

Zoet en zout grondwater in kreekkruggen

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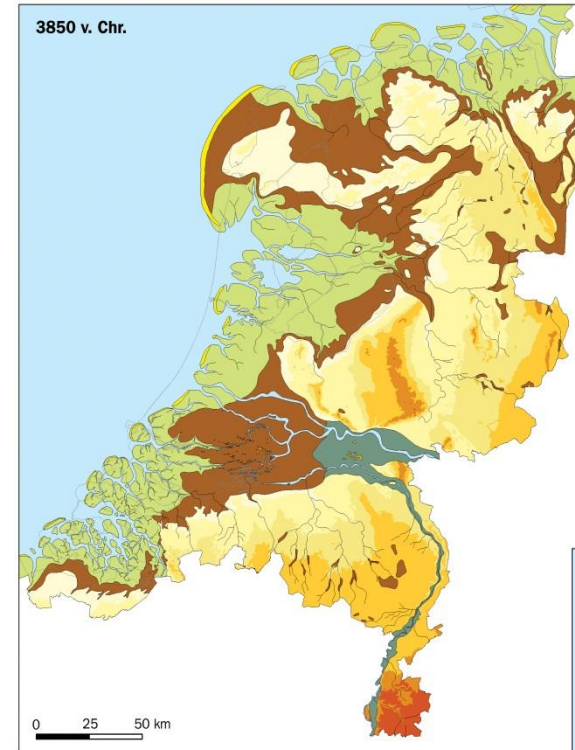
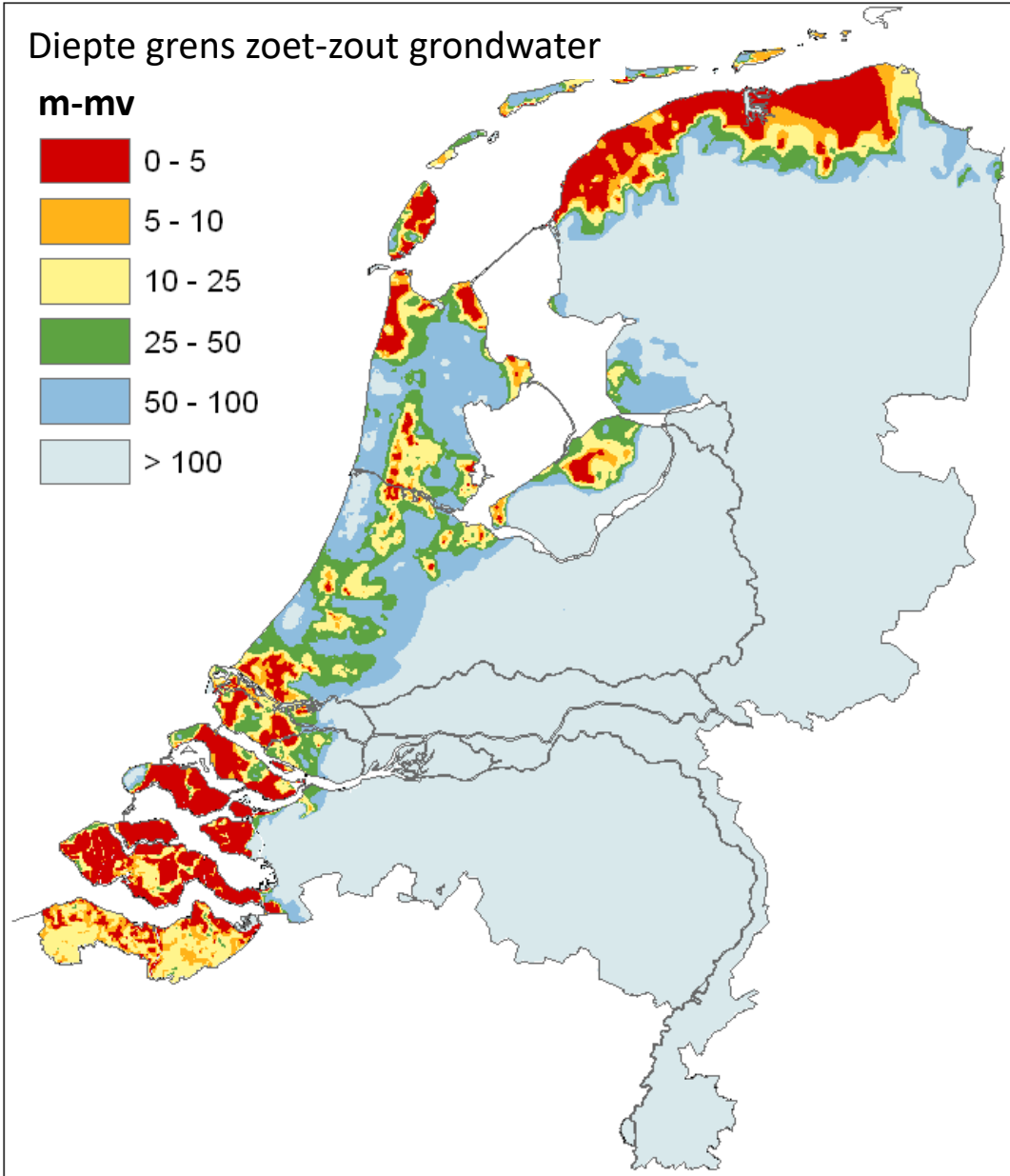
Het project "Samenwerken voor Zoet Water-van pilots naar grootschalige toepassing" is gesubsidieerd door een EU-bijdrage, de provincie Zeeland en gemeente Schouwen-Duiveland.

Inhoud

- Zout grondwater in Zeeland
- Zoetwaterlenzen in kreekkruggen
- Onttrekken uit zoetwaterlenzen
- Vergroten zoetwaterlenzen

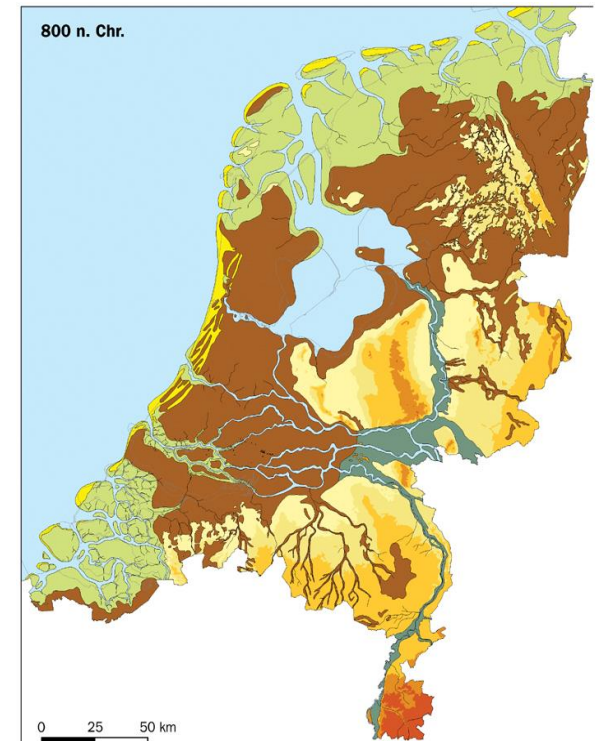


Zout grondwater?



