

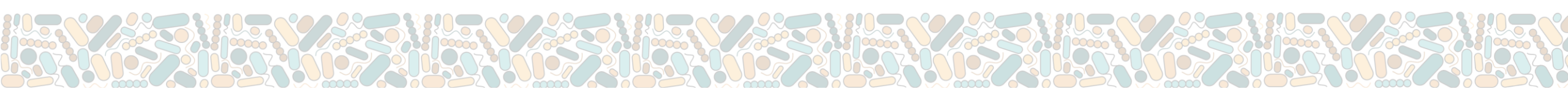


Microbiële ecologie van een N₂O-uitstotende RWZI

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hoogheemraadschap
Hollands
Noorderkwartier



$-O_2$?

$+O_2$

Denitrifying bacteria

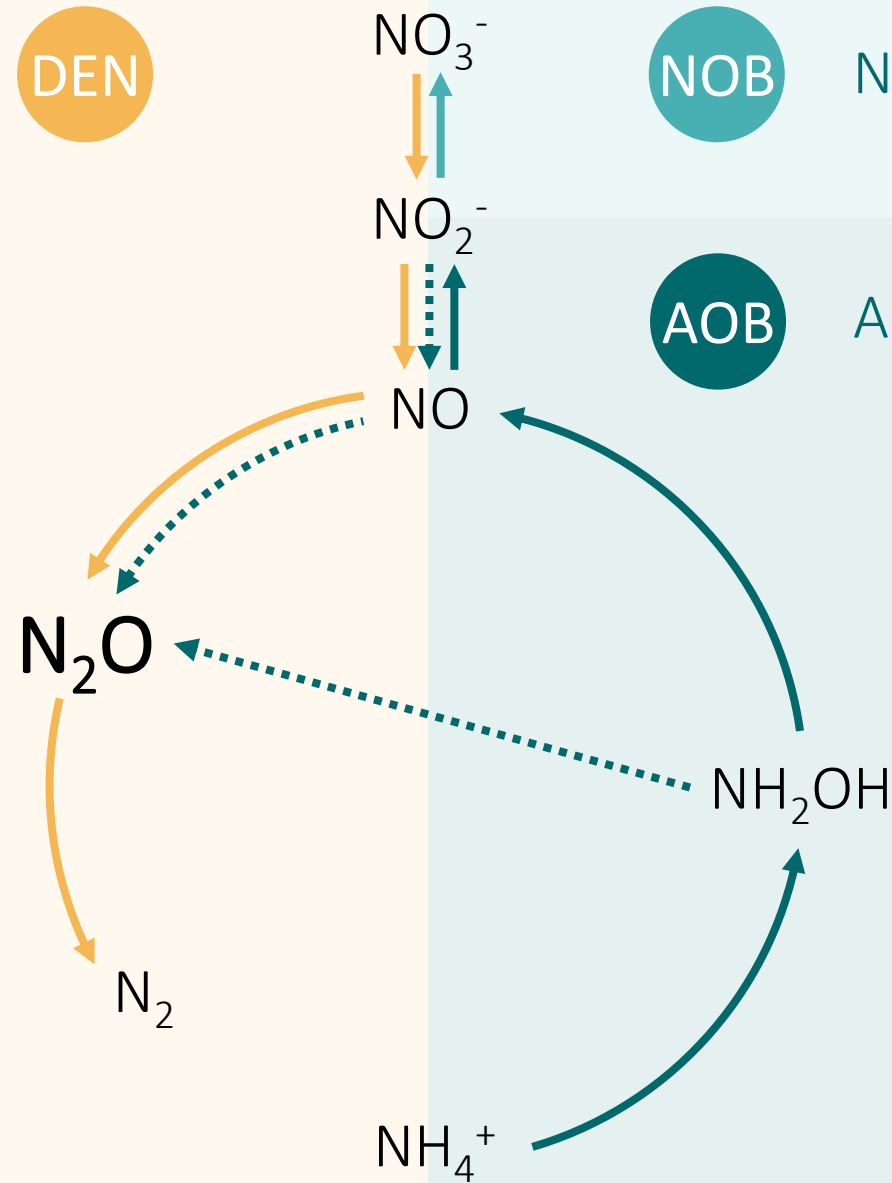
DEN

NOB

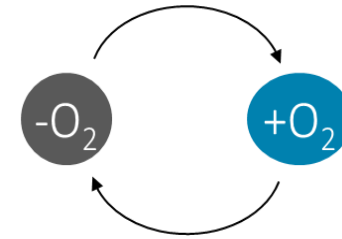
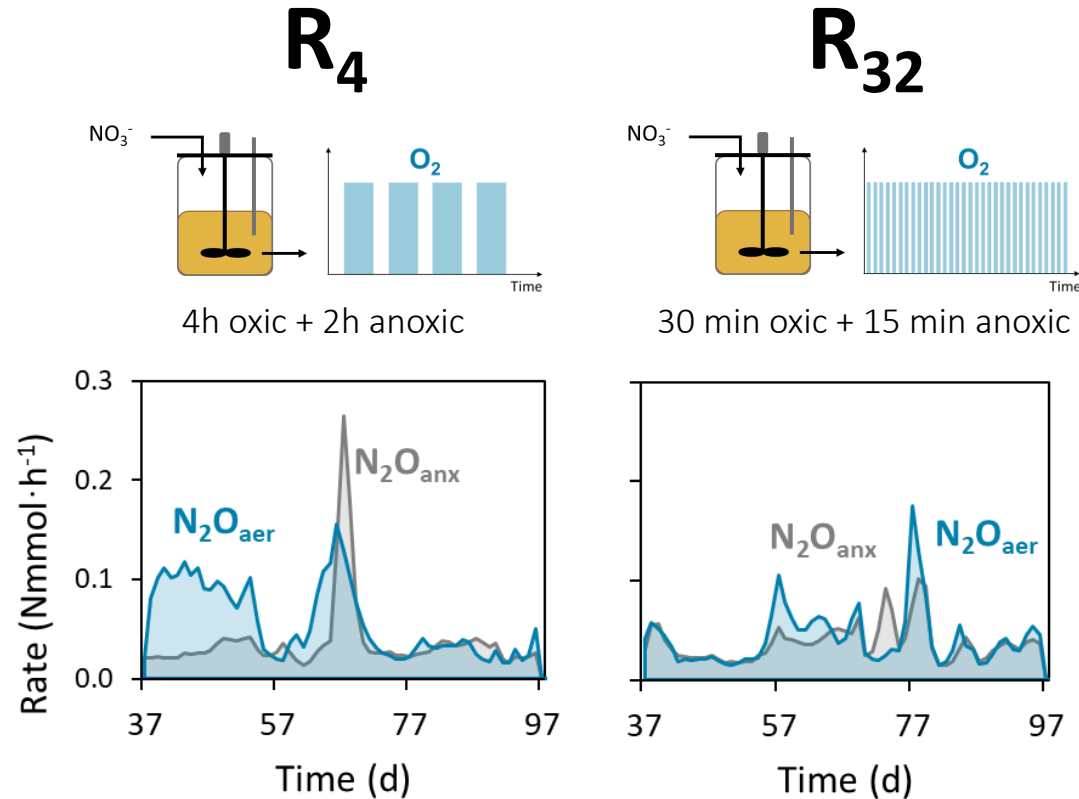
Nitrite-oxidizing bacteria

