

Wageningen Lowland Runoff Simulator

Recente ontwikkelingen

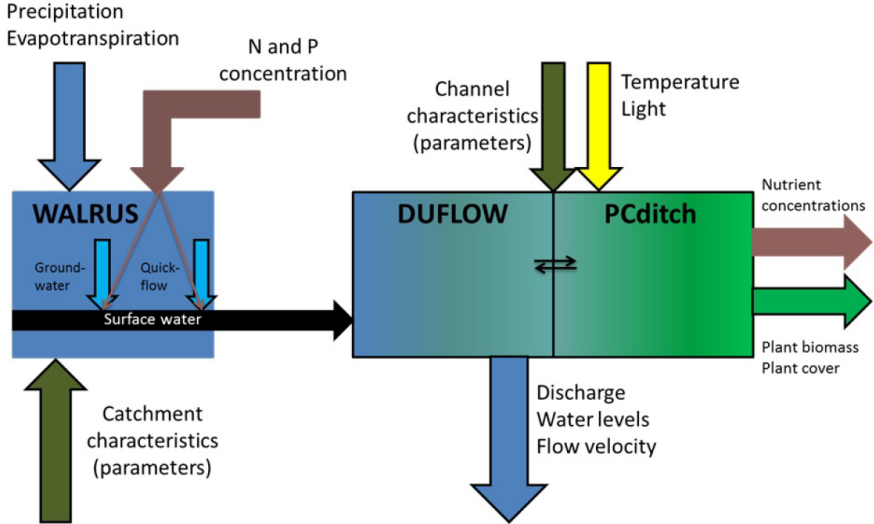
Claudia Brauer, Paul Torfs, Remko Uijlenhoet

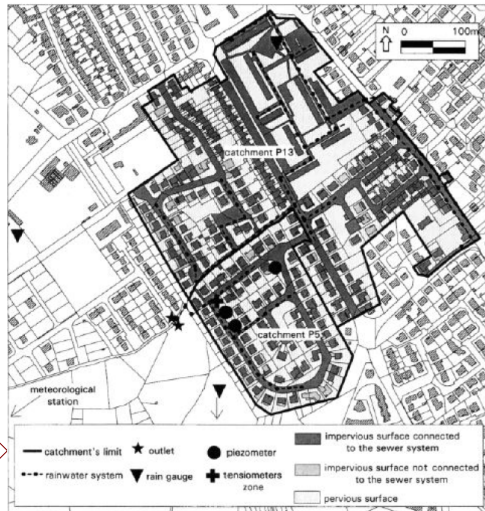
Leerstoelgroep Hydrologie en Kwantitatief Waterbeheer, Wageningen Universiteit