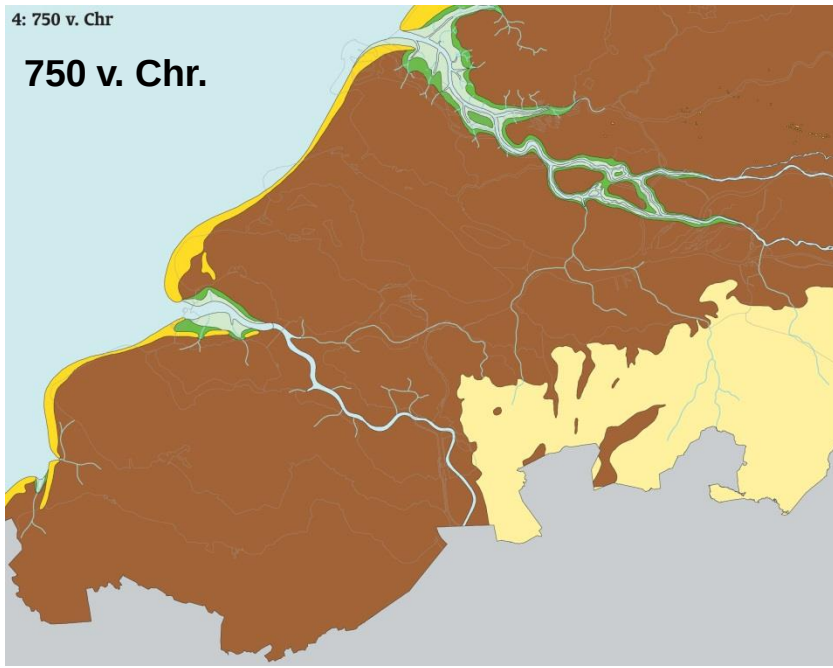
5500 jaar geleden
Maximale zee-invloed

1200 jaar geleden
Meeste recente zeeinvloed



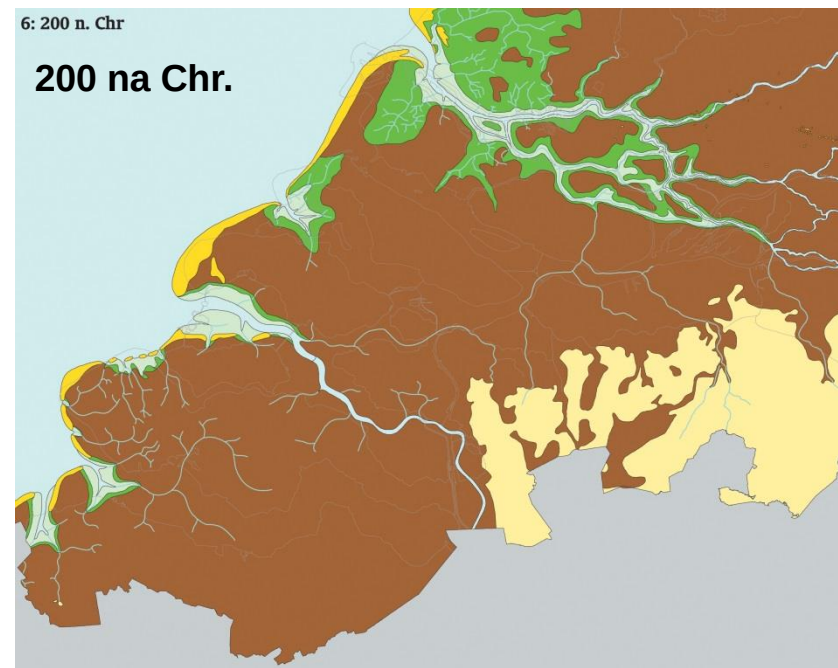
4: 750 v. Chr

750 v. Chr.



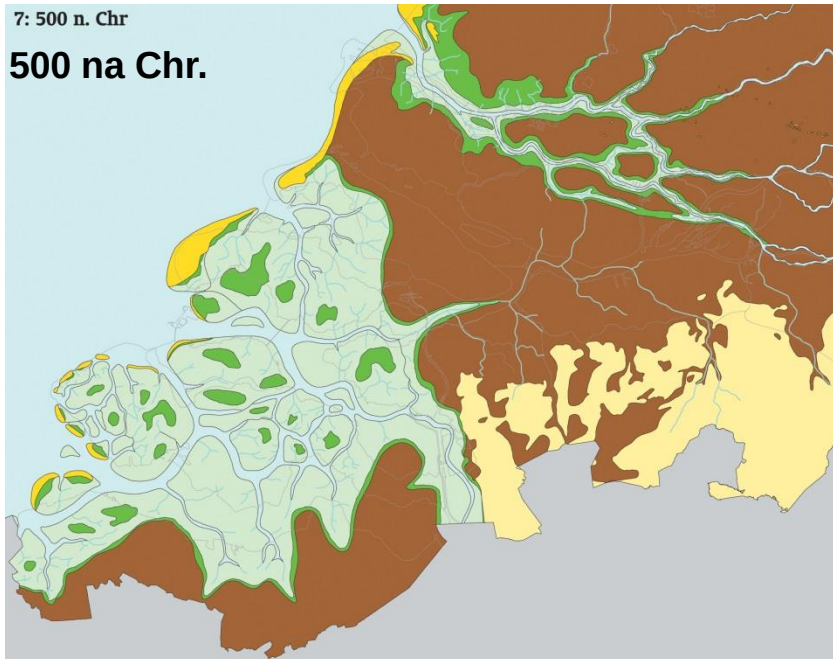
6: 200 n. Chr

200 na Chr.



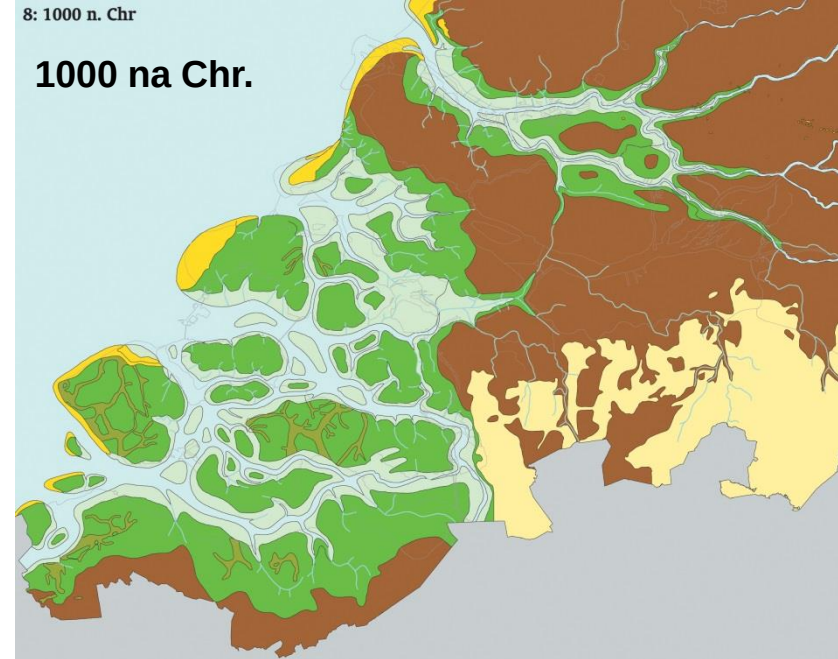
7: 500 n. Chr

500 na Chr.