AOB

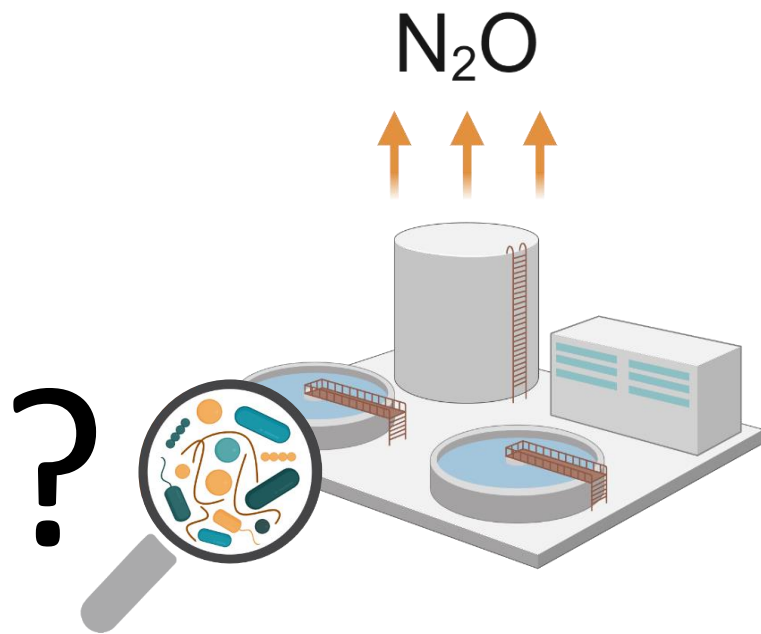
Ammonia-oxidizing bacteria



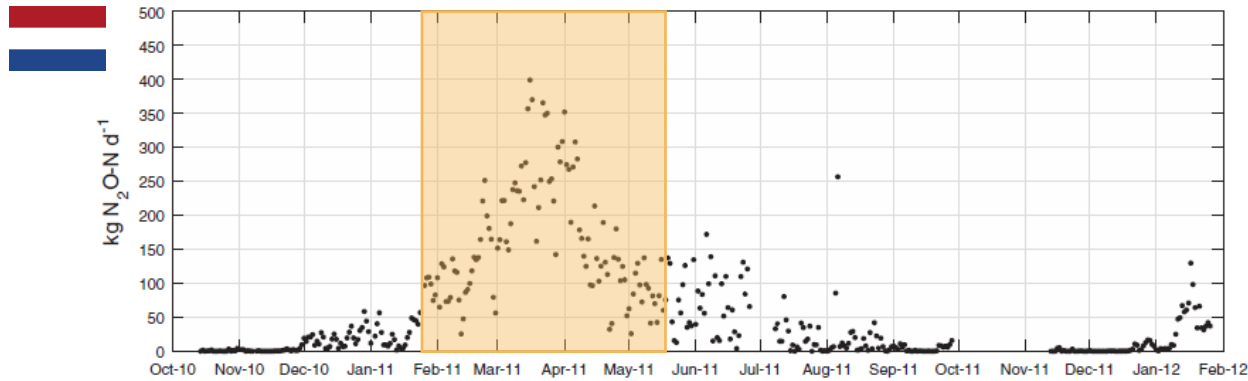
Aerobe denitrificatie



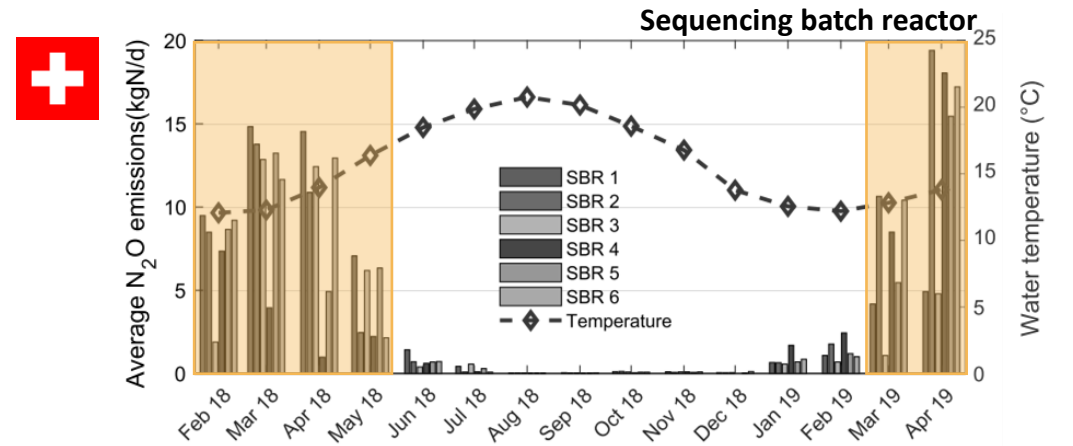
Aerobe denitrificatie onderschat
Kan een belangrijke N₂O-bron zijn



