

NICOLAAS CORNELIS VAN DE GIESEN

Delft University of Technology
Faculty of Civil Engineering and Geosciences
P.O. Box 5048, 2600 GA Delft
Netherlands

Tel: 31 (0)15 2787180
Fax: 31 (0)15 2785559
E-mail: n.c.vandegiesen@tudelft.nl
Web: wrm.tudelft.nl

EDUCATION

Cornell University, Ithaca, NY

Ph.D., January 1994

Major: Soil and Water Engineering

Minors: Anthropology, Remote Sensing

Agricultural University of Wageningen, Netherlands

M.Sc., September 1987

Major: Land and Water Management

Minors: Agrarian Law of Non-Western Societies, Hydrology

Agricultural University of Wageningen, Netherlands

B.S., January 1985: Land and Water Management

RESEARCH EXPERIENCE

Delft University of Technology, 7/2004 until present

Professor at the Faculty of Civil Engineering holding the chair of Water Resources Management. Leading group of post-graduate scientists, who conduct research on integrated and operational water management. Responsible for development of teaching curriculum at undergraduate and graduate level. See www.wrm.tudelft.nl. Since January 2015, Chairman of the Delft Global Initiative. Co-founder of two spin-off companies and the Trans-African Hydro-Meteorological Observatory (TAHMO, see www.tahmo.org).

Center for Development Research (ZEF) – Bonn University, 8/98 until 7/2004

Senior Scientist responsible for hydrological activities within multi-disciplinary research projects in developing countries. Emphasis on impact of landuse change on water cycle, hydrological use of remote sensing, and integration of hydrology in policy making. Since May 2000, coordinator of GLOWA Volta project concerned with the development of a decision support system for the water resources of the Volta Basin in West Africa. The GLOWA Volta project quantitatively integrates modeling results from meteorology, hydrology, soil science, agronomy, economy, and legal studies (see www.glowa-volta.de and *Nature* 424, p359).

Cornell University, 1/98 until 8/98

Research Associate involved in watershed management research and teaching. Responsible for development of user friendly non-point source pollution movement simulation module within integrated watershed management software package. Co-teaching graduate level watershed management course.

RESEARCH EXPERIENCE (Continued)

West Africa Rice Development Association, 12/94 until 12/97

Hydrologist responsible for the hydrological characterization and modeling of the West African upland/lowland continuum landscape. Work included field research, fund acquisition, student supervision, and scientific network building. Activities covered establishment of experimental watersheds, measuring and modeling impact of lowland rice cultivation, and leading a regional program for application of radar satellite imagery in water resource management.

Cornell University, 10/93 to 10/94

Research Associate charged with development and evaluation of watershed management policies. Teaching watershed management course. Responsible for the organization of the Integrated Watershed Analysis and Management course with participants from Indonesia, Philippines, Honduras, Zimbabwe, Ghana, and Dominican Republic.

U.S. Agency for International Development, D.A.I., 6/92 to 9/92

Consultant charged with design and implementation of a hydrological model for watersheds in Rwanda, Africa.

C.I.I.F.A.D., 6/91 to 9/92

Ph.D. research in Rwanda, Africa. Hydrological and socio-legal research on the development of upland watersheds in relation to their physical and social environment.

Cornell University, Assistantships, 8/89 to 5/91 and 10/92 to 9/93

1. Departmental Teaching Assistantship for graduate drainage course.
2. Design of groundwater and pesticide monitoring system for Northern New York Agricultural Development Program.
3. Analysis of legal aspects and environmental risks of underground storage tanks in Tompkins County.
4. Analysis of irrigation and drainage research in the U.S.A.

Netherlands Foundation for Scientific Research, 7/88 to 11/88

Fellowship in Bali, Indonesia. Field research on cooperation among farmer irrigation groups (subaks) at river basin level.

Agricultural University of Wageningen, 4/88, 11/87, and 10/86 to 3/87

Research fellowships Department of Tropical Land and Water Management. Wrote discussion paper on relation between irrigation and law (4/88) and two papers for the International Workshop on Mangrove Rice, Bissau 1987 (11/87). M.Sc. research on conflict management in a rural development project in Bissassema, Guiné-Bissau (10/86 to 11/87).

National Irrigation Administration Philippines, 11/84 to 5/85

Apprenticeship: Implementation of new water allocation model in Upper Pampanga River Integrated Irrigation System, Central Luzon.

TEACHING EXPERIENCE

Courses

- Introduction Water Resources, since 2005
- Integrated Water Resources Management, since 2004
- Integrated Modeling, 1999, 2000, 2001, 2002, 2003
- Integrated Watershed Analysis, Assessment and Management, 1994
- Watershed Management Graduate Course, 1994, 1998

Doctorate Student Supervision (concluded in italics)

Ali Abbasi (2016), Ayo Ajayi (2004), Frank Annor (2016), Rafik Al-Sakkaf (2005), Barnabas Amisigo (2006), Fafré Bagayoko (2006), Floris Bogaard (2015), Dirk Burose (2005), Luca Carniato (2014), Marie Charrière (2016), Halidou Compaoré (2005), Rutger de Graaf (2009), Gena Donchyts (2017), Congli Dong (2014), Jianzhi Dong (2016), Tim van Emmerik (2017), Jan Friesen (2008), Santiago Gaitan (2016), Mohsin Hafeez (2002), Koen Hilgersom (2016), Jippe Hoogeveen (2017), Rolf Hut (2013), Hayot Ibrakhimov (2004), Sandra Junier (2017), Jens Liebe (2007), Yang Lu (2017), Mutsa Masiyandima (2000), Hojjat Mianabadi (2015), Xu Min (2011), Khin Myo Aye (2006), Kofi Nyarko (2007), Philip Oguntunde (2003), Martine Poolman (2009), Reza Pramana (2016), Luciano Raso (2013), Sergio Salinas Rodrigues (2017), Martine Rutten (2015), Jean-Pierre Sandwidi (2007), Tom Raadgever (2009), Anna Solcerova (2017), Muhammad Atiq-ur-Rehman Tariq (2011), Xin Tian (2015), Steven Weijs (2009), Yingrong Wen (2017), Bart Wickel (2003), Tianduowa Zhu (2017)

HONORS AND ACTIVITIES

Member High-Level Expert Team on Water Netherlands-Myanmar (2012-present)
Winner of Regional and University Competition, *European Satellite Navigation Challenge*, 2015
Darcy Medal, *European Geosciences Union*, 2015
Leermeesterprijs ('Best-Professor-Award') *TU Delft* 2014
Co-founder *Trans-African Hydro-Meteorological Observatory (TAHMO)* Foundation
Co-founder spin-off companies *Selkermetrics Europe* and *Disdrometrics*
Specialty Chief Editor, *Frontiers in Geoscience Hydrosphere*, 2013 - present
Scientific Advisory Board *KWR Watercycle Research Institute*, 2012 - present
Advisory Board Member of *Aalto University School of Engineering*, 2011 - present
Member National "Topteam Water", Ministry Infrastructure & Environment, 2011
IBM Faculty Award 2010
Director Delft Research Initiative Environment (environment.tudelft.nl), 2008 - present
Editor, *Hydrology and Earth System Sciences*, 2007-2011
Joint Editor, *Irrigation and Drainage*, 2008 - 2013
Associate Editor, *Water Resources Research*, 2007 - 2013
Wissenschaftlicher Beirat, Institut für sozial-ökologische Forschung, Frankfurt, 2005 - present
Chairman Water Policy & Management, *European Geosciences Union*, 2005-2011
Secretary International Commission Water Resources Systems, *IAHS*, 2007 - 2015
Chairman Netherlands Commission on Irrigation and Drainage, 2006 - 2013
Senior Fellow Center for Development Research, *Universität Bonn*, 2004 - 2014
Phi Kappa Phi Honor Society
Gamma Sigma Delta Agricultural Honor Society
Social Service Award, Secretary International Student Board (90-91), *Cornell University*,

