

Towards a new nationwide nutrient model for the Netherlands

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Purpose of this presentation:

Bring you up to date with the recent efforts in the Netherlands to establish a new nationwide integrated model for water quality.

- Stakeholders and their policy questions
- Current approach (STONE) \rightarrow Why a new approach?
- National Hydrological Instrument (NHI)
- Set-up of NHI-WQ
- Some challenges
- Longer term vision



Stakeholders and their issues



Current instrument: STONE



Shortcomings of STONE

N-vracht naar opp.water (kg ha-1 jr-1) in 20

N-vracht naar opp.water (kg ha⁻¹ jr⁻¹) in 2027

- 1. No water management scenarios
 - 2. No deeper groundwater

verschil N-vracht naar opp.water (kg ha⁻¹ jr⁻¹)

2 - 4 afname 0 - 2 afname gelijk toename Natuur

- 3. Course spatial schematization, downscaling is difficult
- 4. Hydrology not up-to-date / the rise of the National Hydrological Instrument (NHI)
- => Update is needed



NHI = Netherlands Hydrological Instrument a toolbox for coherent regional and national models

Regional model applications

National model applications



NHI components (in its national application)

MOZART/DM/Sobek





ALTERRA WAGENINGEN UR Deltores

NHI-LHM: Examples of output



Components of NHI-WQ



Some of the challenges (1 of 3)





Some of the challenges (1 of 3)



WAGENINGENUR





Some of the challenges (2 of 3)

lelers

150000.00

2. Construction of a more detailed subsurface model for EHM



35000.00

Some of the challenges (3 of 3)

3. Translation of 3D MetaSWAP-MODFLOW results to quasi-2D hydrological input for ANIMO



The horizon: NHI-WQ as part of the NHI toolbox

Regional model applications

National model applications





THANK YOU

FOR YOUR ATTENTION