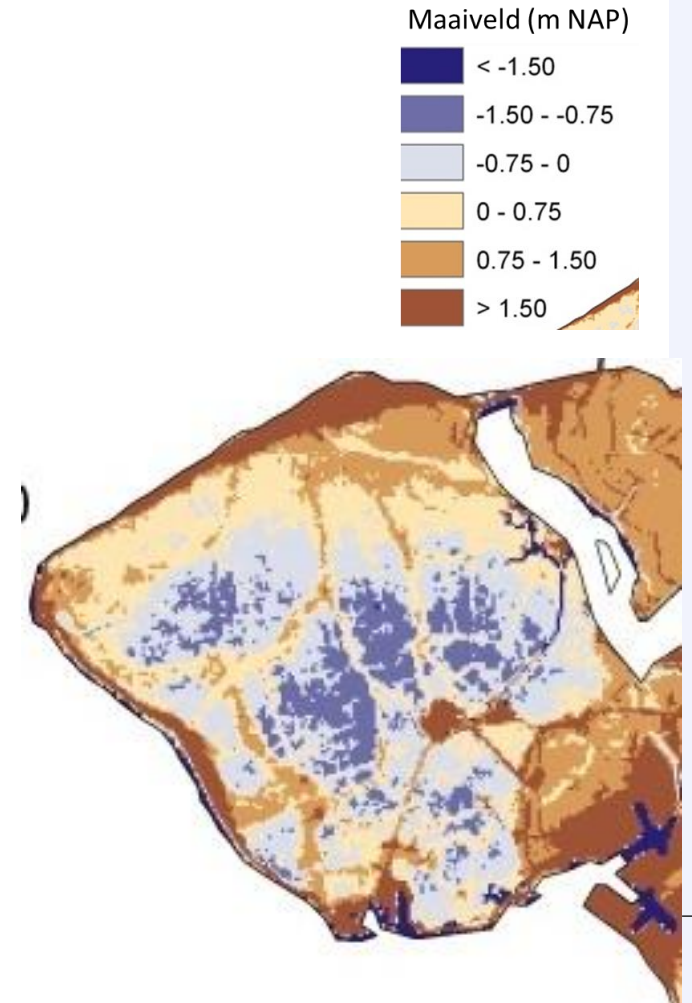
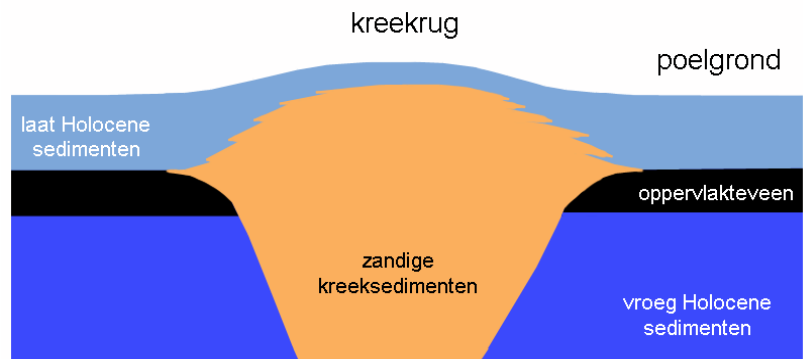
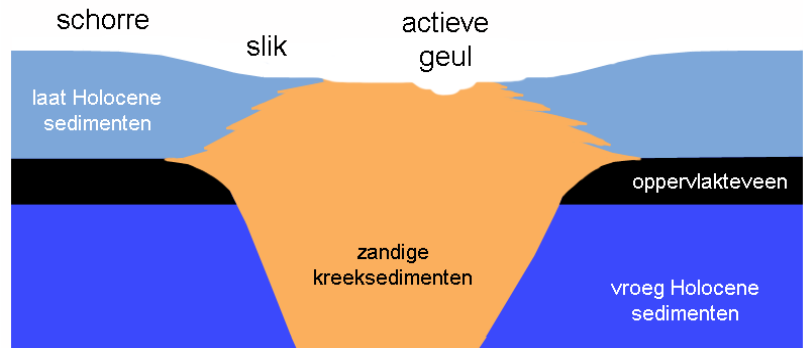


8: 1000 n. Chr

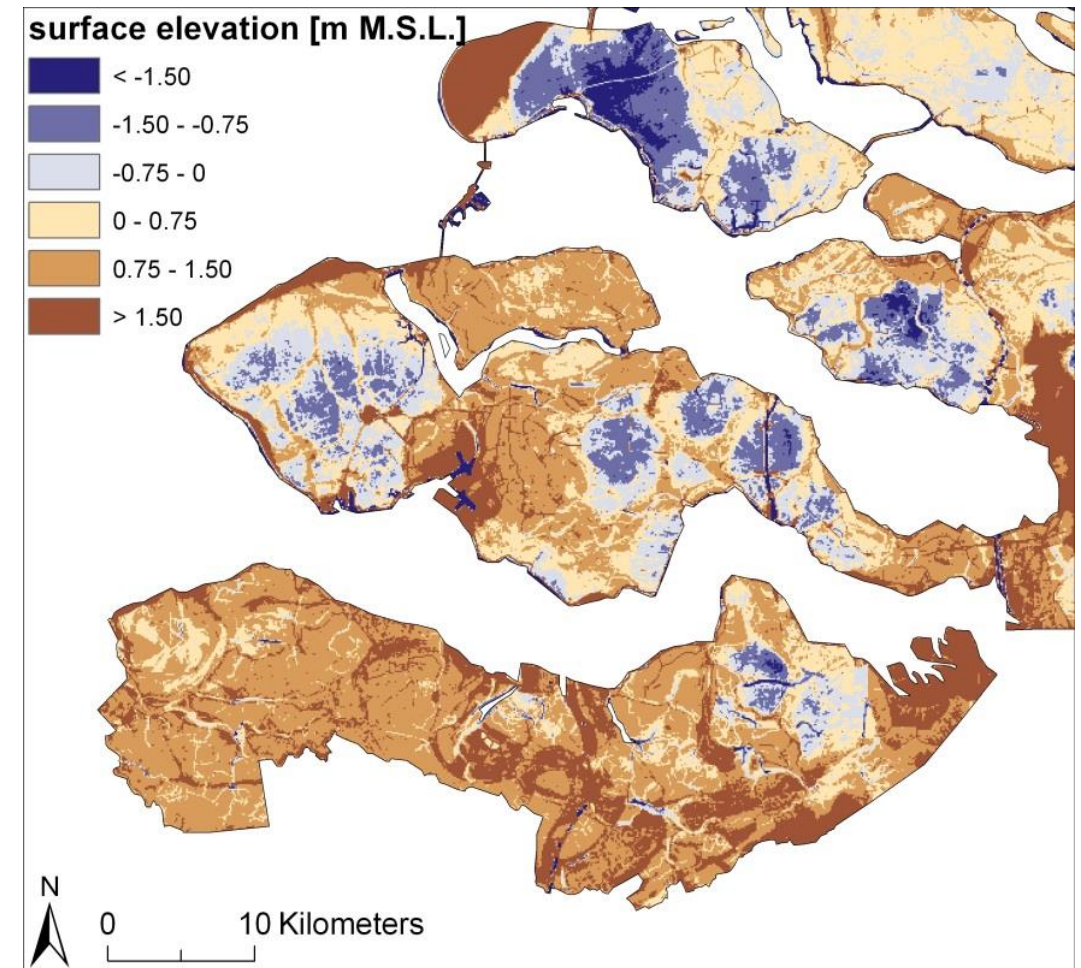
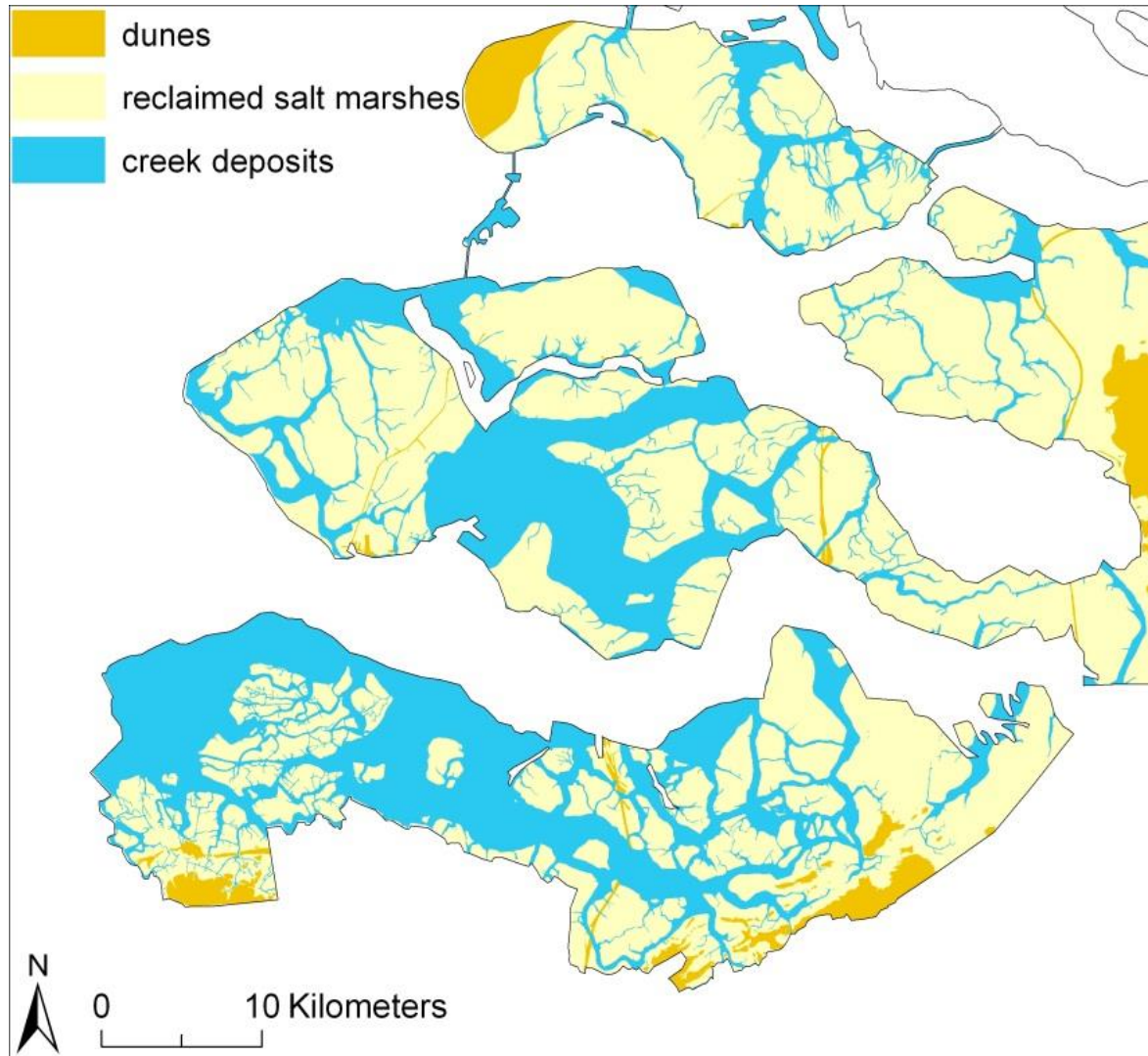
1000 na Chr.