Languages: Dutch, English, French, German, Indonesian

Publications

International peer review

“Earth's surface water change over the past 30 years.” Donchyts, Gennadii, Fedor Baart, Hessel Winsemius, Noel Gorelick, Jaap Kwadijk, Nick van de Giesen. *Nature Climate Change* 6, 9:810-813, doi:10.1038/nclimate3111, 2016

“Practical considerations for enhanced-resolution coil-wrapped distributed temperature sensing.” Koen Hilgersom, Tim van Emmerik, Anna Solcerova, Wouter Berghuijs, John Selker, Nick van de Giesen, *Geoscientific Instrumentation Methods and Data Systems*, 5:151-162, doi:10.5194/gi-5-151-2016, 2016

“Three-dimensional dense distributed temperature sensing for measuring layered thermohaline systems,” Hilgersom, K. P., N. C. van de Giesen, P. G. B. de Louw, and M. Zijlema. *Water Resources Research*, 52, doi:10.1002/2016WR019119, 2016

“Estimating soil moisture and soil thermal and hydraulic properties by assimilating soil temperatures using a particle batch smoother,” Jianzhi Dong, Susan C. Steele-Dunne, Tyson E. Ochsner, Nick van de Giesen. *Advances in Water Resources*, 91:104-116, doi:10.1016/j.advwatres.2016.03.008, 2016

“A 30m resolution water mask including estimation of positional accuracy of rivers using Landsat 8, SRTM and OpenStreetMap: A case study in the Murray-Darling Basin, Australia.” Gennadii Donchyts, Jaap Schellekens, H.C. (Hessel) Winsemius, Elmar Eisemann, Nick Van De Giesen, *Remote Sensing*, 8(5):386, doi:10.3390/rs8050386, 2016

“Observed Soil Moisture–Precipitation Feedback in Illinois: A Systematic Analysis over Different Scales.” H. M. Duerinck, R. J. van der Ent, N. C. van de Giesen, G. Schoups, V. Babovic, Pat J.-F. Yeh, *Journal of Hydrometeorology*, 17(6):1645-1660, doi:10.1175/JHM-D-15-0032.1, 2016

“Investigation of Temperature Dynamics in Small and Shallow Reservoirs, Case Study: Lake Binaba, Upper East Region of Ghana.” Ali Abbasi, Frank Ohene Annor, Nick Van De Giesen, *Water*, 8(3):84; doi:10.3390/w8030084, 2016

“Decision support method to systematically evaluate first level inspections of the functional status of check dams.” Vivian Juliette Cortes Arevalo, Simone Sterlacchini, Thom Bogaard, Sandra Junier, Nick van de Giesen, *Structure and Infrastructure Engineering*, doi:10.1080/15732479.2016.1144619, 2016

“A comparison between leaf dielectric properties of stressed and unstressed tomato plants.” Tim van Emmerik, Susan Steele-Dunne, Jasmeet Judge, Nick van de Giesen, *IEEE Transactions on Geoscience and Remote Sensing*, 53(7):3855-3869, doi:10.1109/TGRS.2014.2386142, 2015

“Removal efficiency of storm water treatment techniques: Standardized full scale laboratory testing.” F.C. Boogaard, F. van de Ven, J.G. Langeveld, J. Kluck, N. van de Giesen, *Urban Water Journal*, doi:10.1080/1573062X.2015.1092562, 2015

“Reduction of Used Memory Ensemble Kalman Filtering (RumEnKF): A data assimilation scheme for memory intensive, high performance computing.” Rolf Hut, Barnabas A. Amisigo, Susan Steele-Dunne, Nick van de Giesen, *Advances in Water Resources*, 86:273-283, doi:10.1016/j.advwatres.2015.09.007, 2015

- “GlobWat – a global water balance model to assess water use in irrigated agriculture.” J. Hoogeveen, J.-M. Faurès, L. Peiser, J.J. Burke, N.C. Van de Giesen, *Hydrology and Earth System Sciences*, 19:3829-3844, doi:10.5194/hess-19-3829-2015, 2015
- “Determining soil moisture by assimilating soil temperature measurements using the Ensemble Kalman Filter.” Jianzhi Dong, Susan C Steele-Dunne, Tyson E Ochsner, Nick van de Giesen, *Advances in Water Resources*, 86:340-353, doi:10.1016/j.advwatres.2015.08.11, 2015
- “A particle batch smoother for soil moisture estimation using soil temperature observations.” Jianzhi Dong, Susan Steele-Dunne, Nick van de Giesen, *Advances in Water Resources*, 10.1016/j.advwatres.2015.05.017, 2015
- “The influence of a eutrophic lake to the river downstream: Temporal and spatial algal composition changes and the driving factors.” Qian Yu, Yongcan Chen, Nick van de Giesen, Dejun Zhu, *Water*, 7:2184-2201, doi:10.3390/w7052184, 2015
- “Spatial distribution of rainfall-related complaints along urban overland flow-paths.” S. Gaitan, J.A.E. ten Veldhuis, N.C. van de Giesen, *Water Resources Management*, doi:10.1007/s11269-015-1006-y, 2015
- “Floodplain wetland mapping in the White Volta River Basin of Ghana.” Benjamin K. Nyarko, Bernd Diekkrüger, Nick C. Van De Giesen, Paul L.G. Vlek, *GIScience & Remote Sensing*, doi:10.1080/15481603.2015.1026555, 2015
- “Design of a Low-Cost Microcontroller-Based Lightning Monitoring Device.” Kamau M. Gilbert, Kang’ethe M. Samuel, Kamau I. Stanley, Nick van de Giesen, *Kabarak Journal of Research & Innovation*, 3(1):32-40, 2015
- “Weighted bankruptcy rules and transboundary water resources allocation.” Hojjat Mianabadi, Erik Mostert, Saket Pande, Nick Van de Giesen, *Water Resources Management*, doi:10.1007/s11269-015-0942-x, 2015
- “On the sensitivity of urban hydrodynamic modelling to rainfall spatial and temporal resolution.” G. Bruni, R. Reinoso, N.C. van de Giesen, F.H.L.R. Clemens, J.A.E. ten Veldhuis, *Hydrology and Earth System Sciences*, 19:691-709, doi:10.5194/hess-19-691-2015, 2015
- “Impact of Diurnal Variation in Vegetation Water Content on Radar Backscatter from Maize During Water Stress.” Tim van Emmerik, Susan Steele-Dunne, Jasmeet Judge, Nick van de Giesen, *IEEE Transactions on Geoscience and Remote Sensing*, doi:10.1109/TGRS.2014.2386142, 2015
- “Fiber optic distributed temperature sensing for the determination of air temperature.” S.A.P. de Jong, J. Slingerland, N.C. van de Giesen, *Atmospheric Measurement Techniques*, 8:335-339, doi:10.5194/amt-8-335-2015, 2015
- “Hyper-resolution global hydrological modelling: what’s next? ‘Everywhere and locally relevant.’” Marc F.P. Bierkens, Victoria A. Bell, Peter Burek, Nathaniel Chaney, Laura Condon, Cédric H. David, Ad de Roo, Petra Döll, Niels Drost, James S. Famiglietti, Martina Flörke, Dave Gochis, Paul Houser, Rolf Hut, Stefan Kollet, Reed Maxwel, John T. Reager, Luis Samaniego, Edward Sudicky, Edwin H. Sutanudjaja, Nick van de Giesen, Hessel Winsemius, Eric F. Wood, *Hydrological Processes*, 29(2):310-320, doi:10.1002/hyp.10391, 2015

