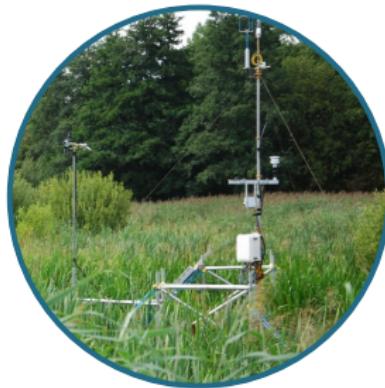


Modelling the Ecosystem Functional Response of the Dutch Peatlands through EC Data Snapshots

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

July 4, 2023 - FLUXNET Meeting

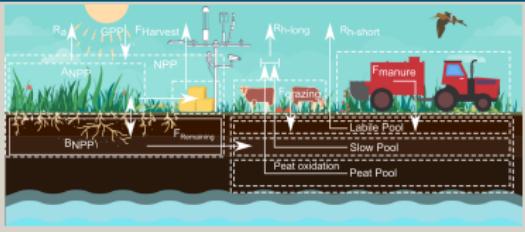


Peat Soils in the Netherlands and NOBV

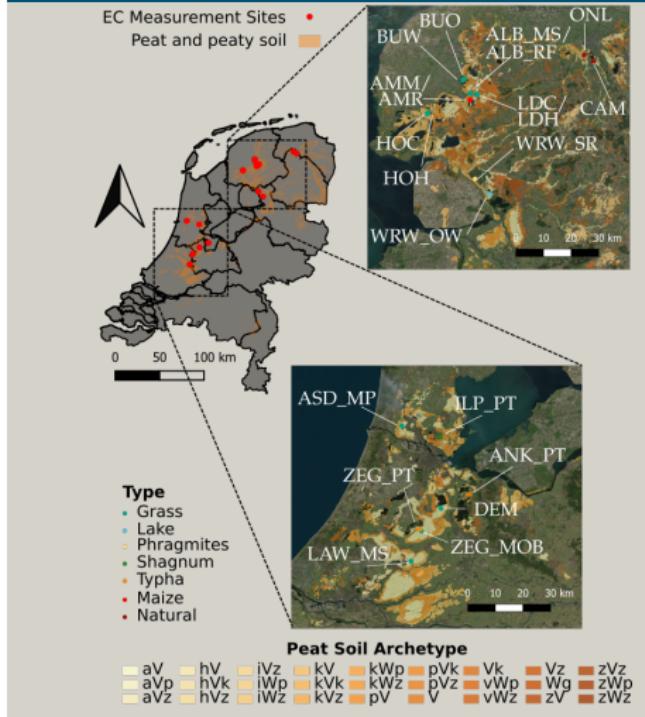
Mobile Site - Example



CO₂ Fluxes in a dutch pasture on peats

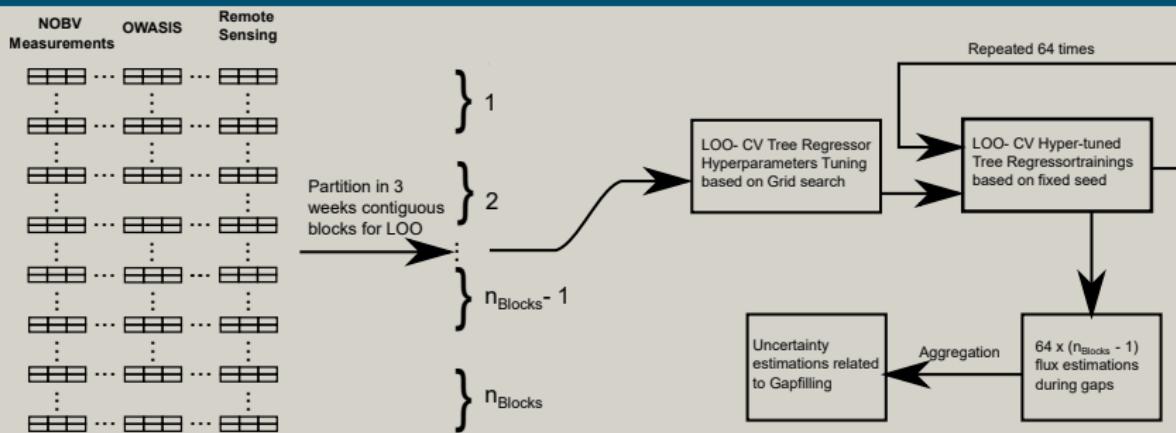


NOBV - Measurement network



Intermittent time-series and Gap-filling (1)