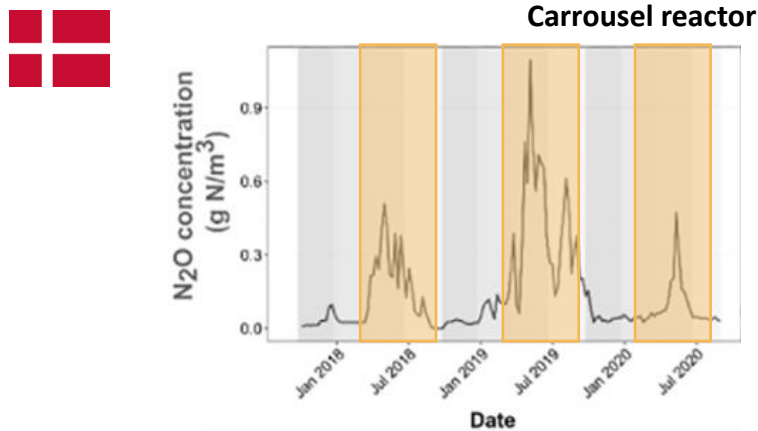
N₂O seizoenspiek



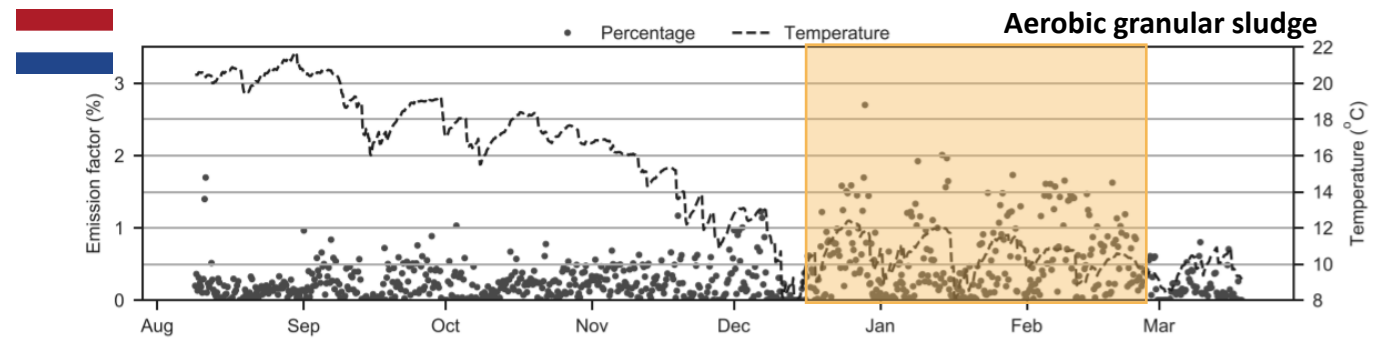
Daelman et al. (2015). *Science of the Total Environment*, 536