- “Highly parameterized inversion of groundwater reactive transport for a complex field site.” Luca Carniato, Gerrit Schoups, Nick van de Giesen, Piet Seuntjens, Leen Bastiaens, Hans Sapione, *Journal of Contaminant Hydrology*, 173:38-58, doi:10.1016/j.jconhyd.2014.12.001, 2015
- “Operational flood control of a delta system using Large Time Step Model Predictive Control.” Xin Tian, Peter-Jules van Overloop, Rudy Negenborn, Nick van de Giesen, *Advances in Water Resources*, 75:1-13, doi:10.1016/j.advwatres.2014.10.010, 2015
- “Development of a risk-based framework to integrate flood insurance.” Muhammad Atiq Ur Rehman Tariq, W.A. Jiwala, Nick van de Giesen, Olivier Hoes. *Journal of Flood Risk Management*, 7(4): 291-307, doi:10.1111/jfr3.12056, 2014
- “Short-term Management of Water Systems using Ensemble Forecasts in Tree-Based Model Predictive Control.” Raso, L., D. Schwanenberg, N. van de Giesen, P.J. van Overloop, *Advances in Water Resources*, 71:200-208, doi:10.1016/j.advwatres.2014.06.009, 2014
- “Mapping Variability of Soil Water Content and Flux across 1-1,000 m scales using the Actively Heated Fiber Optic Method.” Sayde, C., J. B. Buelga, L.E. Rodríguez-Sinobas, L.E. Khoury, M. English, N. van de Giesen, J.S. Selker, *Water Resources Research*, doi:10.1002/2013WR014983, 2014
- “Evaluating the Infiltration Performance of 10 Dutch Permeable Pavements Using a New Full-scale Infiltration Testing Method.” Floris Boogaard, Terry Lucke, Nick van de Giesen, Frans van de Ven, *Water*, 6(7):2070-2083; doi:10.3390/w6072070, 2014
- “Inference of reactive transport model parameters using a Bayesian multivariate approach.” Luca Carniato, Gerrit Schoups, Nick Van de Giesen, *Water Resources Research*, 50:6406-6427, doi:10.1002/2013WR014156, 2014
- “Assessment of Bankruptcy Methods for Conflict Resolution in Natural Resource Allocation Problems.” Hojjat Mianabadi, Erik Mostert, Mahdi Zarghami, Nick van de Giesen, *Journal of Environmental Management*, 144:152-159, doi: 10.1016/j.jenvman.2014.05.018, 2014
- “The Trans-African Hydro-Meteorological Observatory (TAHMO).” Nick van de Giesen, Rolf Hut, John Selker, *WIREs Water*, doi: 10.1002/wat2.1034, 2014
- “Comment on “Capabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing” by L. Rose, S. Krause, and N.J. Cassidy.” J.S. Selker, Scott Tyler, Nick van de Giesen, *Water Resources Research*, doi: 10.1002/2013WR014979, 2014
- “Application of the Ordered Weighted Averaging (OWA) method to the Caspian Sea conflict.” Hojjat Mianabadi, Majid Sheikhmohammady, Erik Mostert, Nick van de Giesen, *Stochastic Environmental Research and Risk Assessment*, doi:10.1007/s00477-014-0861-z, 2014
- “Stormwater Quality Characteristics in (Dutch) Urban Areas and Performance of Settlement Basins.” Floris C. Boogaard, Frans van de Ven, Jeroen G. Langeveld, Nick van de Giesen, *Challenges* 5(1):112-122; doi:10.3390/challe5010112, 2014
- “Remotely sensed monitoring of small reservoir dynamics: A Bayesian approach.” Dirk Eilander, Frank O. Annor, Lorenzo Iannini, Nick van de Giesen, *Remote Sensing*, 6(2):1191-1210, doi:10.3390/rs6021191, 2014

“Medicinal Footprint of the population of the Rhine basin.” Rolf Hut, Nick van de Giesen, Corine J. Houtman, *Environmental Research Letters*, 8:044057, doi: 10.1088/1748-9326/8/4/044057, 2013

“Probabilistic scenario development to estimate future runoff in the Yellow River Basin, China.” Dong, Congli, Gerrit Schoups, Nick van de Giesen. *Environmental Engineering and Management Journal*, 12(7):1309-1528, 2013

“Scenario development for water resource planning and management: A review.” Dong, Congli, Gerrit Schoups, Nick van de Giesen. *Technological Forecasting and Social Change*, 80(4): 749-761, doi:10.1016/j.techfore.2012.09.015, 2013

“An information-theoretical perspective on weighted ensemble forecasts.” Weijs, Steven V, Nick van de Giesen. *Journal of Hydrology*, 498:177–190, doi: 10.1016/j.jhydrol.2013.06.033, 2013

“Data Compression to Define Information Content of Hydrological Time series.” Steven V. Weijs, Nick van de Giesen, Marc B. Parlange, *Hydrology and Earth System Sciences*, 17:3171-3187, doi:10.5194/hess-17-3171-2013, 2013

“Development of a risk-based framework to integrate flood insurance.” Muhammad Atiq Ur Rehman Tariq, W.A. Jiwal, Nick van de Giesen, Olivier Hoes. *Journal of Flood Risk Management*, doi:10.1111/jfr3.12056, 2013

“Model reduction in model predictive control of combined water quantity and quality in open channels.” Xu M., P.J. van Overloop, N.C. van de Giesen, *Environmental Modelling & Software*, 42:72-87, doi:10.1016/j.envsoft.2012.12.008, 2013

“HydroZIP: How hydrological knowledge can be used to improve compression of hydrological data.” Steven V. Weijs, Nick van de Giesen, Marc B. Parlange, *Entropy*, 15:1289-1310, doi:10.3390/e15041289, 2013

“Measuring heat balance residual at lake surface using Distributed Temperature Sensing.” T.H.M. van Emmerik, A. Rimmer, Y. Lechinsky, K.J.R. Wenker, S. Nussboim, N.C. van de Giesen, *Limnology and Oceanography: Methods*, 11:79–90, doi:10.4319/lom.2013.11.79, 2013

“The influence of hard substratum reflection and calibration profiles on in situ fluorescence measurements of benthic microalgal biomass.” Corina Carpentier, Anna Dahlhaus, Nick van de Giesen, Blahoslav Maršálek, *Environmental Science: Processes & Impacts*, 15:783–793, doi:10.1039/C3EM30654B, 2013

“Scenario development for water resource planning and management: A review.” Congli Dong, Gerrit Schoups, Nick van de Giesen, *Technological Forecasting and Social Change*, doi:10.1016/j.techfore.2012.09.015, 2012