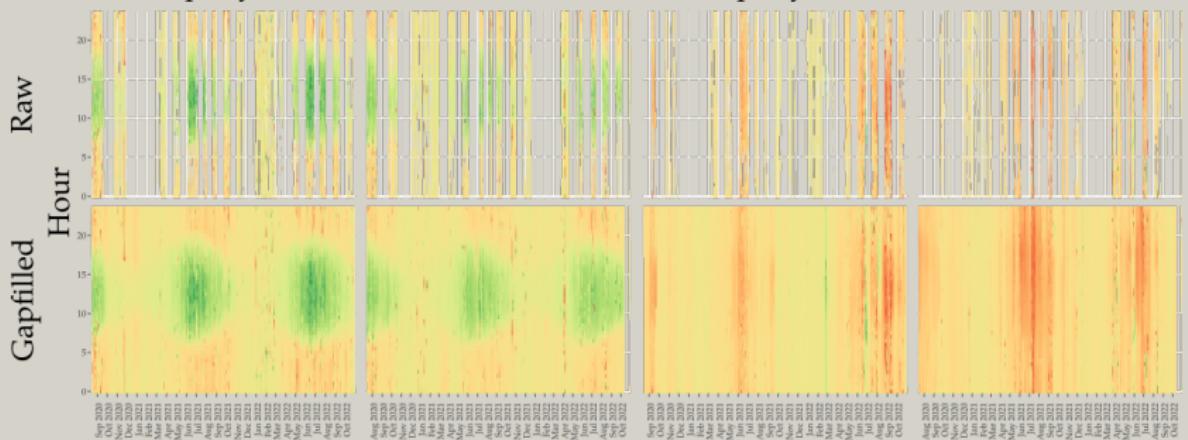
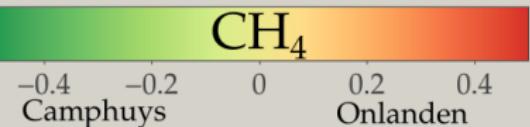
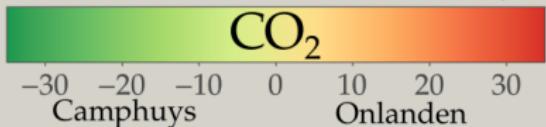
Gap-Filling Algorithm



Intermittent time-series and Gap-filling (2)

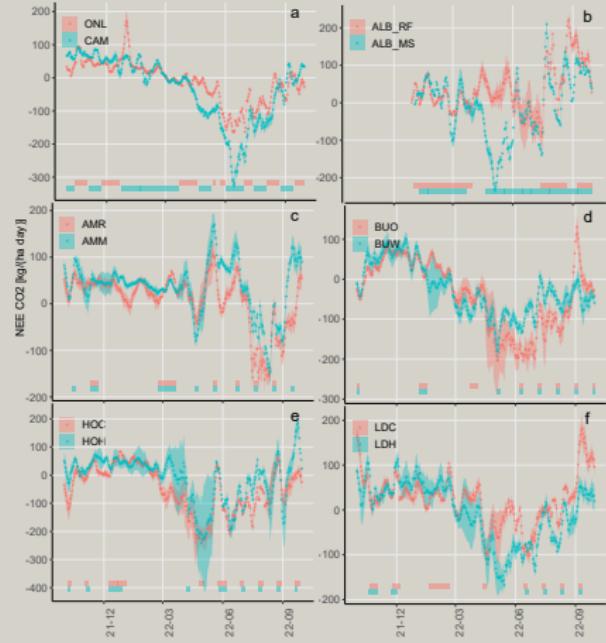
Site Rotation gaps and Results of GF process