Kreekruggen en poelgronden



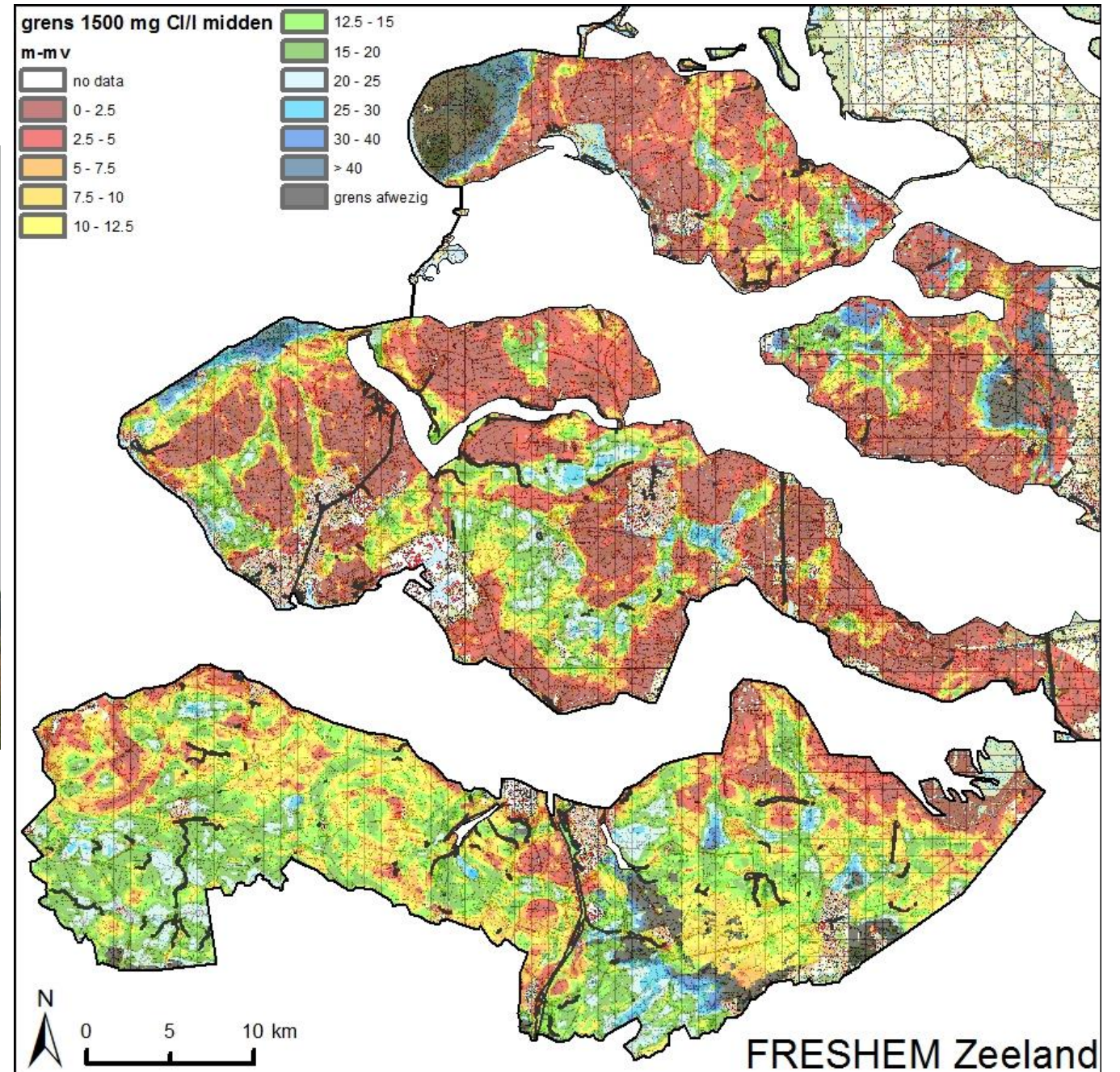
Kreekruggen (blauw) en poelgronden (geel)



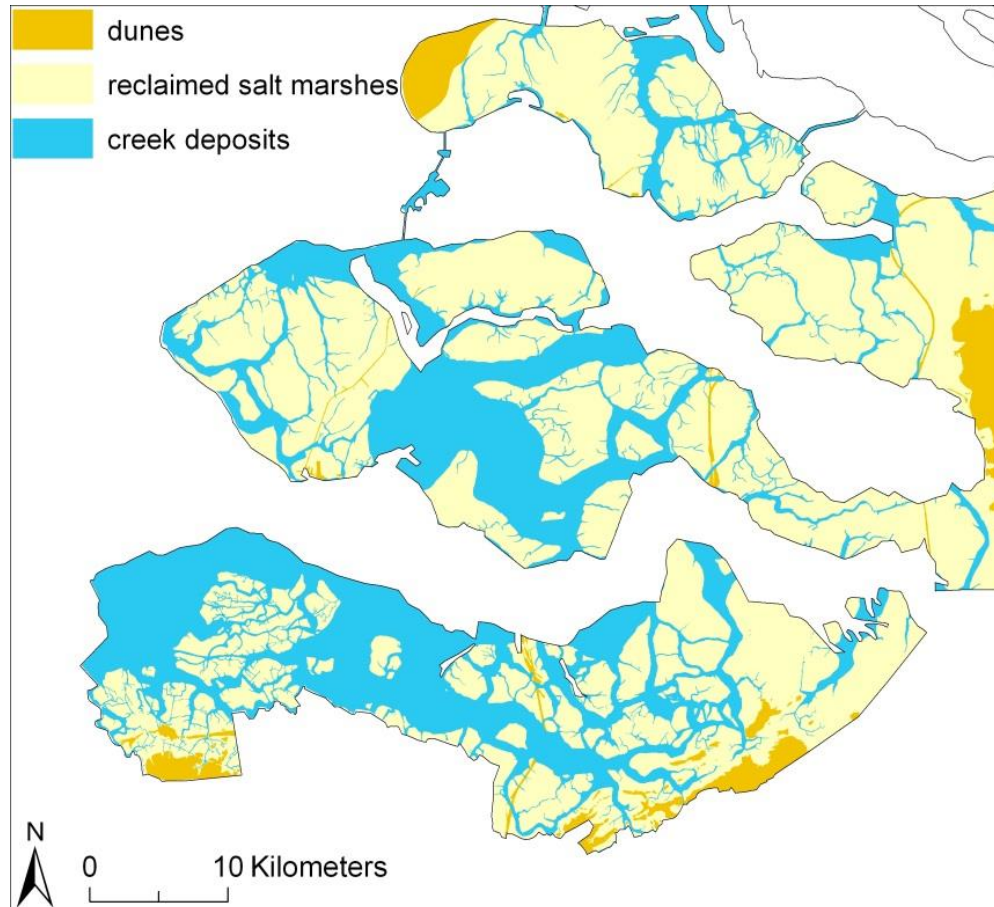
Diepte grens zoet-zout grondwater (m-mv)



