

Selected Bibliography Marc Bierkens (as of May 28 2018)

220 publications; 150 in ISI journals; Web of Science (H=41; 5,273 citations); Scopus (H=42; 6,727 citations); Google Scholar (H=56; 12,374 citations)

Books and edited volumes

- Bierkens, M.F.P., A.J. Dolman and P.A. Troch (Editors), 2009. *Climate and the Hydrological Cycle*. IAHS Special Publication 8. IAHS Press UK, 343 pp
- De Gruijter, J.J., D.J. Brus, M.F.P. Bierkens and M. Knotters, 2006. *Sampling for Natural Resources Monitoring*. Springer, Berlin, 332 pp.
- Bierkens, M.F.P., J.C. Gehrels and K. Kovar (Editors), 2006. *Calibration and Reliability in Groundwater Modelling: From Uncertainty to Decision Making*. Proceedings of ModelCARE 2005, the Hague. IAHS Publication 304, 316 pp.
- Bierkens, M.F.P., P.A. Finke and P. de Willigen, 2000. *Upscaling and downscaling methods for environmental research*. Kluwer Academic Publishers, Dordrecht, 190 pp.

Selected peer reviewed papers, grouped by research field

Stochastic hydrology (incl. time series modelling, data-assimilation)

- Wanders, N., D. Karssenbergh, A. De Roo, S.M. De Jong and M.F.P. Bierkens, 2014. The suitability of remotely sensed soil moisture for improving operational flood forecasting. *Hydrology and Earth System Sciences* 18, 2343-2357.
- Karssenbergh D, O. Schmitz, P. Salamon, K. de Jong and M.F.P. Bierkens, 2010. A software framework for construction of process-based stochastic spatio-temporal models and data assimilation. *Environmental Modelling & Software* 25, 489-502.
- Schuurmans, J.M., P.A. Troch, A.A. Veldhuizen, W.G.M. Bastiaanssen and M.F.P. Bierkens, 2003. Assimilation of remotely sensed latent heat flux in a distributed hydrological model. *Advances in Water Resources* 26, 151-159.
- Von Asmuth, J.R., M. F. P. Bierkens and C. Maas, 2002. Transfer function noise modeling in continuous time using predefined impulse response functions. *Water Resources Research* 38, 1287.
- Bierkens, M.F.P., M. Knotters and T. Hoogland, 2001. Space-time modelling of water table depth using a regionalized time series model and the Kalman filter. *Water Resources Research* 37, 1277-1290.
- Bierkens, M.F.P., 1998. Modeling water table fluctuations by means of a stochastic differential equation. *Water Resources Research* 34, 2485-2499.
- Bierkens, M.F.P. and C.E. Puente, 1990. Analytically derived runoff models based on rainfall point processes. *Water Resources Research* 26, 2653-2659.

Geostatistics (incl. mapping, upscaling, sampling)

- Schuurmans, J.M., M.F.P. Bierkens, E.J. Pebesma and R. Uijlenhoet, 2007. Automatic prediction of high-resolution daily rainfall fields for multiple extents: the potential of operational radar. *Journal of Hydrometeorology* 8, 1204-1224.
- Bierkens, M.F.P., 2005. Designing a monitoring network for detecting groundwater pollution with stochastic simulation and a cost model. *Stochastic Environmental Research and Risk Assessment*. DOI: 10.1007/s00477-005-0025-2.
- Bierkens, M.F.P., 1996. Modeling hydraulic conductivity of a complex confining layer at various spatial scales. *Water Resources Research* 32, 2369-2382.
- Bierkens, M.F.P. and H.J.T. Weerts, 1994. Block hydraulic conductivity of cross-bedded fluvial sediments. *Water Resources Research* 30, 2665-2678.
- Bierkens, M.F.P. and H.J.T. Weerts, 1994. Application of indicator simulation to modelling the lithological properties of a complex confining layer. *Geoderma* 62, 265-284.
- Bierkens, M.F.P. and P.A. Burrough, 1993. The indicator approach to categorical soil data; I. Theory. *Journal of Soil Science* 44, 361-368.
- Bierkens, M.F.P. and P.A. Burrough, 1993. The indicator approach to categorical soil data; II. Application to mapping and land use suitability analysis. *Journal of Soil Science* 44, 369-381.

Ecohydrology

- Rietkerk, M., S.C. Dekker, M.J. Wassen, A.W.M. Verkoost and M.F.P. Bierkens, 2004. A putative mechanism for Bog Patterning. *The American Naturalist* 163, 699-708.
- Brolsma, R.J. and M.F.P. Bierkens, 2007. Groundwater-soil water-vegetation dynamics in a temperate forest along a slope. *Water Resources Research* 43, W0141.
- Dekker, S.C., M. Rietkerk and M.F.P. Bierkens, 2007. Coupling microscale vegetation-soil water and macroscale vegetation-precipitation feedbacks in semi-arid ecosystems. *Global Change Biology* 13, 671-678.