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

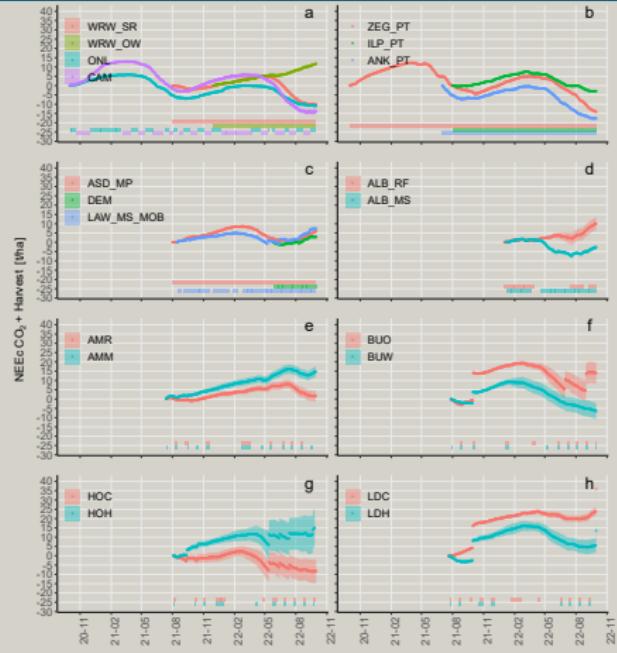


Results - site curves

Weekly CO₂ Fluxes

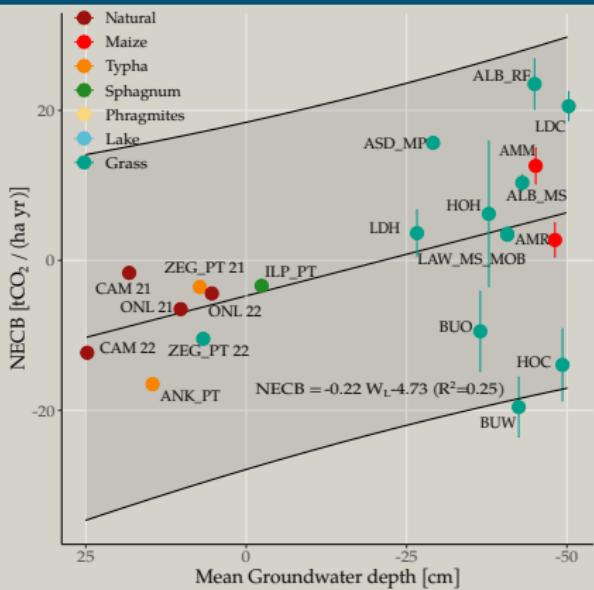


Cumulated Fluxes

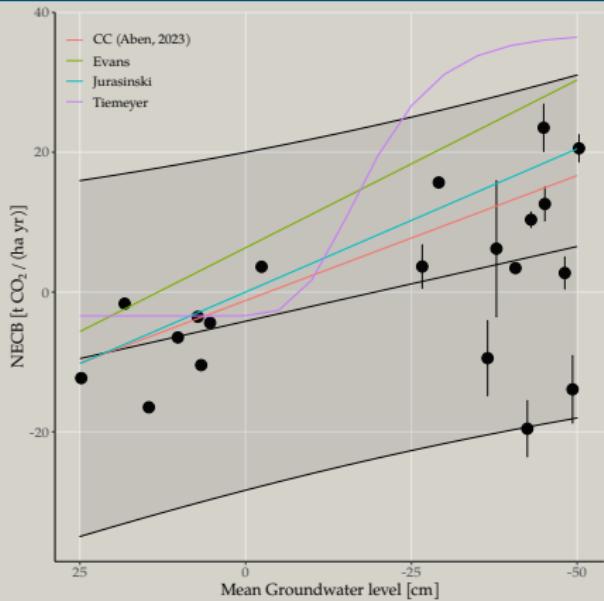


Groundwater depth effect (1)

Groundwater depth effect by site typology

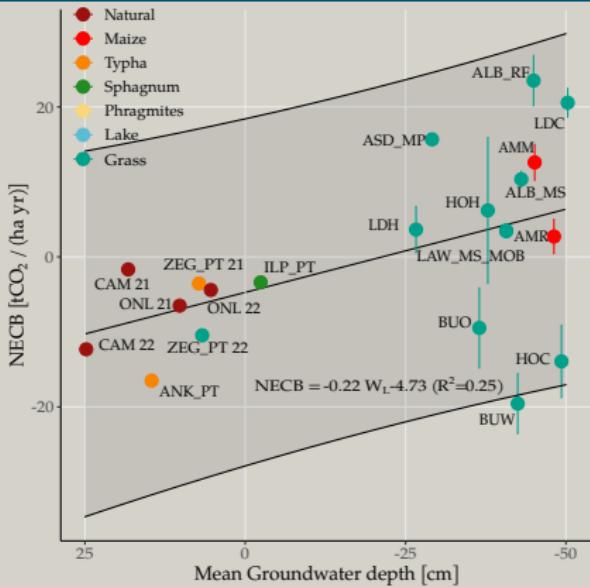


Groundwater depth effect - Comparison with existing models

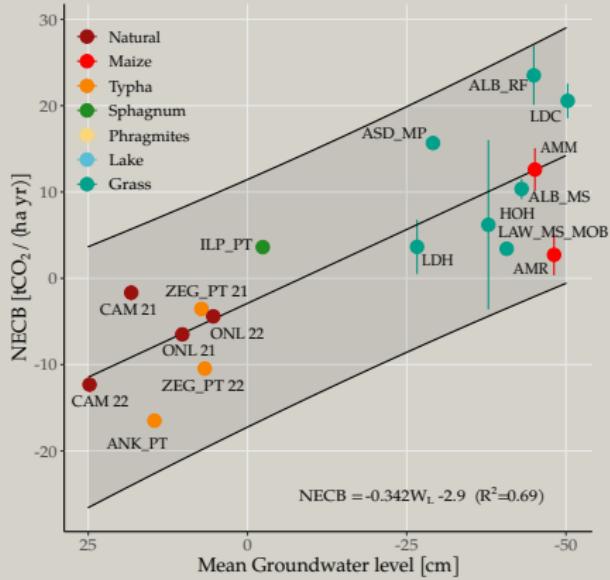


Groundwater depth effect (2)

Raw datasets



Outliers effect



Conclusion/Perspectives of improvements

- 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...



laurent.bataille@wur.nl



Slides



NOBV Website



Digital Poster



WAGENINGEN
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Ministerie van Landbouw,
Natuur en Voedselkwaliteit



HydroLogic