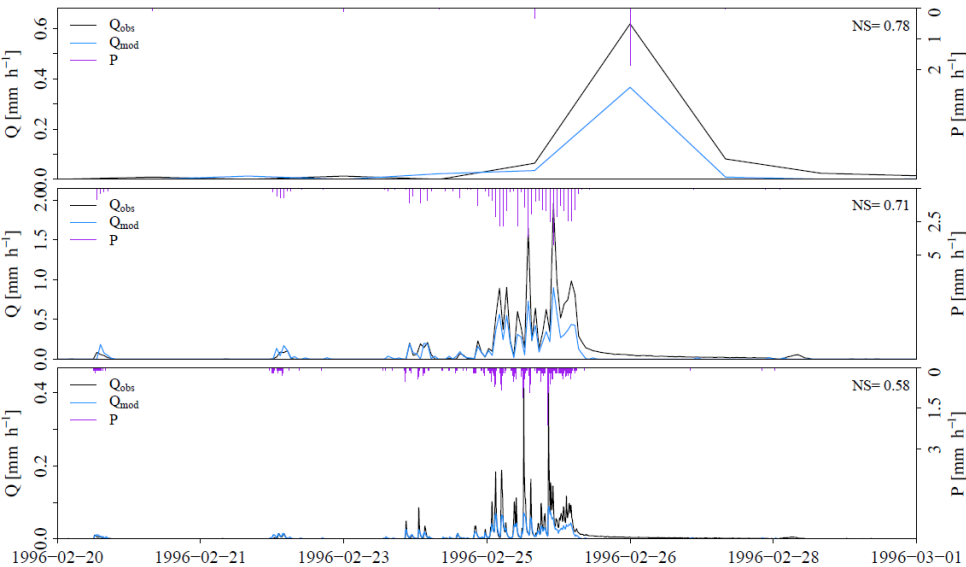
WALRUS-middag, 23 maart 2018



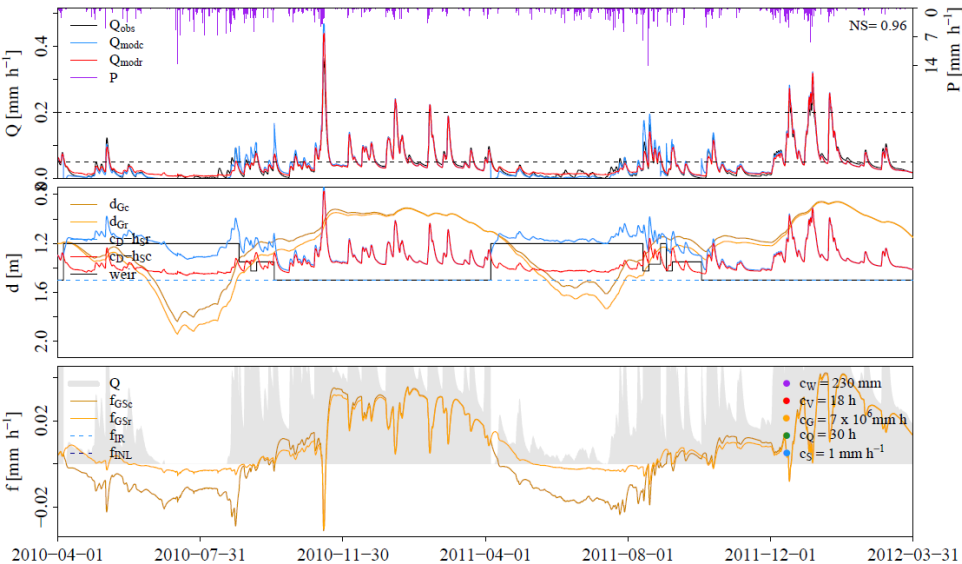
WALRUS - PC Ditch (aquatische ecologie)



