Rijkswaterstaat
Ministry of Infrastructure and the Environment

TU Delft

Deltares
Enabling Delta Life

Model intercomparison: internal states

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Follow-up of earlier comparison

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Looking beyond general metrics for model comparison – lessons from an international model intercomparison study

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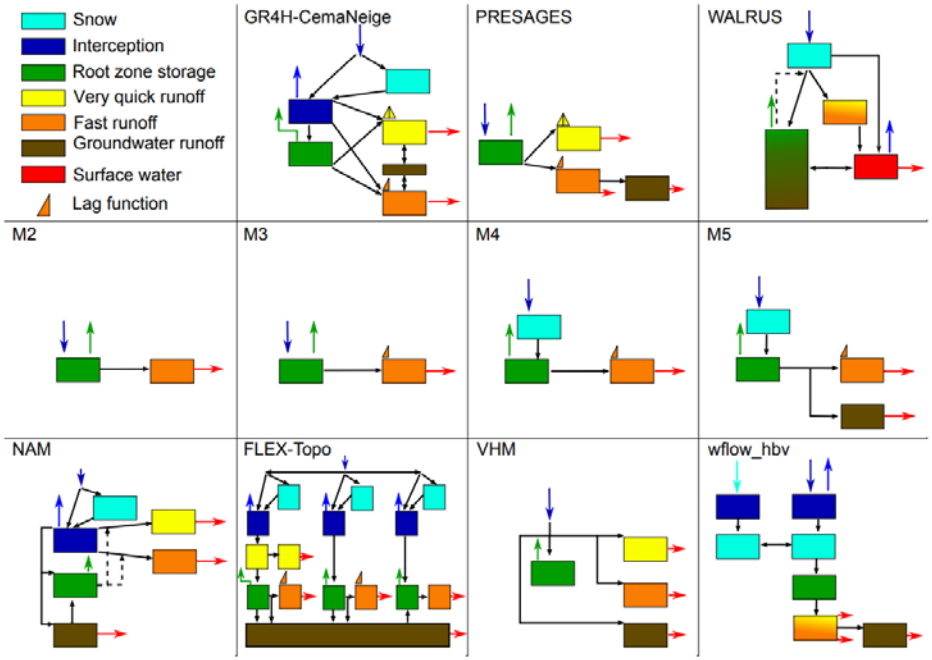
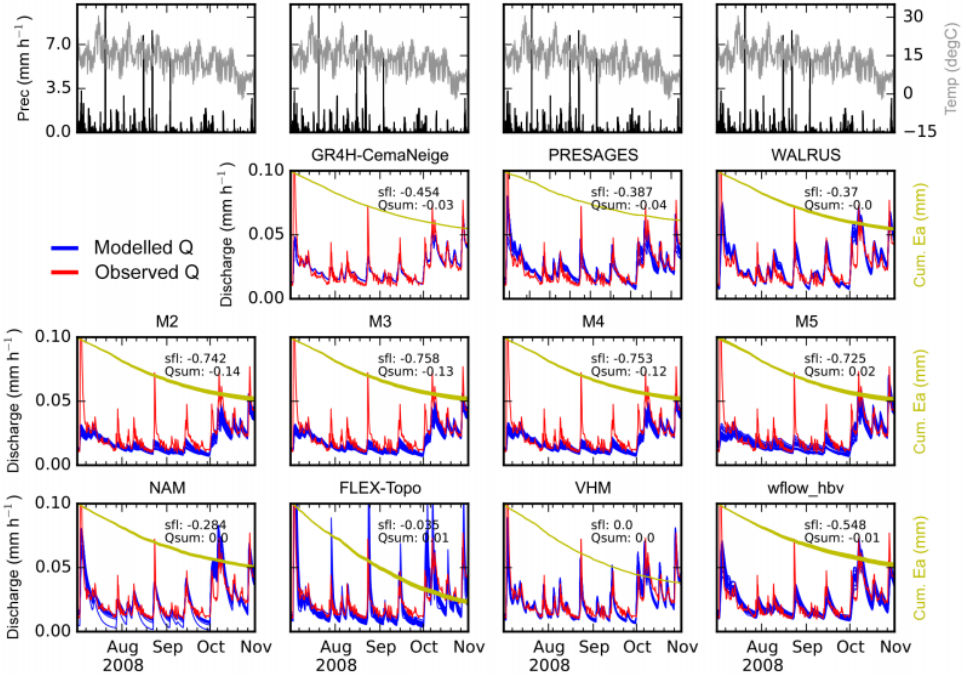
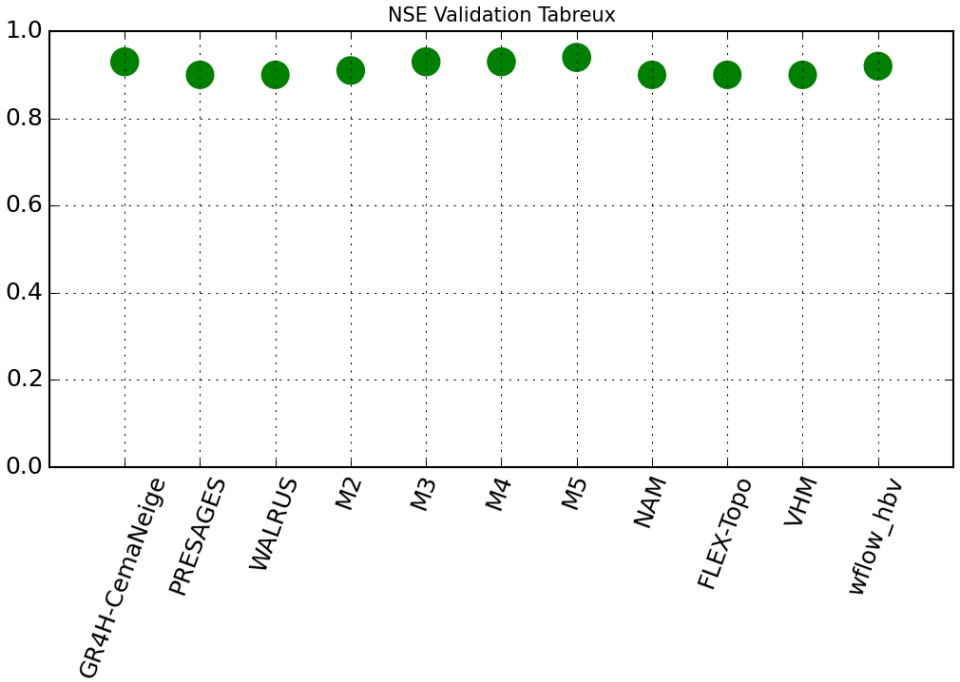