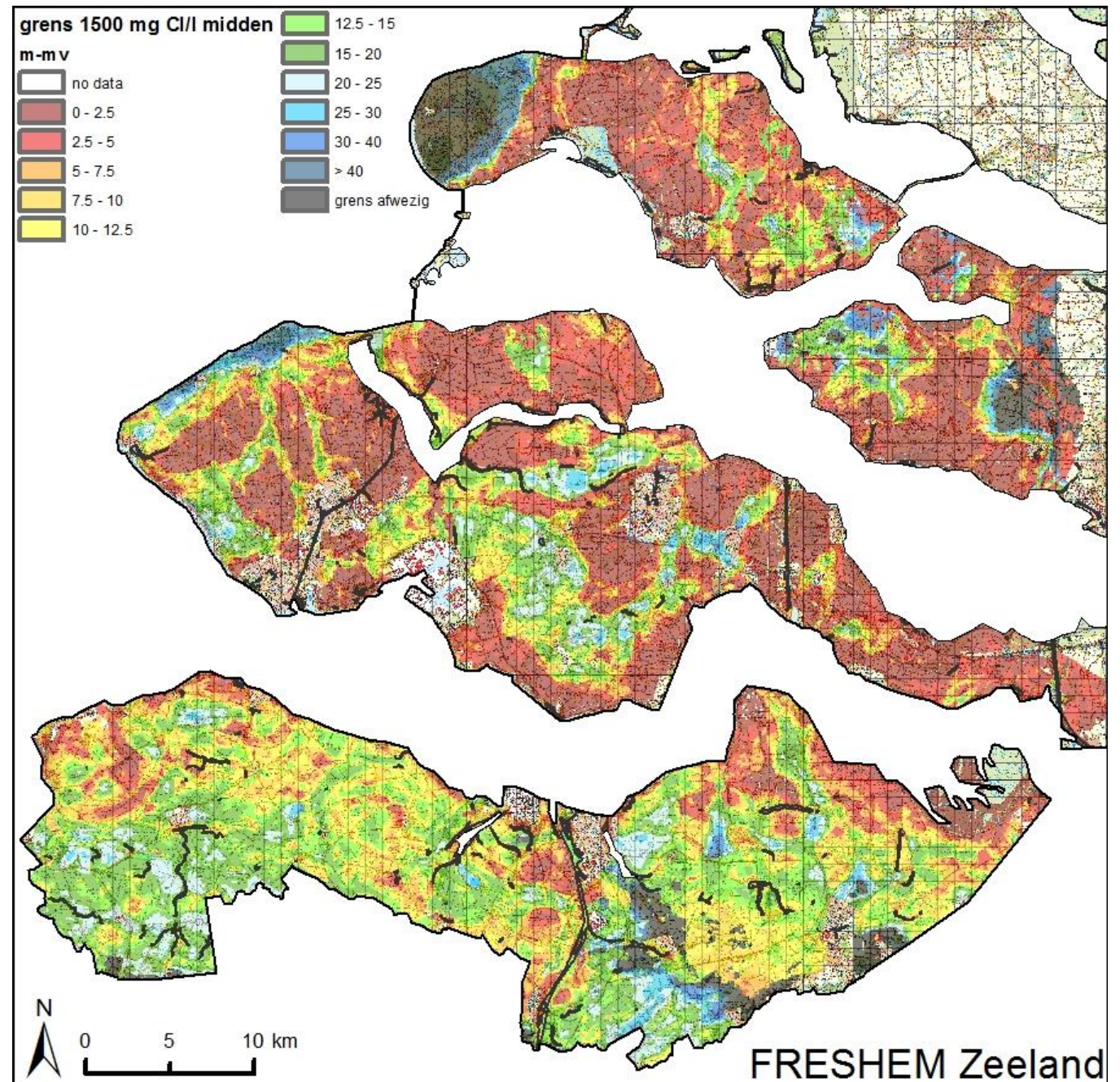
Deltares



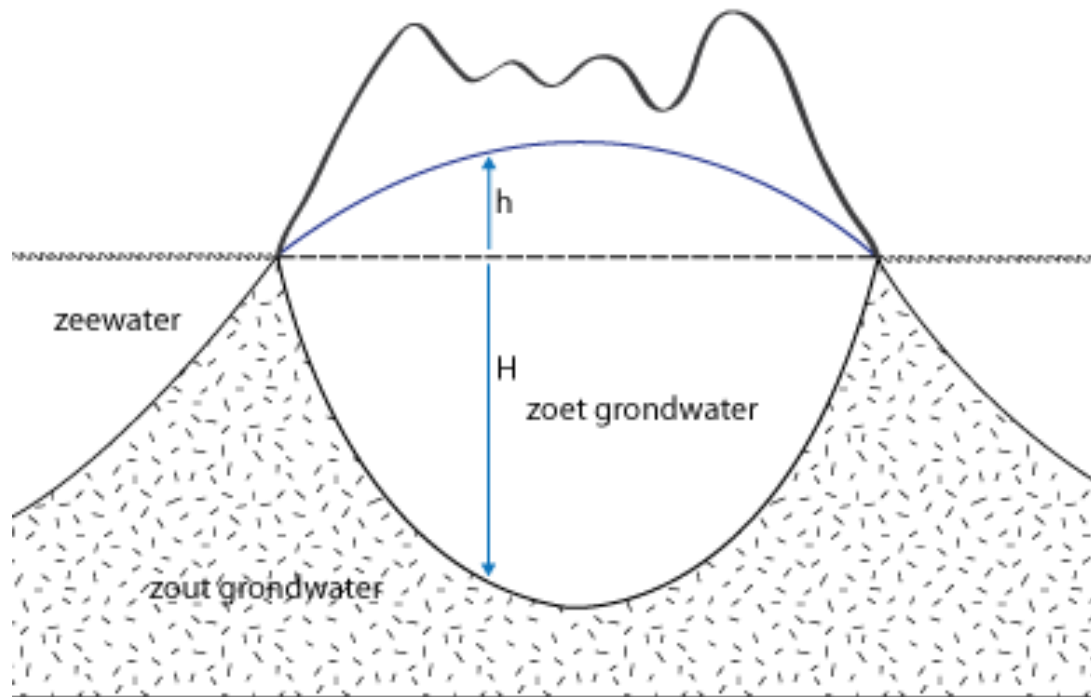
Diepte grens zoet-zout grondwater (m-mv)