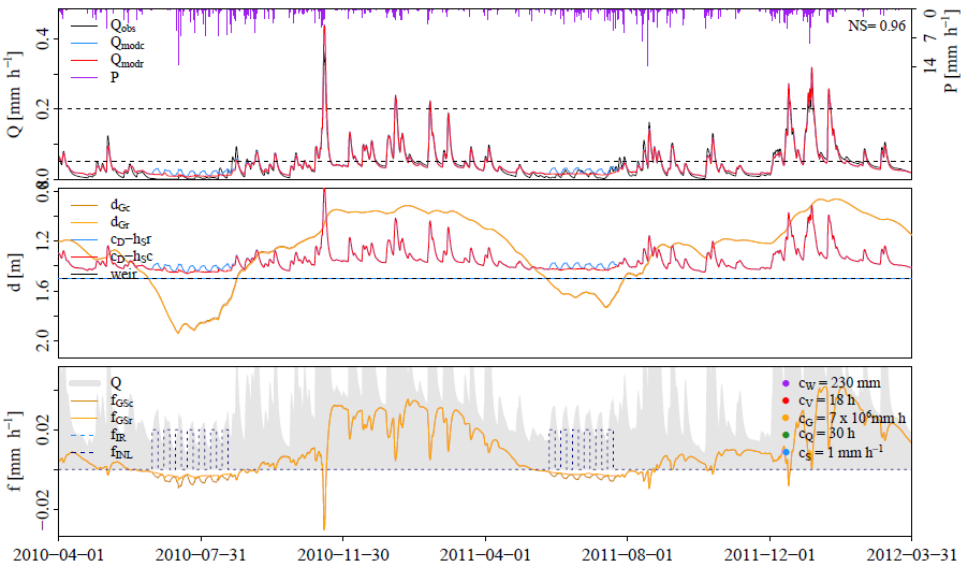




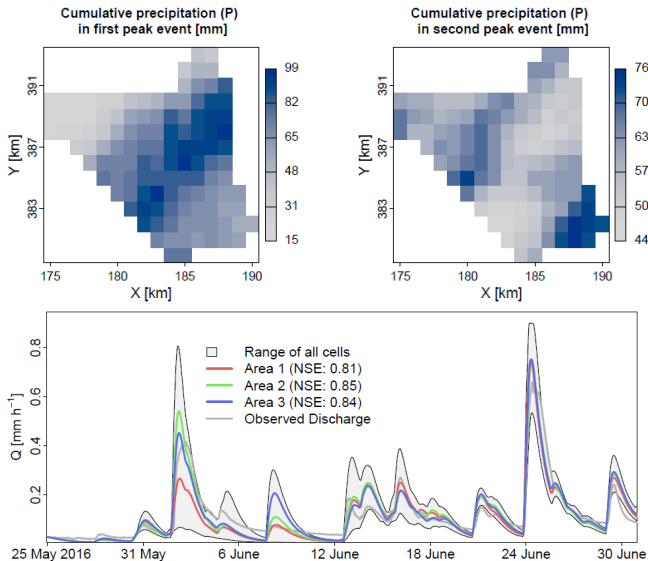
Real-time control zomer: stuwpeil



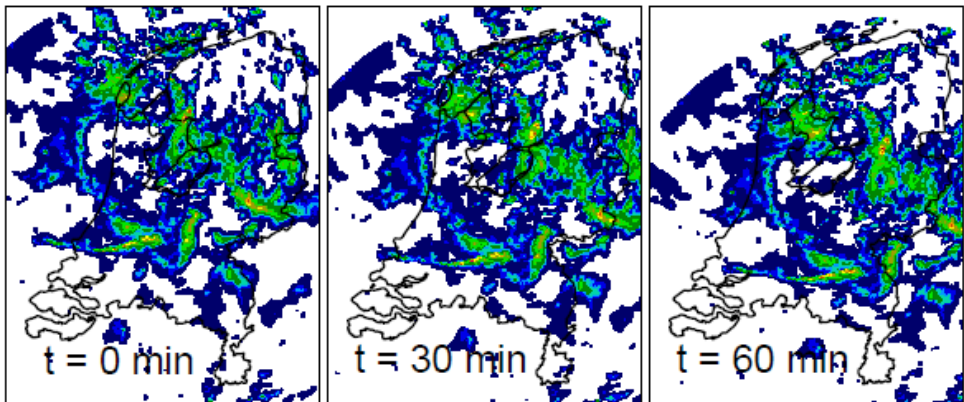