Gruber et al. (2020). *Science of the Total Environment*, 699



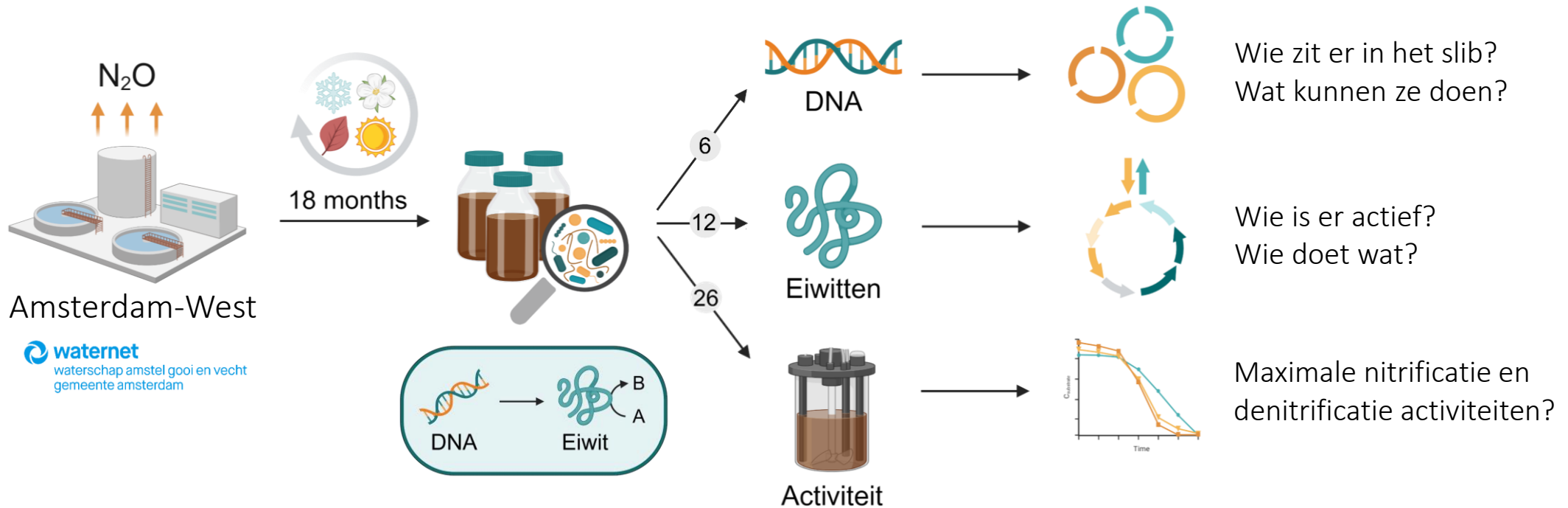
Valk et al. (2022). *Water Research*, 219

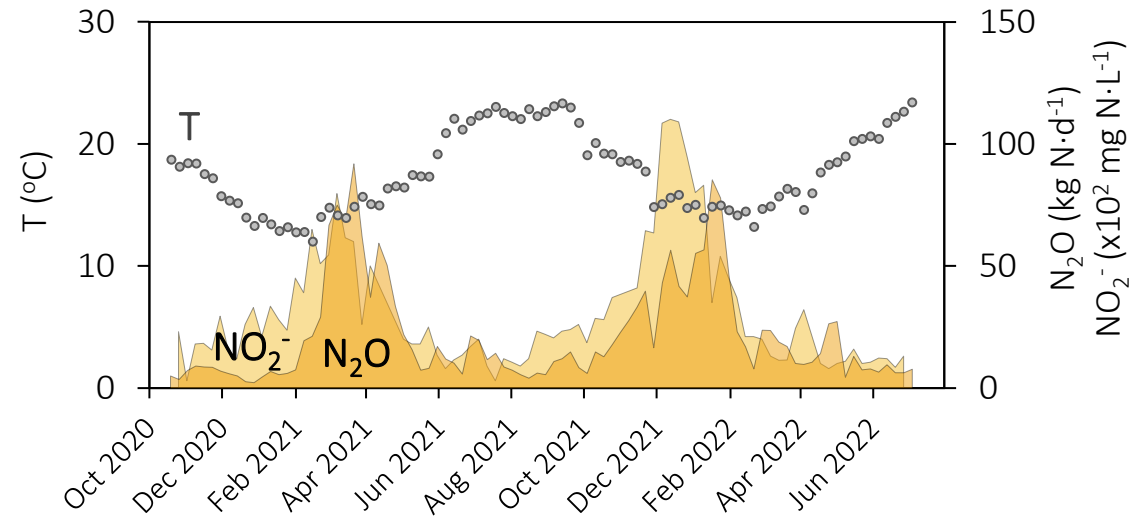
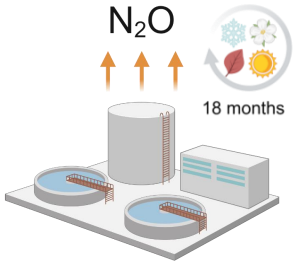