Deltares



Badon Ghyben - Herzberg (1888): BGH-lenzen



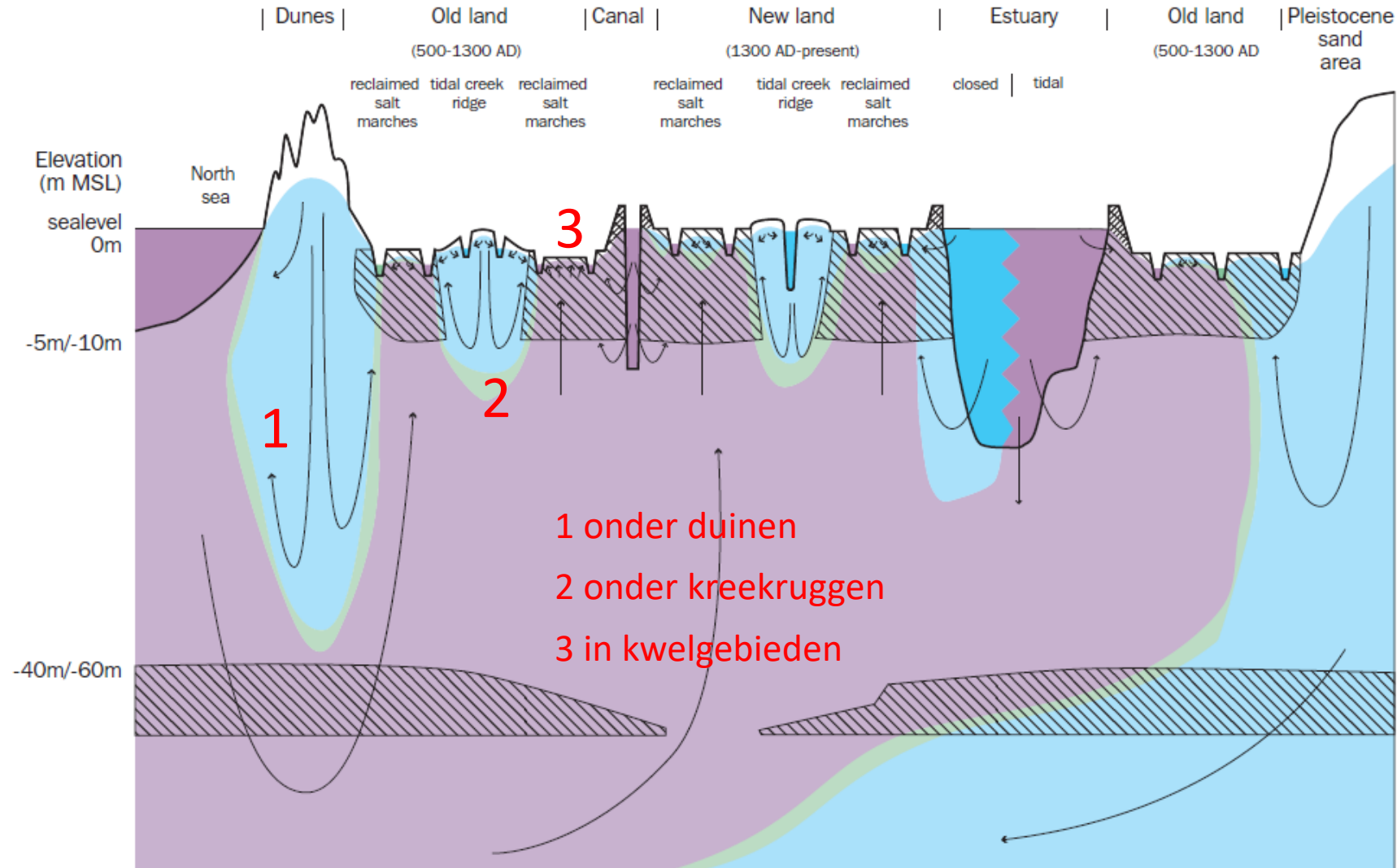
Density:

Seawater = 1025 kg/m^3

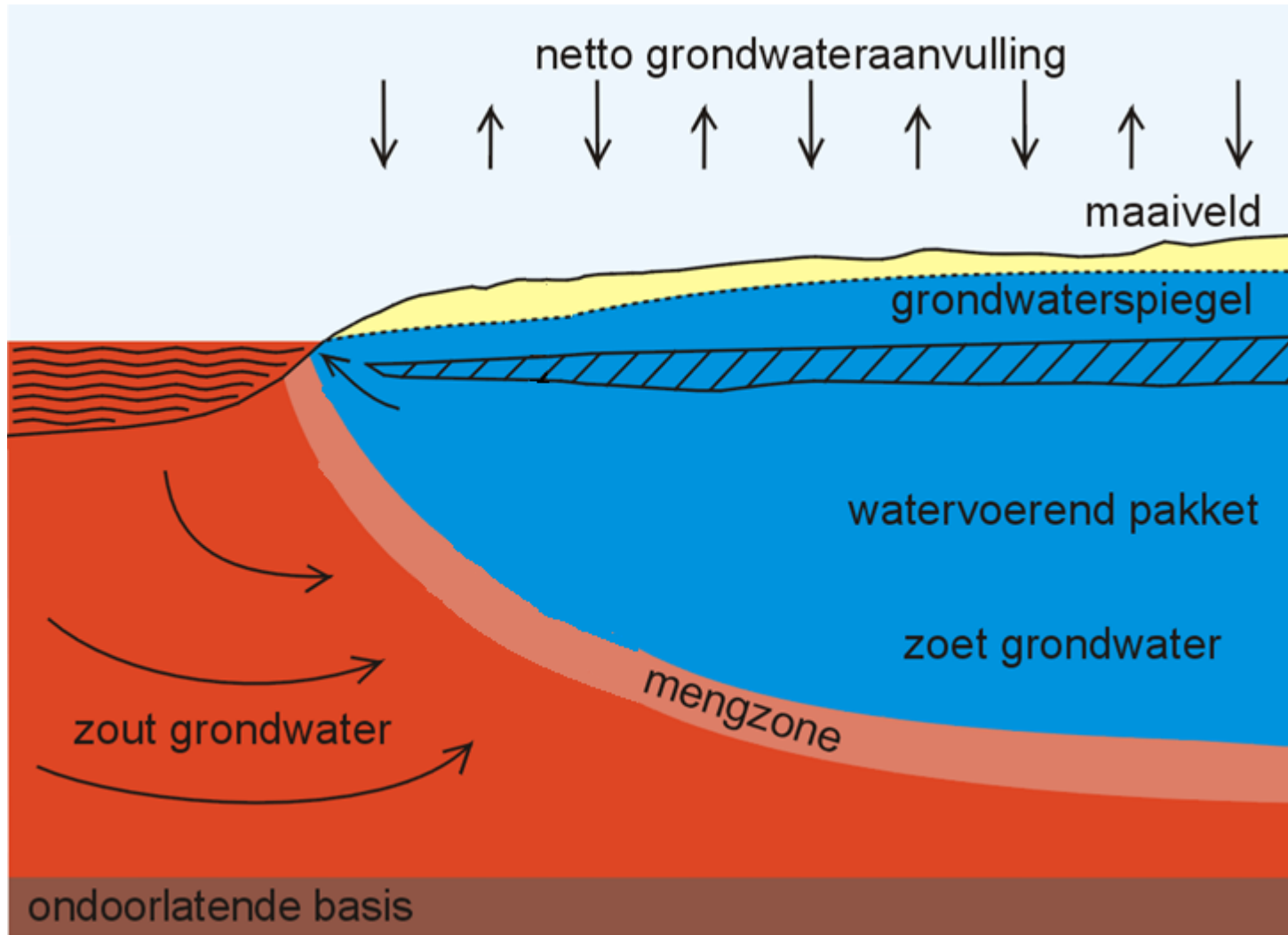
Freshwater = 1000 kg/m^3

$$H(x) = 40 \cdot h(x)$$

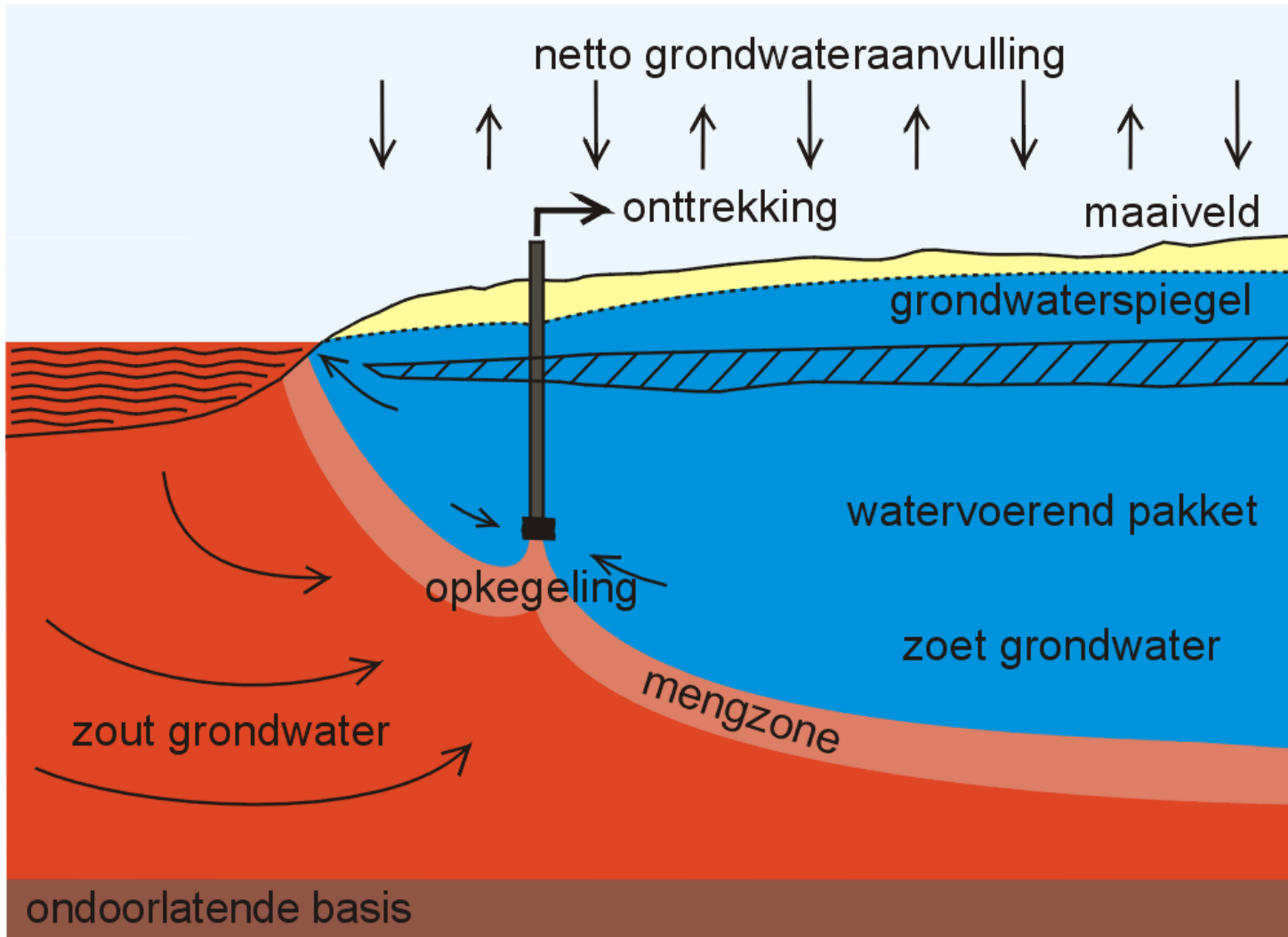
Drie typen zoetwaterlenzen in Zeeland



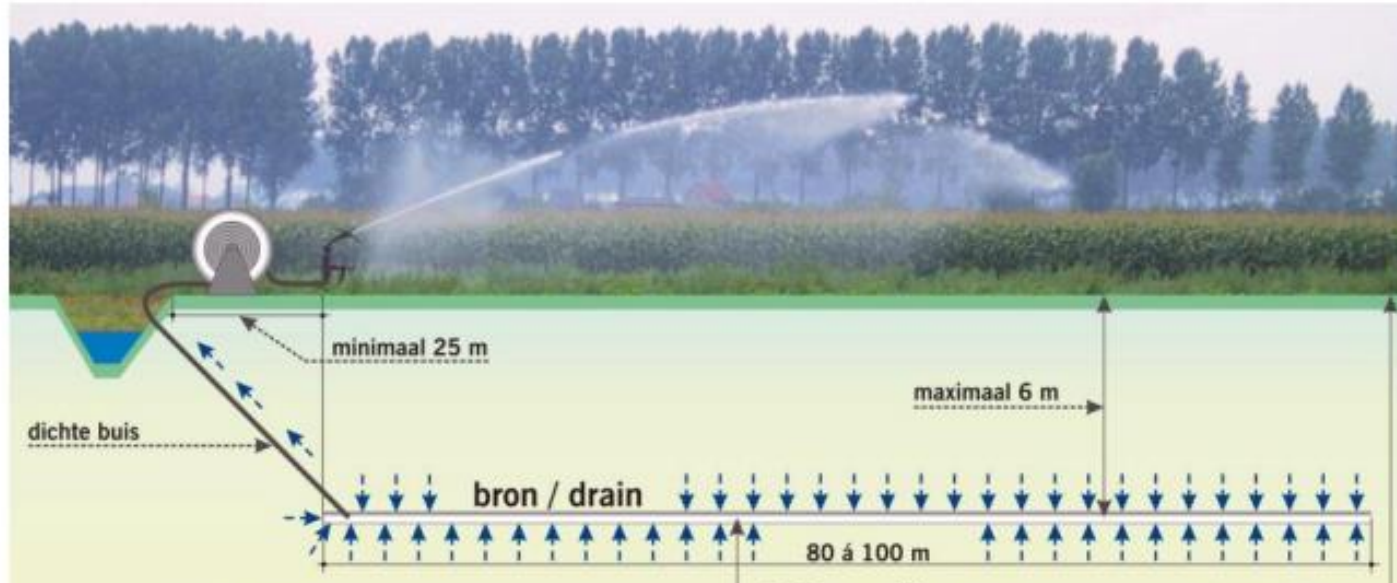
Zoet grondwater onttrekken



Zoet grondwater onttrekken

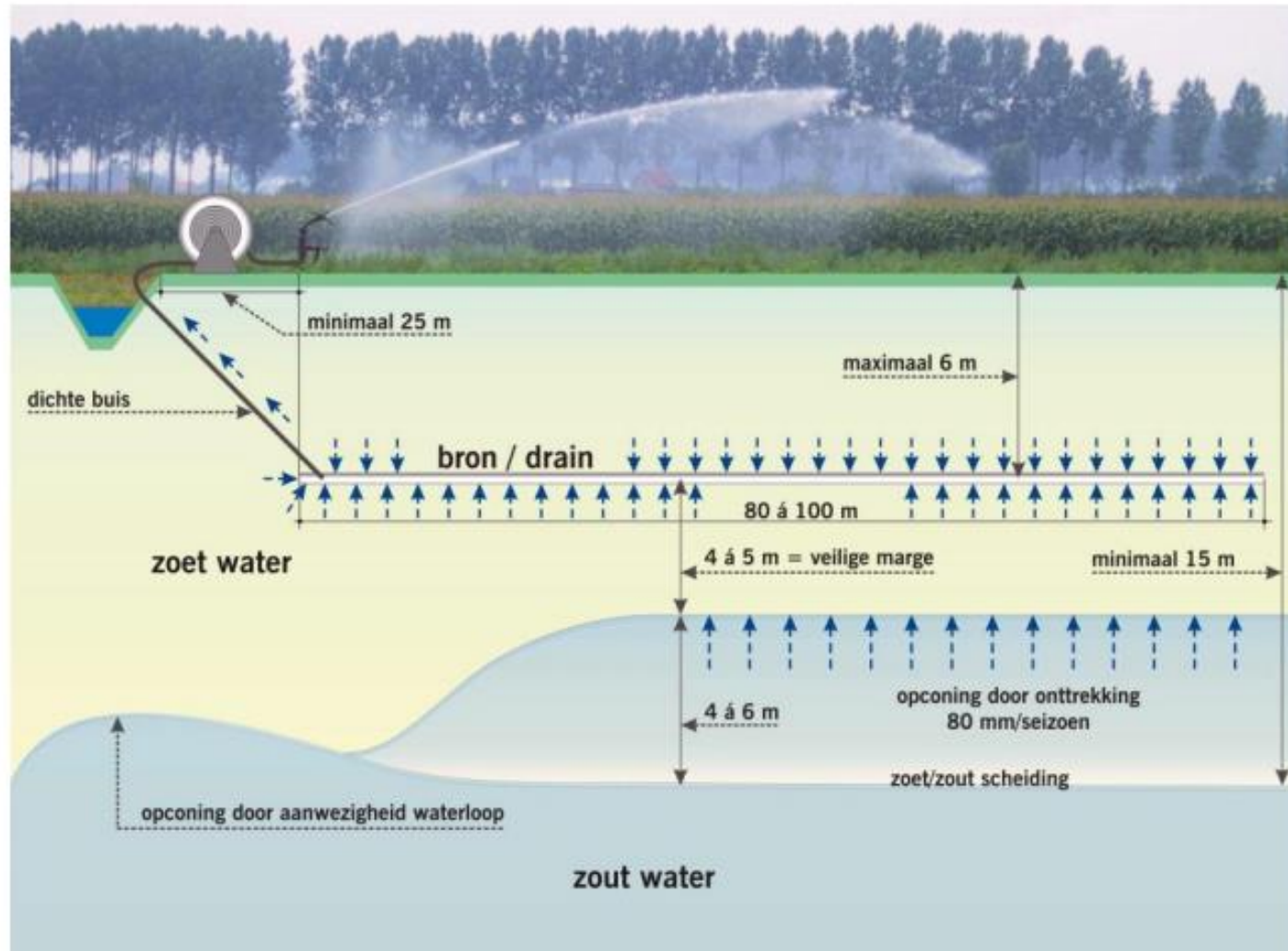


Zoet grondwater onttrekken



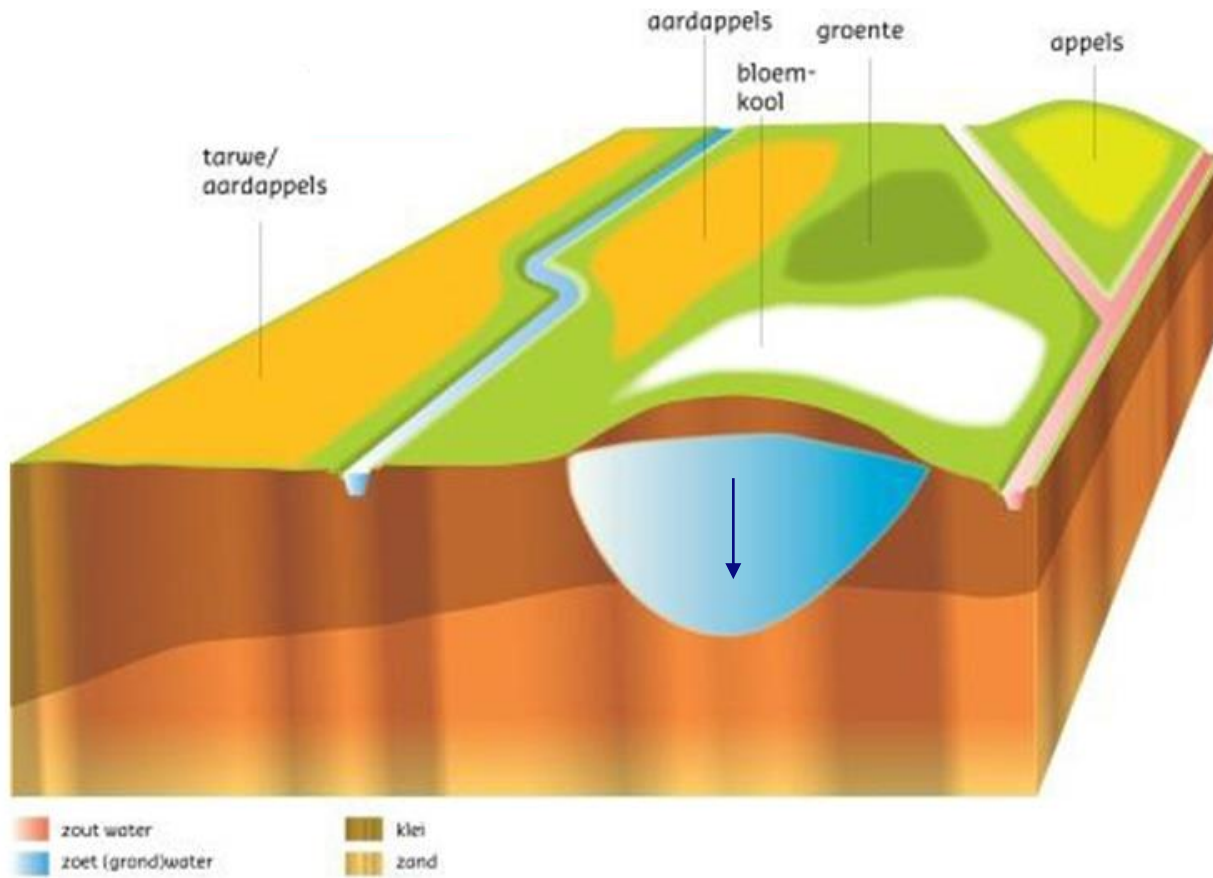
- Verticale vs horizontale putten
- Onttrekkingsregels
 - >15m zoet water
 - 80 mm/seizoen

Zoet grondwater onttrekken



- Verticale vs horizontale putten