Real-time control zomer: inlaat



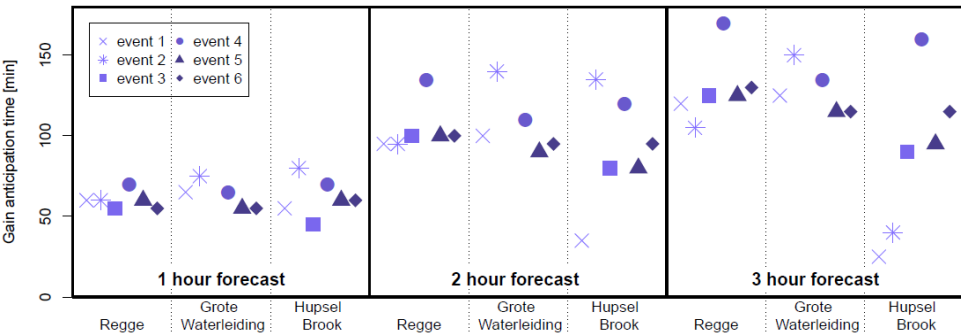
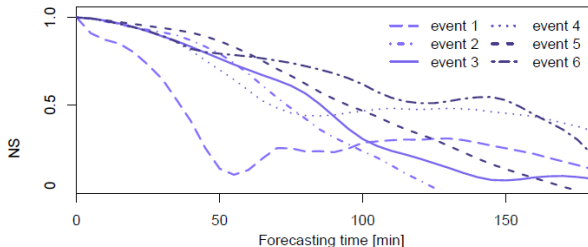
Hoogwater juni 2016: AV Lisa Weijers



