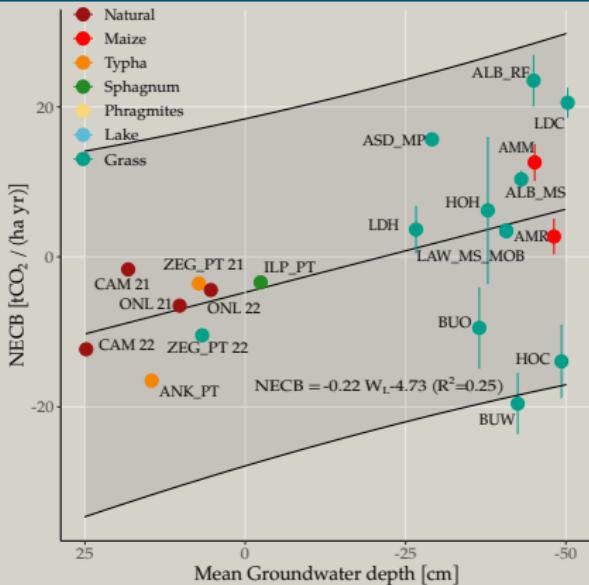


## Groundwater depth effect - Comparison with existing models

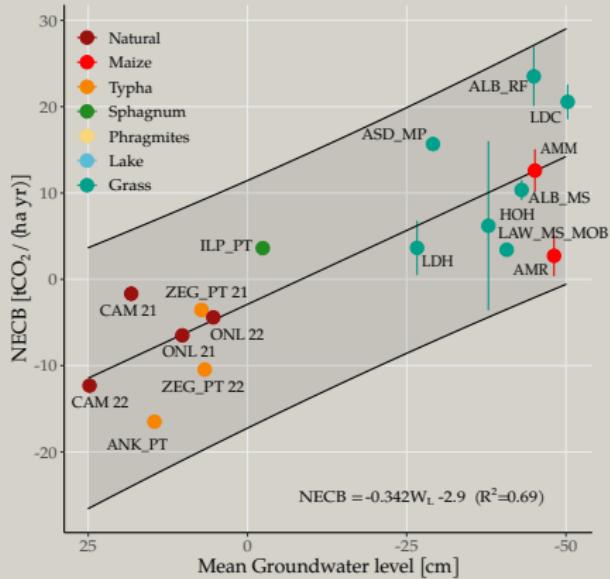


# Groundwater depth effect (2)

## Raw datasets



## Outliers effect



# Conclusion/Perspectives of improvements

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- Encouraging trends for longer datasets...
- Export and imports on site are essentials
- Anthropic disturbance in pasture implies an increase in heterogeneities

## Future improvements

- Development of footprint-aware G-F
- Bottom-up models
- Preprocessed Remote-sensing datasets
- Focus on interpretation/partitioning of the fluxes
- Introduction of Deep-learning in the G-F/Bottom-up algorithms

Thanks for your attention, and stay tuned...



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Slides



NOBV Website



Digital Poster



WAGENINGEN  
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Ministerie van Landbouw,  
Natuur en Voedselkwaliteit



HydroLogic