Van Dijk et al. (2021). *Water Research*, 198

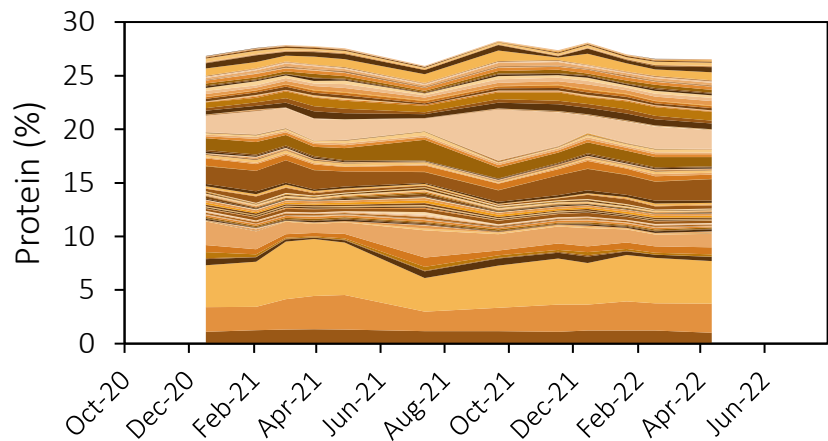
Doel

De onderliggende microbiologie van N_2O -omzettingen tijdens afvalwaterzuivering begrijpen

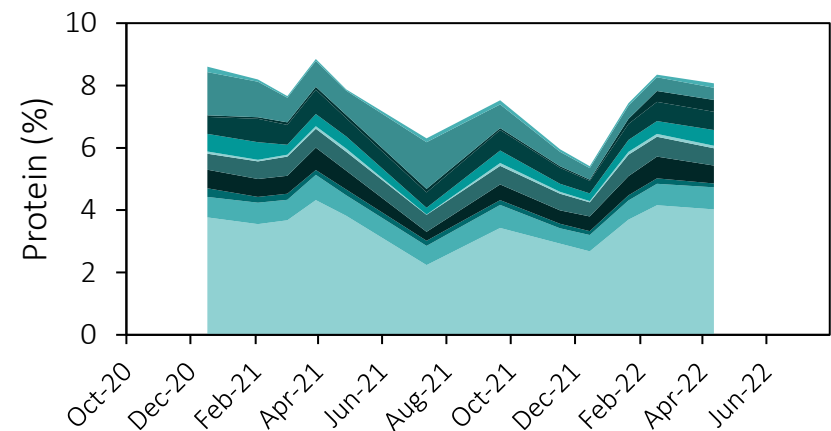
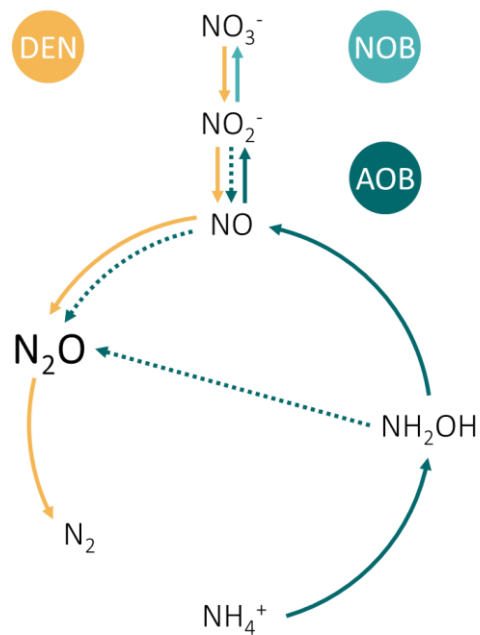