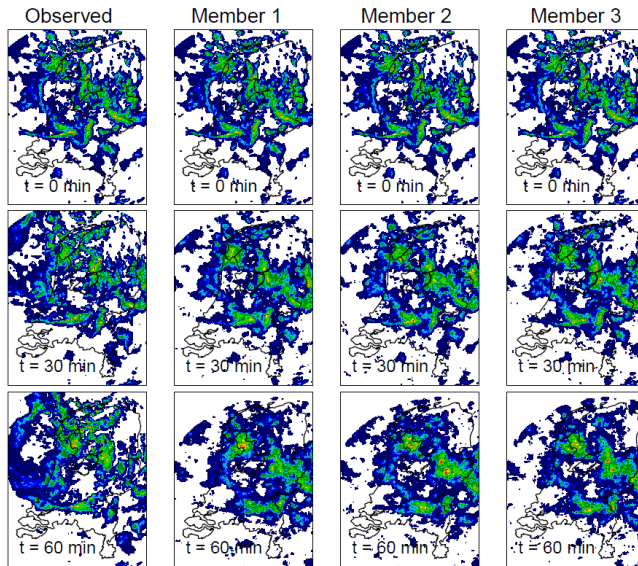
Radar nowcasting



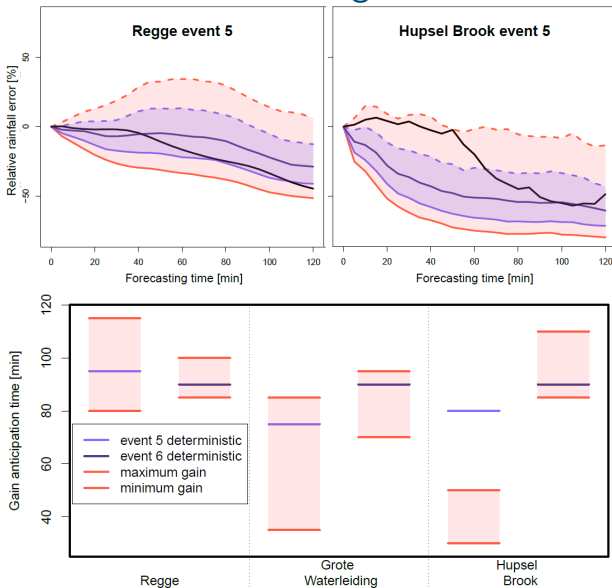
Radar nowcasting



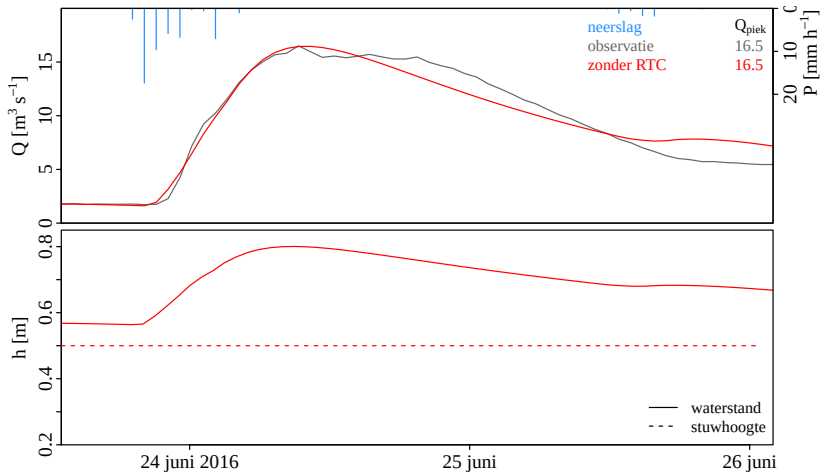
Probabilistic radar nowcasting



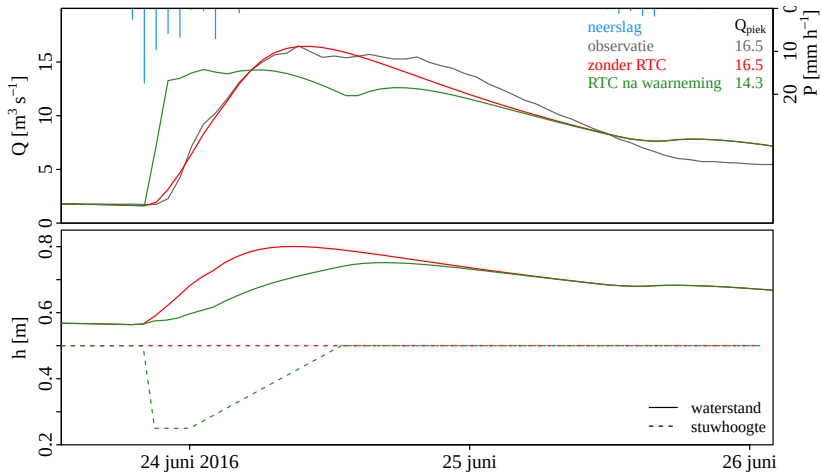
Probabilistic radar nowcasting



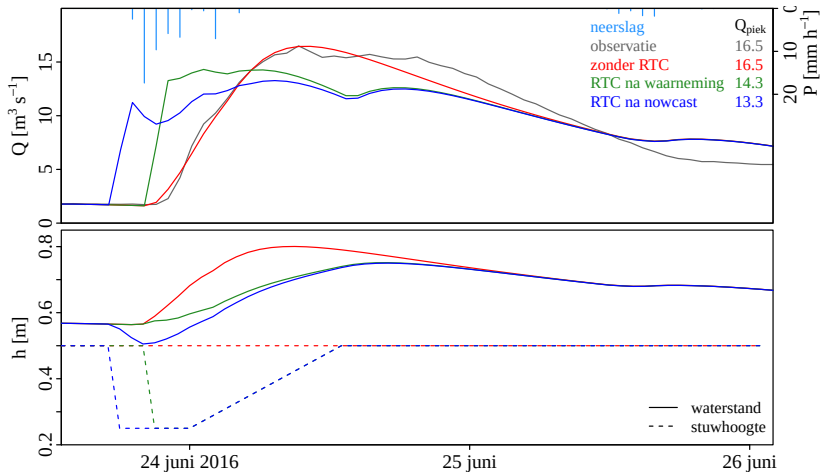