Snow
Interception
Root zone storage
Very quick runoff
Fast runoff
Groundwater runoff
Surface water
Lag function
GR4H-CemaNeige
PRESAGES
WALRUS
M2
M3
M4
M5
NAM
FLEX-Topo
VHM
wflow_hbv

Focus on modelled discharges during specific events

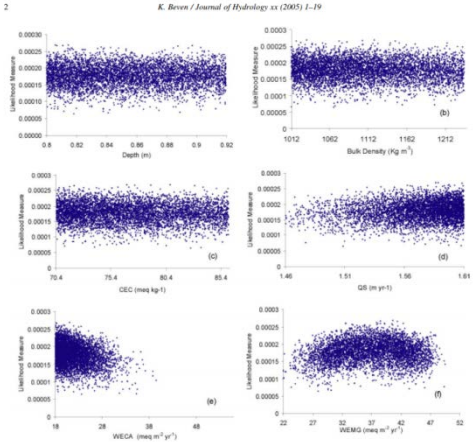


High overall performance for discharge simulations for each model



However, we don't know the variability of modelled internal states and fluxes between models

Same results for different reasons?



Therefore, we hypothesize:

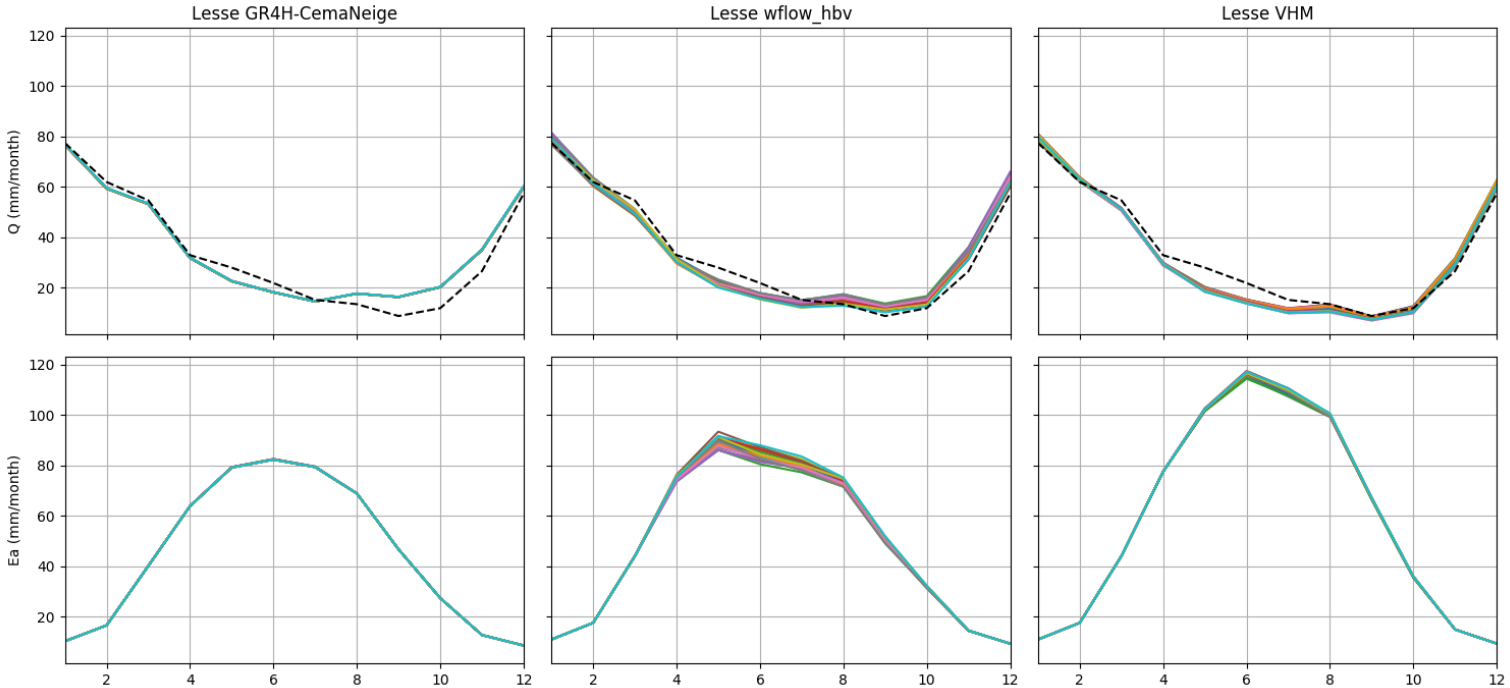
Internal states and fluxes are similar between the different models and reflect independent observations (from satellites etc.).