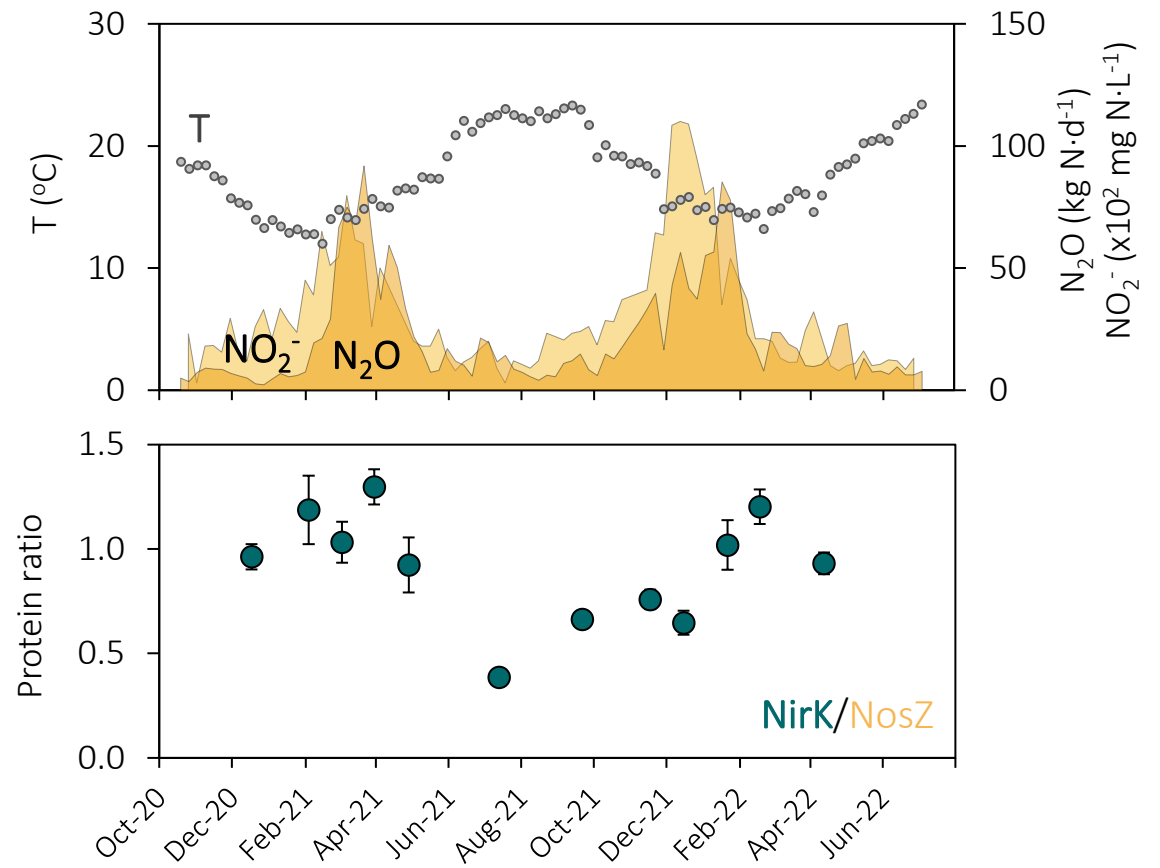
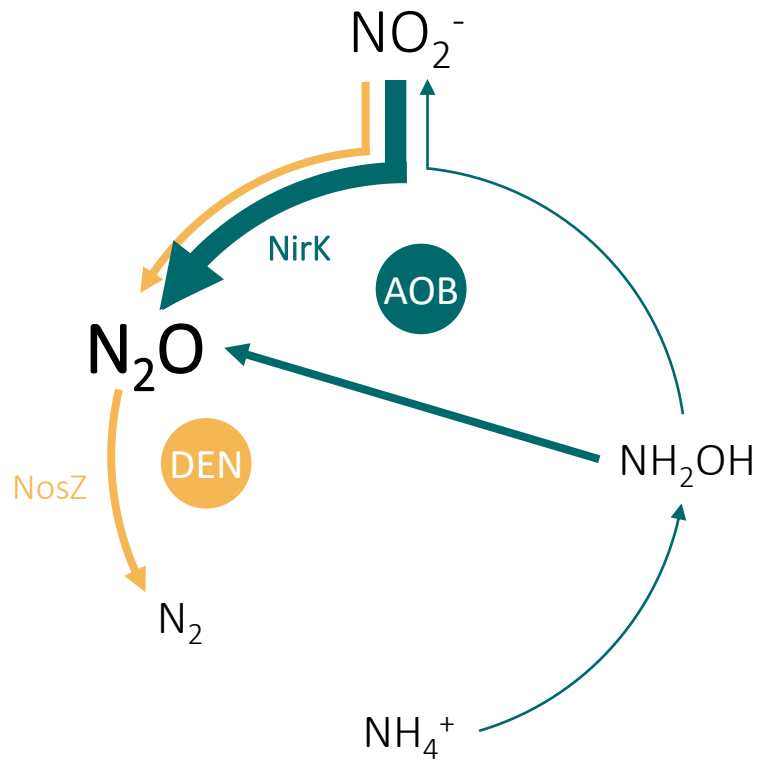
Seizoensgebonden NO_2^- en N_2O pieken



