

Publications Stefan Kollet

Refereed Publications

- Wood, E. F., J. K. Roundy, T. J. Troy, L.P.H. van Beek, M. F.P. Bierkens, E. Blyth, A.P.J. De Roo, P. Doell, J. S. Famiglietti, D. J. Gochis, N. Van de Giesen, P. R. Houser, P. R. Jaffe, S. J. Kollet, B. Lehner, D. P. Lettenmaier, C. D. Peters-Lidard, M. Sivapalan, J. Sheffield, A. Wade, and P. Whitehead, 2012, Reply to "Defining Grand Challenges in hydrology: a comment on Wood et al (2011) Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth's terrestrial water" by K. J. Beven and H. L. Cloke, *Water Resour. Res.*, 48, 1, doi:10.1029/2011WR011202.
- Bürger, C., S.J. Kollet, J. Schumacher, D. Bösel, 2012, Introduction of a Web service for cloud computing with the integrated hydrologic simulation platform ParFlow, *Computers & Geosciences*, 48, 334–336.
- Wood E.F., J.K. Roundy, T.J. Troy, R. van Beek, M. Bierkens, E. Blyth, A. de Roo, P. Döll, M. Ek, J. Famiglietti, D. Gochis, N. van de Giesen, P. Houser, P.R. Jaffé, S.J. Kollet, B. Lehner, D.P. Lettenmaier, C. Peters-Lidard, M. Sivapalan, J. Sheffield, A. Wade, P. Whitehead, 2011, Hyper-Resolution Global Land Surface Modeling: Meeting a Grand Challenge for Monitoring Earth's Terrestrial Water, *Water Resour. Res.*, 47, W05301, doi:10.1029/2010WR010090.
- Vereecken, H., Kollet S.J., Simmer C., 2010, Patterns in soil vegetation atmosphere systems: monitoring, modeling, and data assimilation, *Vadose Zone J.*, 9, 821-827.
- Schwinger, J., Kollet S.J., Hoppe C., Elbern H., 2010, Tangent linear and non-linear sensitivity of modeled latent heat fluxes to initial values and parameters of a SVAT model, *Vadose Zone J.*, 9, 984-1001.
- Zolina O., Simmer C., Sergey K.G., Kollet S.J., 2010, Change in structure of precipitation over Europe: longer wet periods leading to stronger extremes, *Geophys. Res. Letters*, 37, L06704, 1-5.
- Kollet S.J., Maxwell R.M., Woodward C.S., Smith S., Vanderborght J., Vereecken H., Simmer C., 2010, Proof-of-concept of regional scale hydrologic simulations at hydrologic resolution utilizing massively parallel computer resources, *Water Resour. Res.*, 46, W04201, doi:10.1029/2009WR008730, 1-7.
- Sulis M., Meyerhoff S., Paniconi C., Maxwell R., Putti M., Kollet S., 2010, A comparison of two physics-based numerical models for simulating surface water–groundwater interactions, *Advances in Water Resour.*, 33(4), 456-467.
- Graf A., Schüttemeyer D., Geiss H., Knaps A., Möllemann-Coers M., Schween J.H., Kollet S.J., Neininger B., Herbst M., Vereecken H., 2010, Boundedness of turbulent temperature probability distributions, and their relation to the vertical profile in the convective boundary layer, *Boundary Layer Met.*, 134(3), 459-486.
- Kollet, S.J., 2009 (invited), Influence of soil heterogeneity on evapotranspiration under shallow water table conditions: transient, stochastic simulations, *Environ. Res. Letters*, 4, 035007, 9pp.
- Frei S., Fleckenstein J.H., Kollet S.J., Maxwell R.M., 2009, Patterns and dynamics of river-aquifer exchange with variably-saturated flow using a fully-coupled model, *J. of Hydrology*, 375(3-4), 383-393.

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Maxwell R.M., Tompson A.F.B., Kollet S.J., 2009, A serendipitous, long-term infiltration experiment: Water and tritium circulation beneath the CAMBRIC Trench at the Nevada Test Site, *J. Cont. Hydrology*, 108, 12-28.

Kollet S.J., Cvijanovic I., Schüttemeyer D., Maxwell R.M., Moene A.F., Bayer P., 2009, The influence of rain sensible heat, subsurface heat convection and the lower temperature boundary condition on the energy balance at the land surface, *Vadose Zone J.*, 8(4), doi:10.2136/vzj2009.0005.

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Maxwell R.M., Kollet S.J., 2008, Quantifying the effects of three-dimensional subsurface heterogeneity on Hortonian runoff processes using a coupled numerical, stochastic approach, *Advances in Water Resour.*, 31(5), 807-817.

Maxwell R.M., Chow F.K., Kollet S.J., 2007. The groundwater-land-surface-atmosphere connection: Soil moisture effects on the atmospheric boundary layer in fully-coupled simulations, *Advances in Water Resour.*, 30(12), 2447-2466.

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Conference Papers

Kollet S.J., Schumacher J., Bürger C., Bösel D., 2011. Cloud computing with ParFlow: Introduction of a newly developed Web interface, in Proceedings of the conference MODFLOW and More 2011: Integrated Hydrologic Modeling, Volume 1, International Ground Water Modeling Center, Colorado School of Mines, Golden, Colorado, 80401.

Chow F.K., Kollet S.J., Maxwell R.M., Duan Q., 2006, Effects of soil moisture heterogeneity on boundary layer flow with coupled groundwater, land-surface, and mesoscale atmospheric modeling. Paper 5.6, 17th Symposium on Boundary Layers and Turbulence, American Meteorological Society.

Maxwell R. M., Tompson A. F. B., Carle S. F., Zavarin M., Kollet S. J, 2006, A Serendipitous, Long-term Infiltration Experiment: Water and Radionuclide Circulation Beneath the Cambric Trench at the Nevada Test Site. Computational Methods in Water Resources XVI Meeting, Copenhagen, June, 2006.

Kollet S.J., Zlotnik V.A., Woodward D., 2002, A field and theoretical study on stream-aquifer interactions under pumping conditions in the Great Plains, Nebraska. American Water Res. Ass. 2002 Summer Specialty Conference Proceedings, 29-34.

Reports

Tompson, A., D. Zafer, J. Moran, D. Mason, J. Wagoner, S. Kollet, K. Mansoor, P. McKereghan, 2008, Groundwater availability within the Salton Sea Basin, Final Report, Lawrence Livermore Natl. Lab., L-TR-400426.

R. M. Maxwell, A. F. B. Tompson, S. F. Carle, M. Zavarin and S. J. Kollet, 2006, A serendipitous, long-term infiltration experiment: Water and radionuclide transport beneath the CAMBRIC Trench at the Nevada Test Site, Lawrence Livermore National Laboratory, Livermore CA (UCRL-CONF-220026).