“Heated Optical Fiber for Distributed Soil-Moisture Measurements: a Lysimeter Experiment.” Francesco Ciocca, Ivan Lunati, Nick Van de Giesen, Marc B. Parlange, *Vadose Zone Journal*, doi:10.2136/vzj2011.0199, 2012

“Tree Structure Generation from Ensemble Forecasts for Real Time Control.” Luciano Raso, Nick van de Giesen, Philip Stive, Peter-Jules van Overloop, Dirk Schwanenberg, *Hydrological Processes*, 27:75-82, doi:10.1002/hyp.9473, 2012

“De Saint-Venant Equations-Based Model Assessment in Model Predictive Control of Open Channel Flow.” M. Xu, R.R. Negenborn, P.J. van Overloop, N.C. van de Giesen. *Advances in Water Resources*, 49:37–45, doi:10.1016/j.advwatres.2012.07.004, 2012

“Learning from collaborative research in water management practice.” G.T. Raadgever, E. Mostert, N.C. van de Giesen, *Water Resources Management*, 26:3251–3266, doi: 10.1007/s11269-012-0070-9, 2012

“Floods and Flood Management in Pakistan.” Muhammad Atiq Ur Rehman Tariq, Nick van de Giesen. *Physics and Chemistry of the Earth*, 47–48:11–20, doi: 10.1016/j.pce.2011.08.014, 2012

“Diurnal differences in global ERS scatterometer backscatter observations of the land surface.” Jan Friesen, Susan C Steele-Dunne, Nick van de Giesen, *IEEE Transactions on Geoscience and Remote Sensing*, 50(7):2618–2629, doi:10.1109/TGRS.2012.2193889, 2012

“Using Diurnal Variation in Backscatter to Detect Vegetation Water Stress.” Susan C. Steele-Dunne, Jan C. Friesen, Nick van de Giesen. *IEEE Transactions on Geoscience and Remote Sensing*, 50(7):2595–2602, doi:10.1109/TGRS.2012.2194156, 2012

“Double-Ended Calibration of Fiber-Optic Raman Spectra Distributed Temperature Sensing Data.” Nick van de Giesen, Susan Steele-Dunne, Jop Jansen, Olivier Hoes, Mark B. Hausner, Scott Tyler, John Selker. *Sensors*, 12(5):5471–5485; doi:10.3390/s120505471, 2012

“Reply to comment by Keith J. Beven and Hannah L. Cloke on “Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth’s terrestrial water.”” Eric F. Wood, Joshua K. Roundy, Tara J. Troy, Rens van Beek, Marc Bierkens, Eleanor Blyth, Ad de Roo, Petra Döll, Mike Ek, James Famiglietti, David Gochis, Nick van de Giesen, Paul Houser, Peter Jaffe, Stefan Kollet, Bernhard Lehner, Dennis P. Lettenmaier, Christa D. Peters-Lidard, Murugesu Sivapalan, Justin Sheffield, Andrew J. Wade, Paul Whitehead. *Water Resources Research*, W01802, doi:10.1029/2011WR011202, 2012

“Carbon monoxide as a tracer of gas transport in snow and other natural porous media.” Hendrik Huwald, John Selker, Scott Tyler, Marc Calaf-Bracons, Nick Van de Giesen, Marc Parlange. *Geophysical Research Letters*, 39, L02504, doi:10.1029/2011GL050247, 2012

“Influence of Tree Age and Variety on Allometric Characteristics and Water Use of *Mangifera indica* L. Growing in Plantation.” Philip G. Oguntunde, Johnson T. Fasinmirin, Nick van de Giesen. *Journal of Botany*, 2011, ID 824201, doi:10.1155/2011/824201, 2011

“Calibrating single-ended fiber-optic Raman spectra distributed temperature sensing data.” Mark B. Hausner, Francisco Suárez, Kenneth Glander, Nick van de Giesen, John S. Selker, Scott W. Tyler. *Sensors*, 11:10859–10879, doi:10.3390/s111110859, 2011

“Seasonal Variation of Temporal Patterns of Water Flux in a Cashew Orchard Under Sub-humid Tropical Conditions.” Oguntunde, Philip G., Ayodele E. Ajayi, Jan Friesen, Nick van de Giesen, Paul L. G. Vlek. *Journal of Crop Improvement*, 25(5):504–520, doi:10.1080/15427528.2011.591482, 2011

“Shade Estimation Over Streams Using Distributed Temperature Sensing.” A.C. Petrides, J. Huff, A. Arik, N. Van de Giesen, A.M. Kennedy, C.K. Thomas, J.S. Selker. *Water Resources Research*, doi: 10.1029/2010WR009482

“Accounting for observational uncertainty in forecast verification: an information-theoretical view on forecasts, observations and truth. Steven V. Weijs, Nick van de Giesen. *Monthly Weather Review*, doi: 10.1175/2011MWR3573.1, 2011

“Scale Effects in Hortonian Surface Runoff: Theory, models, and field data.” Nick van de Giesen, Tjeerd-Jan Stomph, Ayodele Ebenezer Ajayi, Fafré Bagayoko. *Agriculture, Ecosystems and Environment*, doi:10.1016/j.agee.2010.06.006, 2010

“Estimating soil heat flux using Distributed Temperature Sensing.” J.H.A.M. Jansen, P.M. Stive, N.C. van de Giesen, Scott W. Tyler, S.C. Steele-Dunne, L. Williamson, *IAHS Publ.* 343: 140-144, 2011

“Hyper-Resolution Global Land Surface Modeling: Meeting a Grand Challenge for Monitoring Earth’s Terrestrial Water.” Eric F. Wood, Joshua K. Roundy, Tara J. Troy, Rens van Beek, Marc Bierkens, Eleanor Blyth, Ad de Roo, Petra Döll, Mike Ek, James Famiglietti, David Gochis, Nick van de Giesen, Paul Houser, Peter Jaffe1, Stefan Kollet, Bernhard Lehner, Dennis P. Lettenmaier, Christa Peters-Lidard, Murugesu Sivapalan, Justin Sheffield1, Andrew Wade, Paul Whitehead, *Water Resources Research*, doi:10.1029/2010WR010090, 2011

“Scale Effects in Hortonian Surface Runoff: Theory, models, and field data.” Nick van de Giesen, Tjeerd-Jan Stomph, Ayodele Ebenezer Ajayi, Fafré Bagayoko. *Agriculture, Ecosystems and Environment*, doi:10.1016/j.agee.2010.06.006, 2010

“A relation between extreme daily precipitation and extreme short term precipitation.” Yanina L. Romero, J. Bessembinder, N.C. van de Giesen, F.H.M. van de Ven. *Climatic Change*, doi:10.1007/s10584-010-9955-x, 2010

“Designing an evaluation control systems of the Dez Main Canal.” S. Isapoor, A. Montazar, P.J. van Overloop, N. van de Giesen. *Irrigation and Drainage*, 60:70-79, doi:10.1002/ird.545, 2011

“On the Study of Control Effectiveness and Computational Efficiency of Reduced Saint-Venant Model in Model Predictive Control of Open Channel Flow.” M. Xu, P. J. van Overloop, N. C. van de Giesen. *Advances in Water Resources*, 34:282–290, doi:10.1016/j.advwatres.2010.11.009, 2011

“Why hydrological forecasts should be evaluated using information theory.” Steven V. Weijs, Gerrit Schoups, Nick van de Giesen, *Hydrology and Earth System Sciences*, 14, 2545-2558, doi: 10.5194/hess-14-2545-2010, 2010