To do:

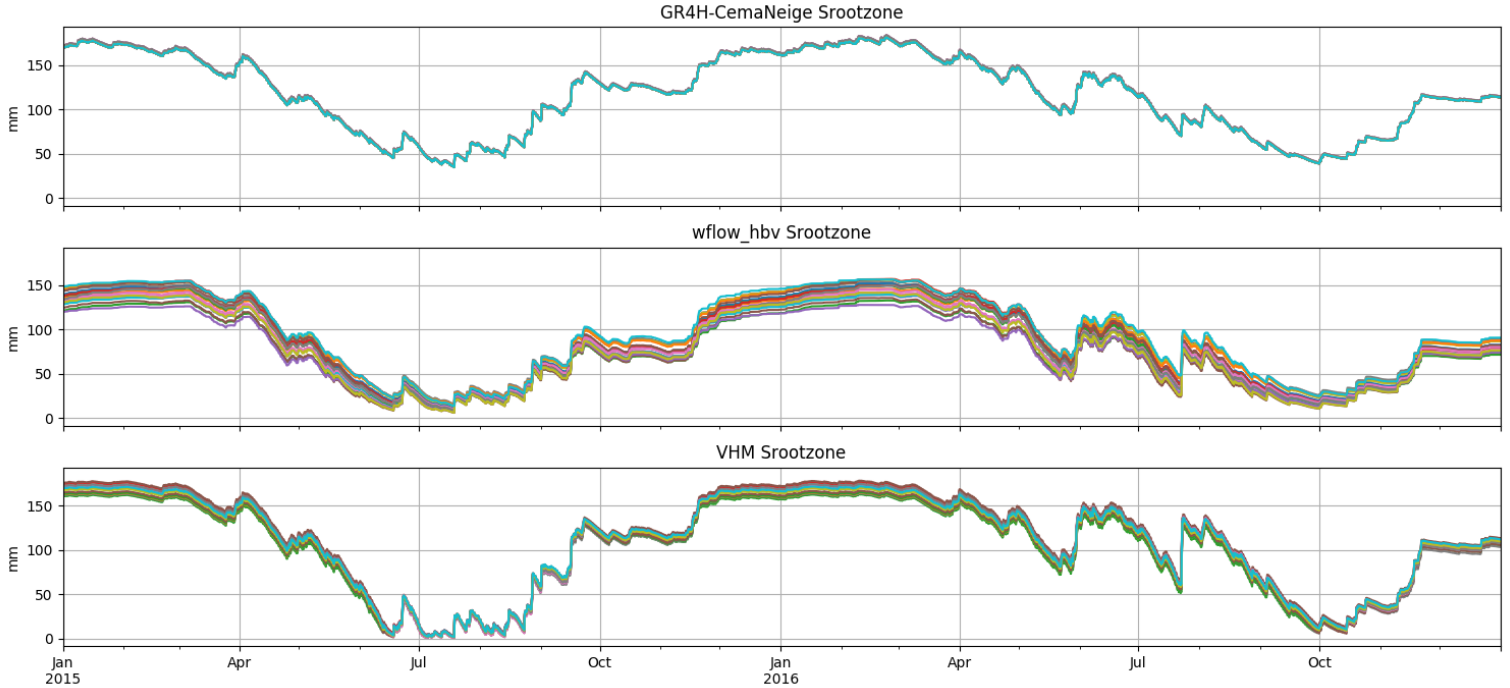
- Extend series until 2017 ✓
- Make data available on FTP ✓
- Provide model run results 15 sep 2018
- Compare results 2018-2019

