MetaInformation Swap4.0.1

Name	SWAP 4
Version	4.0.1
Release date	12-June_2017
Operability	SWAP 4 simulates transport of water, solutes and heat in the vadose zone.
Domain	SWAP 4 describes a domain from the top of canopy into the groundwater which may be in interaction with a surface water system. It is designed to simulate transport processes at field scale and during entire growing seasons.
Temporal and spatial scale	In the vertical direction the model domain reaches from a plane just above the canopy to a plane in the shallow groundwater. In this zone the transport processes are predominantly vertical, therefore SWAP is a one-dimensional, vertically directed model. In the horizontal direction, SWAP's main focus is the field scale.
Required input	**Water flow**: ☐ Daily evapotranspiration ☐ Daily rainfall and/or irrigation data ☐ Soil hydraulic properties ☐ Drainage conditions **Crop development**: ☐ Development stage during growing period ☐ Leaf area index during growing period ☐ Soil cover during growing period ☐ Rooting depth during growing period ☐ Sensitivity of crop root water extraction to high and low soil water pressure heads ☐ Sensitivity of crop root water extraction to salinity concentrations (if applicable) **Solute transport**: ☐ Initial solute concentrations in the soil ☐ Amount of solute applications and/or solute concentration in irrigation water ☐ Solute concentrations in groundwater See details in [1] and [2]
Model output	Time series of extended water and solute balances terms and crop dry matter development including relevant variables. See details in [1] and [2]
User interface	Communication between user and model uses ASCII-based files (no graphical user interface)
Platform	Windows 7 (linux versions on request)
Availability	www.swap.alterra.nl and swap.wur.nl This software is distributed under the terms of the GNU GENERAL PUBLIC LICENSE Version 2, June 1991.
Price	Free, see Availability
Contact person(s)	See Availabilityr, at this moment: • Joop Kroes: joop.kroes@wur.nl • Jos van Dam: jos.vandam@wur.nl

References

[1] Kroes, J.G., J.C. van Dam, R.P. Bartholomeus, P. Groenendijk, M. Heinen, R.F.A. Hendriks, H.M. Mulder, I. Supit, P.E.V. van Walsum, 2017. SWAP version 4; Theory description and user manual. Wageningen, Wageningen Environmental Research, Report 2780. Available at: http://library.wur.nl/WebQuery/wurpubs/fulltext/416321

[2] Groenendijk, P., Boogaard, H., Heinen, M., Kroes, J., Supit, I., & Wit, A. De., 2016. Simulation of nitrogen-limited crop growth with SWAP / WOFOST. Report 2721. Alterra Rapport, 2721. Available at: http://edepot.wur.nl/400458