“Understanding Heat Transfer in the Shallow Subsurface Using Temperature Observations.” Martine M. Rutten, Susan C. Steele-Dunne, Jasmeet Judge, Nick van de Giesen, *Vadose Zone Journal*, 9: 1034 – 1045, doi: 10.2136/vzj2009.0174, 2010

“Corruption of accuracy and efficiency of Markov chain Monte Carlo simulation by inaccurate numerical implementation of conceptual hydrologic models.” G. Schoups, J.A. Vrugt, F. Fenicia, N.C. van de Giesen. *Water Resources Research*, W10530, doi: 10.1029/2009WR008648, 2010

“Productivity of Irrigation Technologies in the White Volta Basin.” E.A. Ofosu, P. van der Zaag, N.C. van de Giesen, S.N. Odai, *Physics and Chemistry of the Earth*, doi:10.1016/j.pce.2010.07.005, 2010

- “Scale Effects in Hortonian Surface Runoff: Theory, models, and field data.” Nick van de Giesen, Tjeerd-Jan Stomph, Ayodele Ebenezer Ajayi, Fafré Bagayoko. *Agriculture, Ecosystems and Environment*, doi:10.1016/j.agee.2010.06.006, 2010
- “Kullback-Leibler divergence as a forecast skill score with classical reliability-resolution-uncertainty-decomposition.” Steven V. Weijjs, Ronald van Nooyen, Nick van de Giesen. *Monthly Weather Review*, doi: 10.1175/2010MWR3229.1, 2010
- “Feasibility of soil moisture monitoring with heated fiber optics.” C. Sayde, C. Gregory, M. G. Rodriguez, N. Tuffiaro, S. Tyler, N. van de Giesen, M. English, R. Cuenca, J. S. Selker, *Water Resources Research*, 46, W06201, doi:10.1029/2009WR007846, 2010
- “Identification of resonance waves in open water channels.” P.J. van Overloop, I.J. Miltenburg, X. Bombois, A.J. Clemmens, R.J.Strand, N.C. van de Giesen, R.Hut. *Control Engineering Practice*, 18:863-872, doi:10.1016/j.conengprac.2010.03.010, 2010
- “A comparison of an implicit and explicit connection of fast and slow flowing components of a water system.” A.J.J. Vergroesen, N.C. van de Giesen, F.H.M.van de Ven. *Journal of Hydrological Sciences*, 55(3):287-302, 2010
- “Adapting to climate change in the Volta Basin, West Africa.” Nick van de Giesen, Jens Liebe, Gerlinde Jung. *Current Science*, 98(8): 1033-1037, 2010
- “Feasibility of Soil Moisture Estimation using Passive Distributed Temperature Sensing.” S.C. Steele-Dunne, M. M. Rutten, D. M. Krzeminska, M. Hausner, S.W. Tyler, J.S. Selker, T.A. Bogaard, N.C. van de Giesen. *Water Resources Research*, 46, W03534, doi:10.1029/2009WR008272, 2010
- “Use of isotopes to study floodplain wetland and river flow interaction in the White Volta River basin, Ghana.” Benjamin Kofi Nyarko, David Kofi Essumang, Moses J. Eghan, Barbara Reichert, Nick van de Giesen, Paul Vlek. *Isotopes in Environmental and Health Studies*, 46(1): 91-106, doi: 10.1080/10256010903388543, 2010
- “Real-time Control of Combined Surface Water Quantity and Quality: Polder Flushing.” M. Xu, P. J. van Overloop, N. C. van de Giesen, G. S. Stelling. *Water Science and Technology*, 61(4): 869–878, doi:10.2166/wst.2010.847, 2010
- “Identifying seepage in ditches and canals in polders in The Netherlands by Distributed Temperature Sensing.” O.A.C. Hoes, W.M.J. Luxemburg, M.C. Westhof, N.C. van de Giesen, J.Selker. *Lowland Technology International*, 11(2): 21-26, 2009
- “Locating illicit connections in storm water sewers using fiber-optic distributed temperature sensing.” Olivier Hoes, Remy Schilperoort, Wim Luxemburg, Francois Clemens, Nick van de Giesen. *Water Research*, doi:10.1016/j.watres.2009.08.020, 2009
- “Uncertainty assessment in surface and subsurface hydrology: An overview.” Alberto Montanari, Cristine A. Shoemaker, Nick van de Giesen. *Water Resources Research*, 45, doi:10.1029/2009WR008471, 2009
- “Determining Watershed Response in Data Poor Environments with Remotely Sensed Small Reservoirs as Runoff Gauges.” J. R. Liebe, N. van de Giesen, M. Andreini, M. T. Walter, T. S. Steenhuis. *Water Resources Research*, 45, W07410, doi:10.1029/2008WR007369, 2009

“Suitability and limitations of ENVISAT ASAR for monitoring small reservoirs in a semi-arid area.” Jens R. Liebe, Nick van de Giesen, Marc S. Andreini, Tammo S. Steenhuis, and M. Todd Walter. *IEEE Transactions on Geoscience and Remote Sensing*, 47(5):1536-1547, doi:10.1109/TGRS.2008.2004805, 2009

“Increased biofuel production in the coming decade: to what extent will it affect global fresh water resources?” Jippe Hoogeveen, Jean-Marc Faurès, Nick van de Giessen. *Irrigation and Drainage* 58(S1): 148-160, doi: 10.1002/ird.479, 2009

“Delineation of small reservoirs using radar imagery in a semi-arid environment: A case study in the Upper East Region of Ghana.” F.O. Annor, N. van de Giesen, J. Liebe, P. van de Zaag, A. Tilmant, S.N.Odai. *Physics and Chemistry of the Earth*, 34:309-315, doi:10.1016/j.pce.2008.08.005, 2009

“The sustainable village.” Hubert H.G. Savenije, Nick C. van de Giesen. *Physics and Chemistry of the Earth*, 34(1-2):1-2, doi: 10.1016/j.pce.2008.10.054, 2009

“Global Soil Moisture Patterns Observed by Space Borne Microwave Radiometers and Scatterometers.” Richard de Jeu, Wolfgang Wagner, Thomas Holmes, Han Dolman, Nick van de Giesen, Jan Friesen. *Surveys in Geophysics*, 29:399–420, doi: 10.1007/s10712-008-9044-0, 2008

“Scatterometer-derived soil moisture calibrated for soil texture with a one-dimensional water-flow model.” Remko de Lange, Rob Beck, Nick van de Giesen, Jan Friesen, Allard de Wit, Wolfgang Wagner. *IEEE Transactions on Geoscience and Remote Sensing*, 46(12): 4041-4049, 2008

“Tree rainfall interception measured by stem compression.” J. Friesen, C. van Beek, J. Selker, H.H.G. Savenije, N. van de Giesen.” *Water Resources Research*, 44, W00D14, doi: 10.1029/2008WR007036, 2008

“Model complexity control for hydrologic prediction.” G. Schoups, N. van de Giesen, H. Savenije. *Water Resources Research*, 44, W00B03, doi:10.1029/2008WR006836, 2008

“Identification of stakeholder perspectives on future flood management in the Rhine basin using Q methodology.” G. T. Raadgever, E. Mostert, and N. C. van de Giesen. *Hydrology and Earth System Sciences*, 12(4):1097–1109, 2008