- Onttrekkingsregels
 - >15m zoet water
 - 80 mm/seizoen
- Duurzaam onttrekken, niet interen

Zoetwaterlenzen vergroten

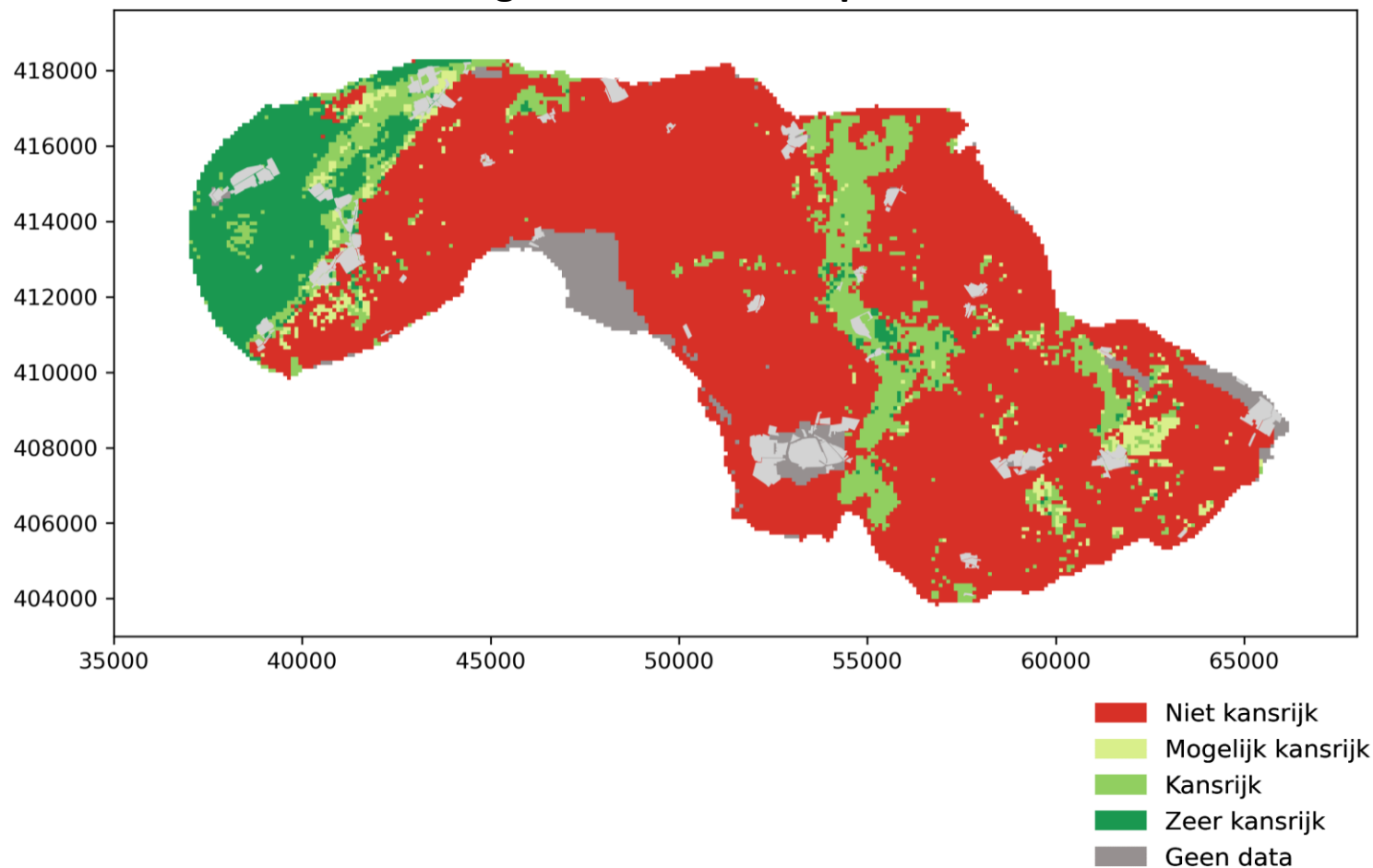


Duurzamer zoet water onttrekken:

- Grondwaterstand verhogen (infiltratie)
- Onttrekken brak/zout water
- Infiltratie op diepte

Zoetwaterlenzen vergroten

Kansenkaart Kreekrug infiltratie / ondiepe infiltratie



Mogelijkheden afhankelijk van lokale situatie

- Ondergrond
- Drainage en sloten
- Beschikbaarheid zoet water (in de winter)
- Etc.

Contact

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