Real-time control



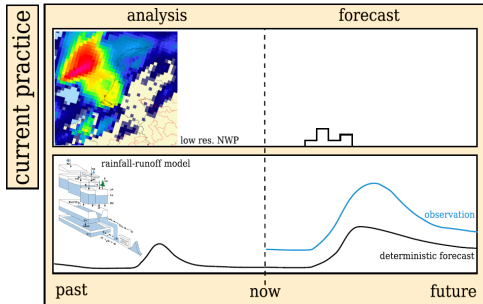
Real-time control



Real-time control

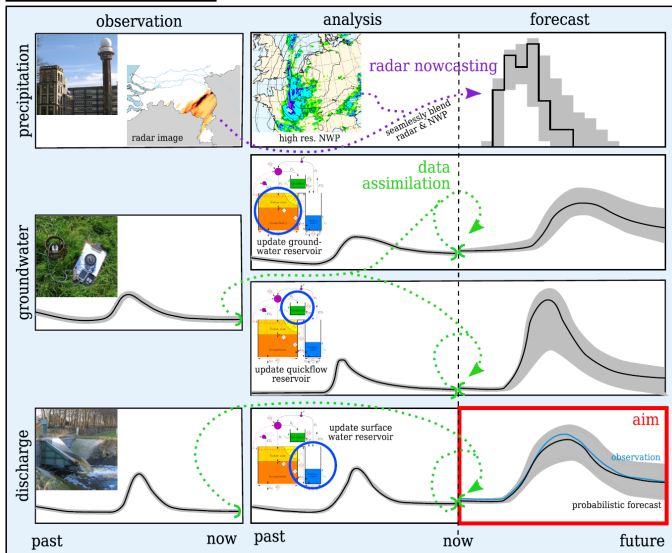


Huidige praktijk: BOS met NWP *

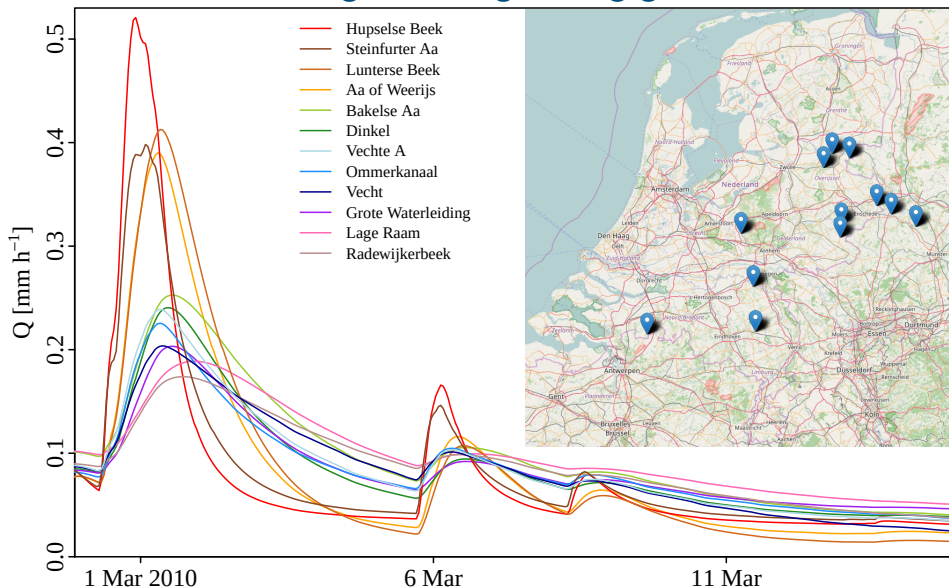


Toekomst: BOS met radar nowcasting (en data-assimilatie)?