“Potential impact of charcoal production on hydro-physical properties of soil, rainfall infiltration and runoff.” P.G. Oguntunde, B.J. Abiodun, A. E. Ajayi, N. van de Giesen. *Journal of Plant Nutrition and Soil Science*, 171(4): 591-596, doi:10.1002/jpln.200625185, 2008

“Stormflow generation in two headwater catchments in eastern Amazonia, Brazil.” A.J. Wickel, N. C. van de Giesen, T. D. d. A. Sá. *Hydrological Processes*, 22(17): 3285-3293, doi:10.1002/hyp.6917, 2008

“Hydrotope-Based Protocol to Determine Average Soil Moisture Over Large Areas for Satellite Calibration and Validation With Results From an Observation Campaign in the Volta Basin, West Africa.” Jan Friesen, Charles Rodgers, Philip G. Oguntunde, Jan M.H. Hendrickx, Nick van de Giesen. *IEEE Transactions on Geoscience and Remote Sensing*, 46(7):1995-2004, doi:10.1109/TGRS.2008.916638, 2008

“A numerical model for simulating Hortonian overland flow on tropical hillslopes with vegetation elements.” Ayodele E. Ajayi, Nick van de Giesen, Paul Vlek. *Hydrological Processes*, 22(8):1107-1118, doi: 10.1002/hyp.6665, 2008

“Water use and productivity of two small reservoir irrigation schemes in Ghana's Upper East Region.” Joshua W. Faulkner, Tammo Steenhuis, Nick van de Giesen, Marc Andreini, Jens R. Liebe. *Irrigation and Drainage* 57: 151–163, doi: 10.1002/ird.384, 2008

“Seasonal forecast of cooling water problems in the river Rhine.” Martine Rutten, Nick van de Giesen, Martin Baptist, Joost Icke, Wim Uijttewaal. *Hydrological Processes*, 22:1037-1045, doi:10.1002/hyp.6988, 2008

“Alternative water management options to reduce vulnerability for climate change in the Netherlands.” Rutger de Graaf, Nick van de Giesen, Frans van de Ven. *Natural Hazards*, doi: 10.1007/s11069-007-9184-4, 2007

“Hydrological interdependencies of irrigation systems and river catchments.” Maurits Ertsen, Daniel Prieto, Nick van de Giesen. *IAHS Publication 317*: 3-8, 2007

“Effect of uncertainties on the real-time operation of a lowland water system in The Netherlands.” Steven Weijs, Elgard van Leeuwen, Peter-Jules van Overloop, Nick van de Giesen. *IAHS Publication 313*: 463-470, 2007

“The Closed City as a strategy to reduce vulnerability of urban areas for climate change.” R.E. de Graaf, N.C. van de Giesen, F.H.M. van de Ven. *Water Science and Technology*, 56(4): 165–173, 2007

“A distributed stream temperature model using high resolution temperature observations.” M.C. Westhoff, H. H. G. Savenije, W. M. J. Luxemburg, G. S. Stelling, N. C. van de Giesen, J. S. Selker, L. Pfister, and S. Uhlenbrook. *Hydrology and Earth System Sciences*, 11: 1469-1480, 2007

“A numerical model for simulating Hortonian overland flow on tropical hillslopes with vegetation elements.” Ayodele E. Ajayi, Nick van de Giesen, Paul Vlek. *Hydrological Processes*, doi: 10.1002/hyp.6665, 2007

“Spatial and seasonal patterns of diurnal differences in ERS Scatterometer soil moisture data in the Volta Basin, West Africa.” Jan C. Friesen, Hessel C. Winsemius, Rob Beck, Klaus Scipal, Wolfgang Wagner, Nick van de Giesen. *IAHS Publication 316*: 47-55, 2007

“Scale effects on water use and water productivity in a rice-based irrigation system (UPRIIS) in the Philippines.” M.M. Hafeez, B.A.M. Bouman, N. Van de Giesen, P. Vlek. *Agricultural Water Management*, 92(1-2): 81-89, doi:10.1016/j.agwat.2007.05.006, 2007

“Water Reuse and Cost-Benefit of Pumping at Different Spatial Levels in a Rice Irrigation System in UPRIS, Philippines.” Hafeez, M.M., Bouman, B.A.M., Van de Giesen, N., Mushtaq, S., Vlek, P., Khan, S., *Physics and Chemistry of the Earth*, doi: 10.1016/j.pce.2007.04.011, 2007

“Evaporation mapping at two scales in the White Volta Basin, Upper East Ghana, using optical imagery.” Compaoré, H., Hendrickx, J.M.H., Hong, S-h., Friesen, J., van de Giesen, N.C., Rodgers, C., Szarzynski, J., Vlek, P.L.G., *Physics and Chemistry of the Earth*, doi: 10.1016/j.pce.2007.04.021, 2007

“Monthly Streamflow Prediction in the Volta Basin of West Africa: A SISO NARMAX Polynomial Modelling.” Amisigo, B.A., van de Giesen, N., Rogers, C., Andah, W.E.I., Friesen, J., *Physics and Chemistry of the Earth*, doi: 10.1016/j.pce.2007.04.019, 2007

“Effects of sand storage dams on ground water levels with examples from Kenya.” Hut, R., Ertsen, M., Joeman, N., Vergeer, N., Winsemius, H., van de Giesen, N., *Physics and Chemistry of the Earth*, doi: 10.1016/j.pce.2007.04.006, 2007

“A hybrid metric-conceptual (HMC) model for monthly riverflow prediction in the semi-arid Volta Basin of West Africa.” B.A. Amisigo, Nick van de Giesen, W.E.I. Andah, *International Journal of River Basin Management*, 5(1): 57-68, 2007

“Hydrological parameterization through remote sensing in Volta Basin, West Africa.” Mohsin Hafeez, Marc Andreini, Jens Liebe, Jan Friesen, Andreas Marx, Nick van de Giesen, *International Journal of River Basin Management*, 5(1): 49-56, 2007

“The GLOWA Volta Project: Interdisciplinary analysis of the impact of global change on a river basin in West Africa.” Nick van de Giesen, Charles Rodgers, Paul Vlek, *International Journal of River Basin Management*, 5(1): 3–8, 2007

“Energy partitioning over the West African savanna: Multi-year evaporation and surface conductance measurements in Eastern Burkina Faso.” Fafre Bagayoko, Samuel Yonkeu, Jan Elbers, Nick van de Giesen, *Journal of Hydrology*, 334: 545-559, 2007

Integrated Assessment of Water Resources and Global Change --A North-South Analysis. Eric Craswell, Mike Bonnell, Deborah Bossio, Siegfried Demuth and Nick van de Giesen (eds), Springer, ISBN: 978-1-4020-5590-4, 2007

“The GLOWA Volta Project: A framework for water resources decision-making and scientific capacity building in a transnational West African basin.” Charles Rodgers, Nick van de Giesen, Wofram Laube, Eva Youkhana. *Water Resources Management*, 21(1): 295–313, 2007 (doi: 10.1007/s11269-006-9054-y)

“Participation; rhetoric and reality. The importance of understanding stakeholders based on a case study in Upper East Ghana.” Martine I. Poolman, N.C. van de Giesen. *International Journal of Water Resources Development*, 22(4): 561-573, 2006

“Distributed Fiber Optic Temperature Sensing for Hydrologic Systems.” John S. Selker, Luc Thévenaz, Hendrik Huwald, Alfred Mallet, Wim Luxemburg, Nick van de Giesen, Martin Stejskal, Josef Zeman, Martijn Westhoff, Marc B. Parlange. *Water Resources Research*, 2006 42(12), (doi:10.1029/2006WR005326)