Komen het meest voor en zijn heel divers
 Variëren niet in de tijd

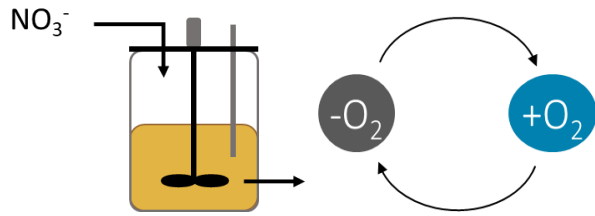


Weinig diversiteit
 Variëren maar niet samen met N_2O uitstoot

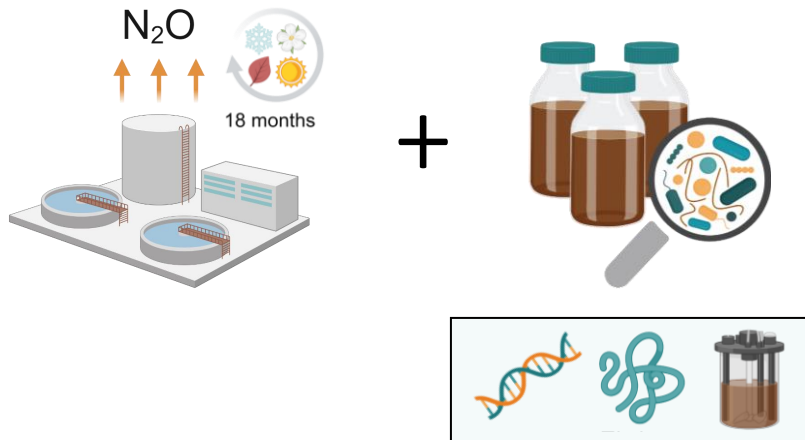


Verhoogde nitrificeerder denitrificatie

Conclusies



Aerobe denitrificatie N₂O-bron op RWZIs?



Seizoensgebonden NO₂⁻ en N₂O pieken

Verhoogde nitrificeerder denitrificatie

Thank you!

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Thomas Abeel

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Minke Gabriëls

Marcel Zandvoort

Maaïke Hoekstra

Alexandra Deeke

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