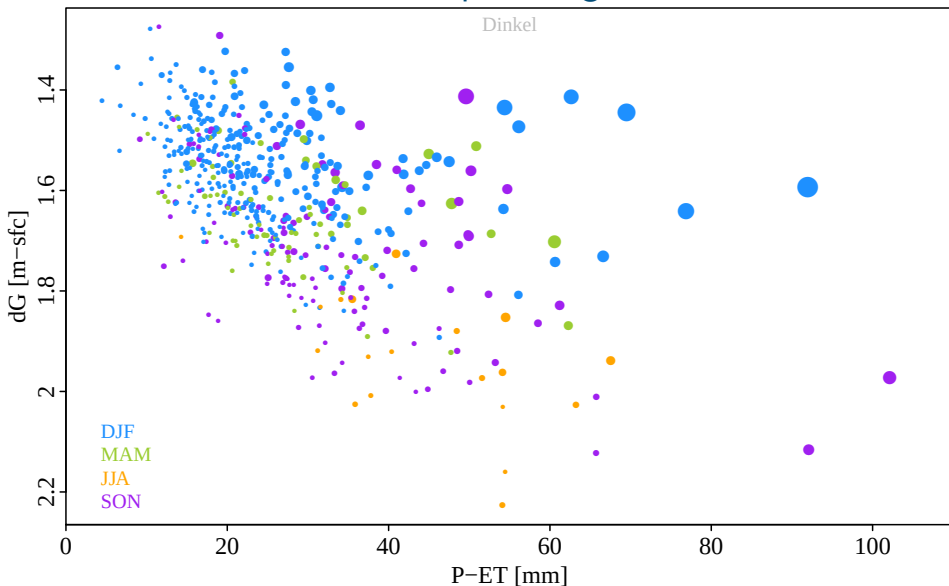
proposed approach



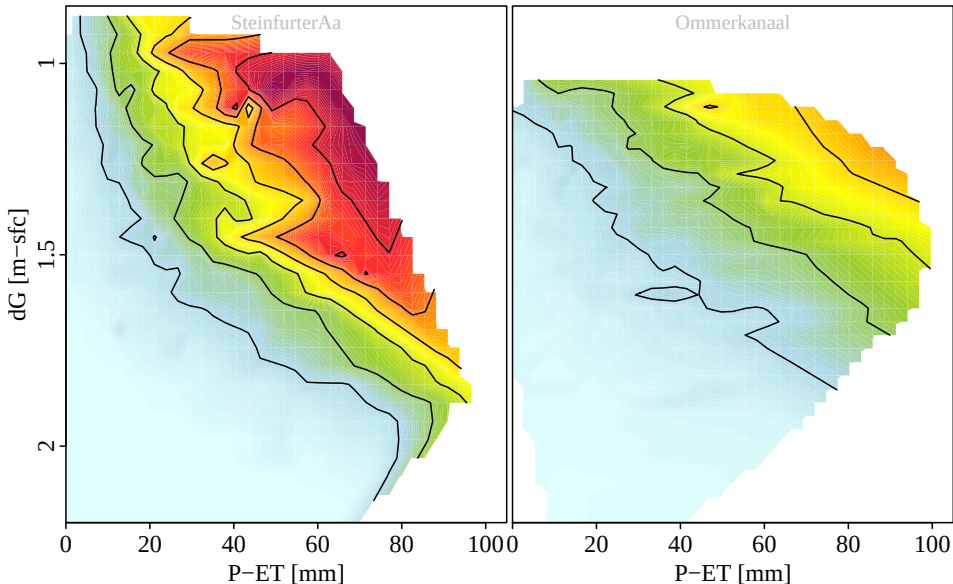
Coïncidentie hevige neerslag - hoog grondwater