- Brolsma R.J., D. Karssenbergh, and M.F.P. Bierkens, 2010. Vegetation competition model for water and light limitation. I: Model description, one-dimensional competition and the influence of groundwater. *Ecological Modelling* 221, 1348-1363.
- Brolsma, R. J., M. T. H. van Vliet, and M.F.P. Bierkens, 2010. Climate change impact on a groundwater-influenced hillslope ecosystem. *Water Resources Research* 46, W11503.
- Karssenbergh, D. and M.F.P. Bierkens. 2012. Early-warning signals (potentially) reduce uncertainty in forecasted timing of critical shifts. *Ecosphere* 3, Article 15.
- Karssenbergh, D., M.F.P. Bierkens and M. Rietkerk, 2017. Catastrophic shifts in semiarid vegetation-soil systems may unfold rapidly or slowly, 2017. *American Naturalist* 190 E145-E155.

Large-scale hydrology and water resources

- Kraaijenbrink, P.D.A., M.F.P. Bierkens, A.F. Lutz and W.W. Immerzeel, 2017. Impact of a global temperature rise of 1.5 degrees Celsius on Asia's glaciers. *Nature* 549, 257-260.
- De Graaf, I.E.M., L.P.H. van Beek, T. Gleeson, N. Moosdorf, O. Schmitz, E.H. Sutanudjaja and M.F.P. Bierkens, 2017. A global-scale two-layer transient groundwater model: Development and application to groundwater depletion. *Advances in Water Resources* 102, 53-67.
- Hoch, J.M., J.C. Neal, F. Baart, F., L.P.H. Van Beek, R., H.C. Winsemius, P.D. Bates and M.F.P. Bierkens, 2017. GLOFRIM v1.0-A globally applicable computational framework for integrated hydrological-hydrodynamic modelling. *Geoscientific Model Development* 10, 3913-3929.
- Winsemius, H.C., J.C.J.H. Aerts, L.P.H. van Beek, M.F.P. Bierkens, A. Bouwman, B. Jongman, J. Kwadijk, W. Ligtoet, P.L. Lucas, D.P. van Vuuren and P.J. Ward, 2016. Global drivers of future river flood risk. *Nature Climate Change* 6, 381-385.
- Bierkens, M.F.P., 2015. Global hydrology 2015: State, trends, and directions. *Water Resources Research* 51, 4923-4947 (invited: 50th year Anniversary Issue).
- Bierkens, M.F.P. et al. 2015. Hyper-resolution global hydrological modelling: What is next?: "Everywhere and locally relevant" Invited Commentary. *Hydrological Processes* 29, 310-320 (Highest cited commentary HP in 2015).
- Wada, Y., L.P.H. van Beek, F.C. Sperna Weiland, B.F. Chao, Y.-H. Wu, and M.F.P. Bierkens, 2012., Past and future contribution of global groundwater depletion to sea-level rise, *Geophysical Research Letters* 39, L09402 (Featured Article).
- Wada, Y., L. P. H. van Beek and M. F. P. Bierkens, 2012. Nonsustainable groundwater sustaining irrigation: A global assessment. *Water Resources Research* 48, W00L06 (Featured Article).
- Wood, E.F., J.K. Roundy, T.J. Troy, L.P.H. van Beek, M.F.P. Bierkens, E. Blyth, A.A. de Roo, P. Döll, M. Ek, J. Famiglietti, et al., 2011. Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth's terrestrial water. *Water Resources Research* 47, W05301.
- Immerzeel, W.W. and Bierkens, M.F.P., 2012. Asia's water balance. *Nature Geoscience* 5, 841-842.
- Lutz, A.F., W.W. Immerzeel, A.B. Shrestha and M.F.P. Bierkens, 2014. Consistent increase in High Asia's runoff due to increasing glacier melt and precipitation. *Nature Climate Change* 4, 587-592.
- Gleeson, T, Y. Wada, M.F.P. Bierkens, L.P.H. van Beek, 2012. Water balance of global aquifers revealed by groundwater footprint. *Nature* 488 197-200.
- Van Beek, L.P.H., Y. Wada and M.F.P. Bierkens, 2011. Global monthly water stress: 1. Water balance and water availability, *Water Resources Research* 47, W07517.
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- Bierkens, M.F.P. and L.P.H. van Beek, 2009. Seasonal Predictability of European Discharge: NAO and hydrological response time. *Journal of Hydrometeorology* 10, 953-968.
- Bierkens, M.F.P. and B.J.J.M. van den Hurk, 2007. Groundwater convergence as a possible mechanism for multi-year persistence in rainfall. *Geophysical Research Letters* 34 L02402.