General water balance components - Lesse

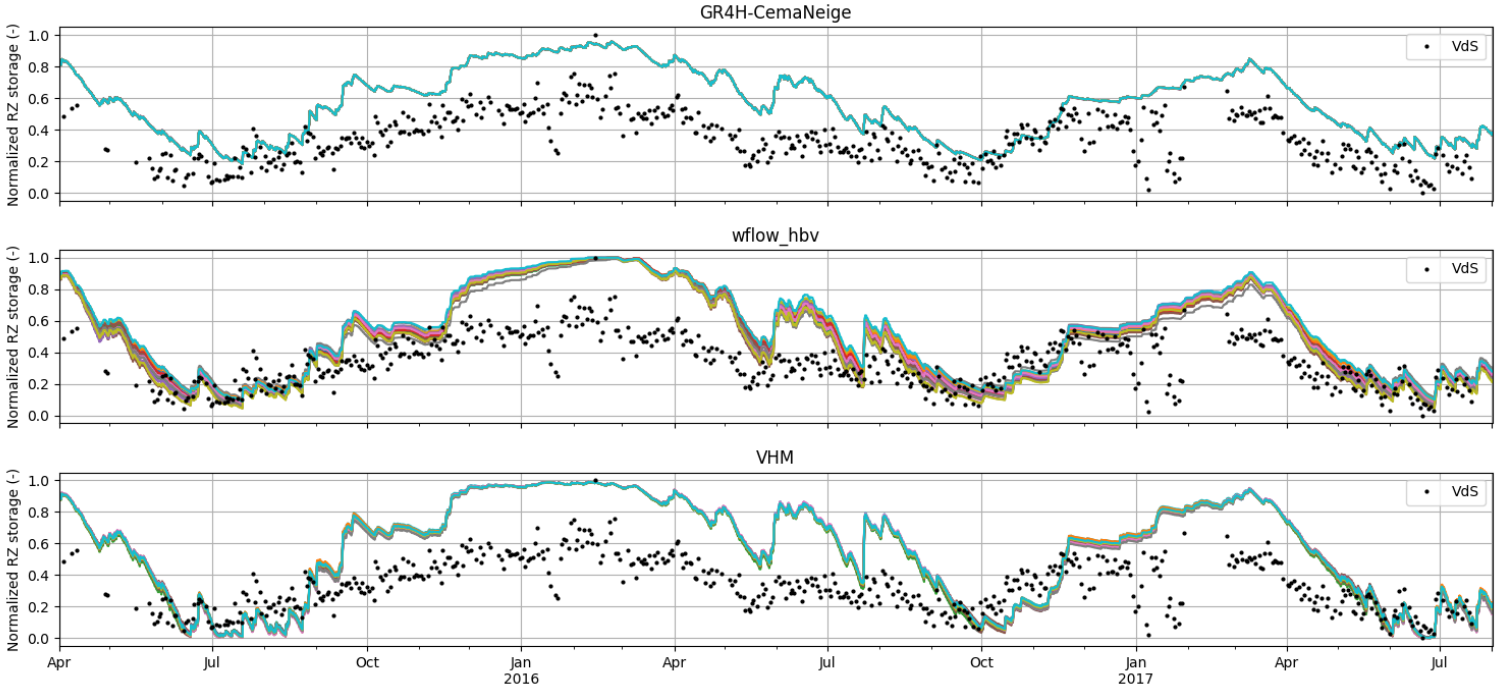
Monthly variability - Lesse



Root zone storage Lesse –
~ similar upper limit and dynamics



Root zone storage dynamics – VanderSat soil moisture in the Lesse

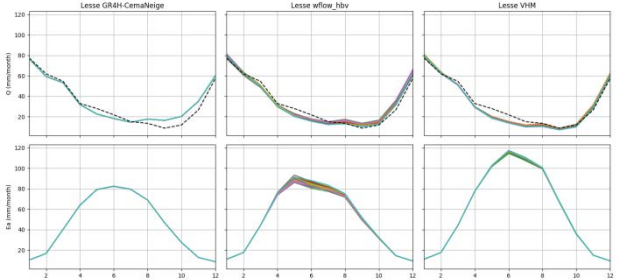


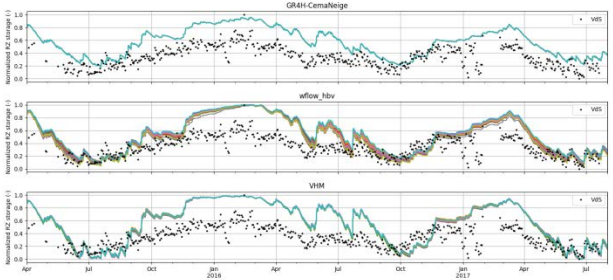
Notes from first analyses

- Oops … error in precipitation timeseries of the Semois from april 2017-dec 2017

Notes from first analyses

- Difference in actual evaporation





- Pattern of root zone storage dynamics is rather similar and overall dynamics approximate VanderSat data

Ideas and suggestions for analyses?