“Fiber optics opens window on stream dynamics.” Selker, J., N. van de Giesen, M. Westhoff, W. Luxemburg, M. B. Parlange, *Geophysical Research Letters*, 33, L24401, doi:10.1029/2006GL027979, 2006

“Assessment of Gravity Recovery and Climate Experiment (GRACE) temporal signature over the upper Zambezi.” H.C. Winsemius, H.H.G. Savenije, N.C. van de Giesen, B.J.J.M.

van den Hurk, E.A. Zapreeva, R. Klees. *Water Resources Research*, 2006 42(12), (doi:10.1029/2006WR005326)

“Hydroclimatology of the Volta River Basin in West Africa: Trends and Variability from 1901 to 2002.” Philip G. Oguntunde, Jan Friesen, Nick van de Giesen, Hubert H.G. Savenije. *Physics and Chemistry of the Earth* (doi:10.1016/j.pce.2006.02.062)

“Measurement and modelling of transpiration of a rain-fed citrus orchard under subhumid tropical conditions.” Philip G. Oguntunde, Nick van de Giesen, Hubert H.G. Savenije. *Agricultural Water Management*, 2006 (doi: 10.1016/j.agwat.2006.06.019)

“The GLOWA Volta Project: A framework for water resources decision-making and scientific capacity building in a transnational West African basin.” Charles Rodgers, Nick van de Giesen, Wofram Laube, Eva Youkhana. *Water Resources Management*, 2006 (doi: 10.1007/s11269-006-9054-y)

“West Africa: Volta discharge data quality assessment and use.” Joie C. Taylor, Nick van de Giesen, Tammo S. Steenhuis. *Journal of the American Water Resources Association*, 42(4): 1113-1126, 2006

“Surface fluxes and characteristics of drying semi-arid terrain in West Africa.” D. Schüttemeier, A.F. Moene, A.A.M. Holtslag, H.A.R. de Bruin, N. van de Giesen. *Boundary-Layer Meteorology*, 2006 (doi: 10.1007/s10546-005-9028-2)

“Using a spatio-temporal dynamic state-space model with the EM algorithm to patch gaps in daily riverflow series, with examples from the Volta Basin, West Africa.” B.A. Amisigo, N.C. van de Giesen. *Hydrology and Earth System Sciences*, 9: 209-224, 2005

“Estimation of Small Reservoir Storage Capacities in a semi-arid environment. A case study in the Upper East Region of Ghana.” J. Liebe, N. van de Giesen, M. Andreini. *Physics and Chemistry of the Earth*, doi:10.1016/j.pce.2005.06.011, 2005

“Spatial Distribution of Groundwater Production and Development Potential in the Volta River basin of Ghana and Burkina Faso.” N. Martin, N.C. van de Giesen. *Water International*, 2005, Vol 30(2): 239-249

“Transpiration measurement and prediction in young cashew trees using sap flow data.” Philip G. Oguntunde, Nick van de Giesen. *Hydrological processes*, 2005, doi:10.1002/hyp.5831

“Tillage and surface moisture effects on bare-soil albedo.” Philip G. Oguntunde, Ayodele E. Ajayi, Nick van de Giesen. *Soil and Tillage Research*, 2005, doi:10.1016/j.still.2004.12.009

“Storage capacity and long-term water balance of the Volta Basin, West Africa.” Jan Friesen, Marc Andreini, Winston Andah, Barnabas Amisigo, Nick van de Giesen. *IAHS Publication 296:Regional Hydrological Impacts of Climatic Change*: 138-145, 2005

“Short- and long-time behavior of aquifer drainage after slow and sudden recharge according to the linearized Laplace equation.” Nick van de Giesen, Tammo S. Steenhuis, J.-Yves Parlange. *Advances in Water Resources*, 2005, doi:10.1016/j.advwatres.2004.12.002

“Water flux in a cashew orchard during a wet-to-dry transition period: analyses of sap flow and eddy correlation measurements.” Philip G. Oguntunde, Nick van de Giesen, P.L.G. Vlek, H. Eggers. *Earth Interactions*, 2004, Vol 8, Paper 15

“Surface Runoff Scale Effects in West African Watersheds: Modeling and Management Options.” Nick van de Giesen, Tjeerd Jan Stomph, Nico de Ridder. *Agricultural Water Management*, 2004, Vol 72(2): 109-130

“Crop growth and development effects on surface albedo for maize and cowpea fields in Ghana, West Africa.” Philip G. Oguntunde, Nick van de Giesen. *International Journal of Biometeorology*, 2004, DOI: 10.1007/s00484-004-0216-4

“Delineation of soil-landscape units along hillslopes to identify the spatial domains of hydrological processes.” Park, S.J., Nick van de Giesen. *Journal of Hydrology*, 2004, 295(1-4): 28-46

“Effects of charcoal production on maize yield, chemical properties and texture of soil.” Philip G. Oguntunde, Matthias Fosu, Ayodele E. Ajayi and Nick van de Giesen. *Biology and Fertility of Soils*, 2004, 39(4): 295-299

“The relationship between *Anopheles gambiae* density and rice cultivation in the savannah zone and forest zone of Côte d’Ivoire.” Olivier J.T. Briët, Joel Dossou-Yovo, Elena Akodo, Nick van de Giesen, Thomas M. Teuscher. *Tropical Medicine and International Health*, 2003, Vol 8(5): 439-448

“The Hydrology of Inland Valleys in the Sub-Humid Zone of West Africa: Runoff Processes in the M’bé Experimental Watershed.” Mutsa C. Masiyandima, Nick van de Giesen, Sitapha Diatta, Pieter N. Windmeijer and Tammo S. Steenhuis. *Hydrological Processes*, 2003, Vol 17: 1213-1225

“Scale effects of Hortonian overland flow and rainfall-runoff dynamics: Laboratory validation of a process based model.” T.J. Stomph, N. de Ridder, T.S. Steenhuis, N.C. van de Giesen. *Earth Surface Processes and Landforms*, Vol 27(8): 847-855, 2002

“A flowmeter for low discharges from laboratory flumes.” T.J. Stomph, N. de Ridder, and N. van de Giesen. *Transactions American Society of Agricultural Engineers*, 2002, Vol 45(2): 345-349

“The GLOWA-Volta project: Integrated assessment of feedback mechanisms between climate, landuse, and hydrology.” Nick van de Giesen, Harald Kunstmann, Gerlinde Jung, Jens Liebe, Marc Andreini, Paul L.G. Vlek. *Advances in Global Change Research*, 2002, Vol 10: 151-170

“Water Sharing in the Volta Basin.” Marc Andreini, Paul Vlek, Nick van de Giesen. *IAHS Publication 274: FRIEND2002*: 329-335, 2002

“An empirical malaria distribution map for West Africa.” Immo Kleinschmidt, Judy Omumbo, Olivier Briët, Nick van de Giesen, Nafomon Sogoba, Nathan Kumasenu Mensah, Pieter Windmeijer, Mahaman Moussa, Thomas Teuscher. *Tropical Medicine and International Health*, 6(10): 779-786, 2001

“Characterization of West African shallow flood plains with L- and C-Band radar.” Nick van de Giesen. *IAHS Publication 267: Remote Sensing and Hydrology 2000*: 365-367, 2001