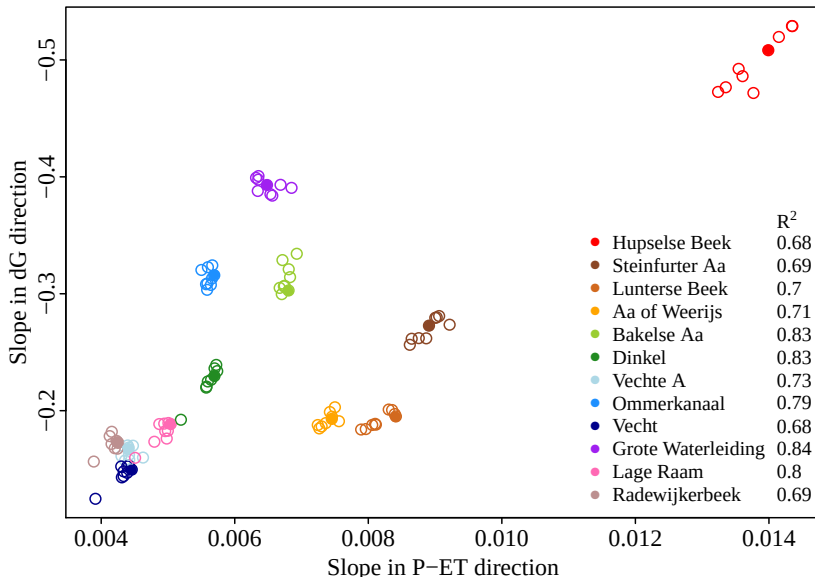
Relatie $P - ET$, dG en piekhoogte



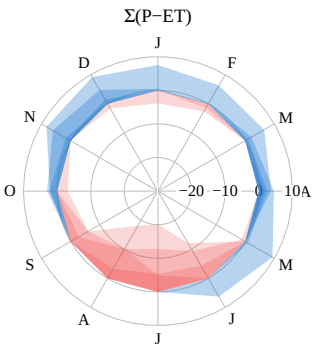
Relatie $P - ET$, dG en piekhoogte



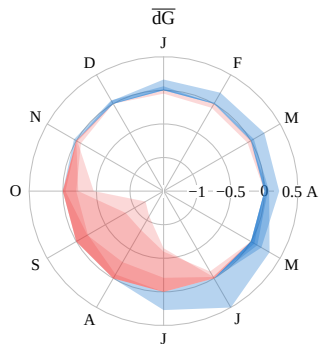
Multilineare regressie



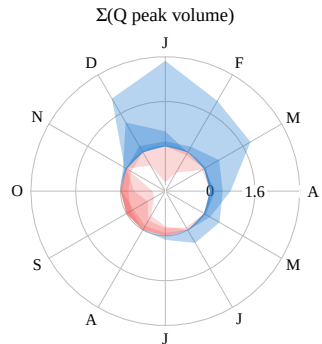
Verandering in 2050



Bakelse Aa



Bakelse Aa



Bakelse Aa

Verschillen tussen scenario's en stroomgebieden (alle pieken)

Number of peaks

2050

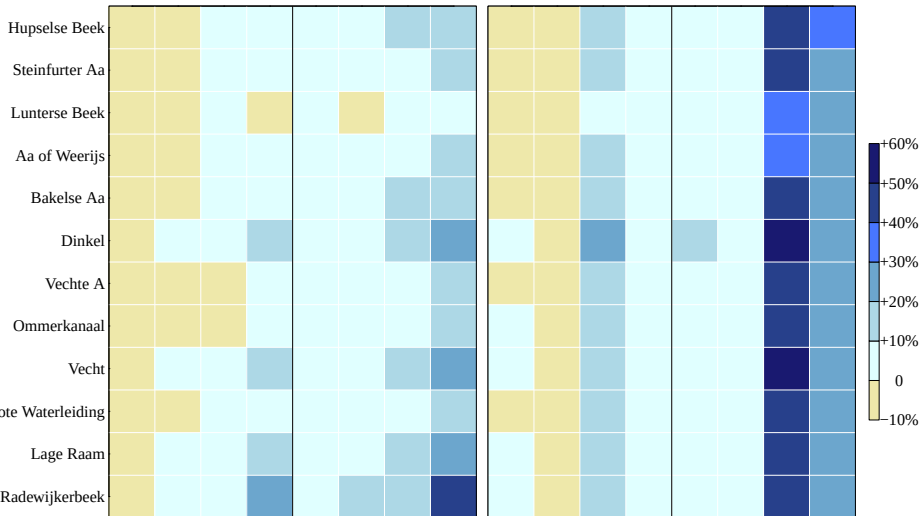
2085

Peak volume

2050

2085

GL GH WL WH GL GH WL WH GL GH WL WH GL GH WL WH



Meer informatie

- WALRUS downloads, informatie en publicaties:
www.github.com/ClaudiaBrauer/WALRUS
- C.C. Brauer, A.J. Teuling, P.J.J.F. Torfs, R. Uijlenhoet (2014):
*The Wageningen Lowland Runoff Simulator (WALRUS):
a lumped rainfall-runoff model for catchments with shallow groundwater*,
Geosci. Model Dev., 7, 2313–2332
- C.C. Brauer, P.J.J.F. Torfs, A.J. Teuling, R. Uijlenhoet (2014):
*The Wageningen Lowland Runoff Simulator (WALRUS):
application to the Hupsel Brook catchment and Cabauw polder*,
Hydrol. Earth Syst. Sci., 18, 4007–4028
- C.C. Brauer, A. Overeem, H. Leijnse, R. Uijlenhoet (2016):
*The effect of differences between rainfall measurement techniques
on groundwater and discharge simulations in a lowland catchment*,
Hydrol. Process., 30, 3885–3900
- C.C. Brauer (2014): PhD thesis,
Modelling rainfall-runoff processes in lowland catchments