“Competition for water resources of the Volta Basin.” Nick van de Giesen, Marc Andreini, Annette van Edig, Paul Vlek. *IAHS Publication 268*: 99-205, IAHS Press, 2001

“A Flume Design for the Study of Slope Length Effects on Runoff.” T.J. Stomph, N. de Ridder and N. van de Giesen. *Earth surface processes and landforms*, 26 (6) pp 647-655, June 2001

“Scale Effects on Hortonian Overland Flow and Rainfall-Runoff Dynamics in a West African Catena Landscape.” N. van de Giesen, T.J. Stomph and N. de Ridder. *Hydrological Processes*, Vol 14(1): 165-175, 2000

“Legal Quagmires: Wetland Use and Development in Rwanda and Zimbabwe.” N. van de Giesen and M. Andreini. *Law and Anthropology*, Vol 9: 105-123, 1997

“Transient Flow to Drains: The Exact Linear Solution Compared with the Linearized Boussinesq Equation.” N. van de Giesen, J.Y. Parlange and T.S. Steenhuis. *Water Resources Research*, Vol 30(11): 3033-3039, 1994

Agricultural Development of Wet Upland Valleys (Marais) in Rwanda, Africa. N. van de Giesen. Ph.D. Thesis, Cornell University, Ithaca, NY, 1993

Proceedings, reports

“Chapter 3: Freshwater resources and their management.” Z.W.Kundzewicz, L.J. Mata, N.W. Arnell, P. Döll, P. Kabat, B. Jiménez, T. Oki, Z. Sen, I.A. Shiklomanov (lead authors); J. Asanuma, R Betts, S Cohen, C Milly, M. Nearing, C. Prudhomme, L. Pulwarty, R. Schulze, R. Thayyen, N. van de Giesen, H. van Schaik, T. Wilbanks, R. Wilby (contributing authors); A. Becker, J. Bruce (review eds). In: “Climate Change 2007 - Impacts, Adaptation and Vulnerability: Working Group II contribution to the Fourth Assessment Report of the IPCC.” (M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, C.E. Hanson, eds), p173-210, Cambridge University Press, 2007

“The Small Reservoirs Project: Research to Improve Water Availability and Economic Development in Rural Semi-arid Areas.” J. Liebe, M. Andreini, N. van de Giesen, T. Steenhuis. In: “The Hydropolitics of Africa: A Contemporary Challenge.” (M. Kittisou, M. Ndulo, M. Nagel, and M. Grieco, eds), Cambridge Scholars Publishing, p 325-332, 2007

“Application of a Fuzzy Logic Approach for Linking Hydro-Ecological Simulation Output to Decision Support.” Desmond Y. Manful, Giseller Kaule, Nick van de Giesen. *Proceedings of the 7th International Conference on HydroScience and Engineering*, Philadelphia, USA September 10-13, 2006 (ICHE 2006) ISBN: 0977447405

“Mapping energy balance fluxes and root zone soil moisture in the White Volta Basin using optical imagery.” Jan M. H. Hendrickx, Sung-ho Hong, Jan Friesen, Halidou Compaore, Nick C. van de Giesen, Charles Rodgers, Paul L. G. Vlek. *Proc. SPIE Vol. 6239, 62390Q* (May. 4, 2006)

“Ghanaian Water Reforms, Institutional and Hydrological Perspectives.” Wolfram Laube, Nick van de Giesen. In: “Hydrology and Water Law – Bridging the Gap” (J. Wallace, P. Wouters, eds), p 159-197, IWA Publishing, ISBN 1843390701, 2006

“Integrative Water Research: GLOWA Volta.” Nick van de Giesen, Thomas Berger, Maria Iskandarani, Soojin Park, Paul Vlek. In: *Earth System Science in the Anthropocene*, (Eckart Ehlers, Tomas Krafft, eds), p 169-186, Springer Verlag-Heidelberg, 2006

“Modeling regional evapotranspiration in the Volta Basin, West Africa: Testing the complementary relationship hypothesis.” Philip G. Oguntunde, Nick van de Giesen, Marc Andreini. In: *Proceedings Deutscher Tropentag 2005 Stuttgart-Hohenheim*, October 11-13, 2005 (<http://www.tropentag.de/2005/abstracts/full/141.pdf>)

“Optimal Spatial Scale for Land Use Change Modelling: A Case Study in a Savanna Landscape in Northern Ghana.” Soo Jin Park, Nick van de Giesen, Paul L.G. Vlek. *Journal of the Korean Geographical Society*, 40(2): 221-241, 2005

Nederland is nooit af: Duizend jaar waterbeheer en een vooruitblik. Nick van de Giesen, Inaugural lecture, Delft University of Technology, 11 May 2005

“Evaluating Downscaling Methods for Preparing Global Circulation Model (GCM) Data for Hydrological Impact Modelling.” L.M. Bouwer, J. Aerts, G.M. van de Coterlet, N. van de Giesen, A. Gieske and C. Mannaerts. In: *Climate Change in Contrasting River Basins. Adaptation Strategies for Water, Food and Environment*, (J.C.J.H. Aerts and P. Droogers, eds), p 25-47, CABI Publishing, 2004

“Can We Maintain Food Production Without Losing Hydropower? The Volta Basin (West Africa).” W. Andah, N. van de Giesen, A. Huber-Lee, C.A. Biney. In: *Climate Change in Contrasting River Basins. Adaptation Strategies for Water, Food and Environment*, (J.C.J.H. Aerts and P. Droogers, eds), p 181-194, CABI Publishing, 2004

“Corrélation entre les flux de chaleur sensible et latente avec la longueur de rugosité de surface. Influence sur la disponibilité des ressources en eau sur les terres intensivement exploitées de l’Est du Burkina Faso.” F. Bagayoko, N. v.d. Giesen, S. Yonkeu. *Sud Sciences & Technologies*, 12: 31-39, 2004

“Use of small reservoirs in West Africa as remotely-sensed cumulative runoff gauges.” Nick van de Giesen, Jens Liebe, Marc Andreini, and Tammo Steenhuis. In: *Proceedings of the 2nd international CAHMDA workshop on the terrestrial water cycle: Modelling and Data Assimilation Across Catchment Scales*, (A.J. Teuling, H. Leijnse, P.A. Troch, J. Sheffield and E.F. Wood, eds), p 28-31, Princeton, NJ, October 25-27, 2004

RUNOFF01: Software for calculating two-dimensional Hortonian flow and associated scale effects, manual and code description. N. van de Giesen and T.J. Stomph, 2003. ZEF Documentation of Research 3/2003, http://www.zef.de/research_activities/research_docu.htm

“Effects of Slash & Burn vs. Slash & Mulch on Water, Solute and Sediment Dynamics at the Watershed Level.” A.J. Wickel, N.C. van de Giesen, T. Sá, M. Denich, P.L.G. Vlek, K. Vielhauer, 2002. In: *Neotropical Ecosystems, Proceedings of the German-Brazilian Workshop*, Hamburg, (R. Lieberei, H.-K. Bianchi, V. Boehm, V., C. Reisdorff, C. eds), GKSS-Geesthacht, ISBN 3-00-010691-X

“Estimation of spatially-distributed evapotranspiration through remote sensing; a case study for irrigated rice in the Philippines.” M.M. Hafeez, Y. Chemin, N. van de Giesen, B.A.M. Bouman, 2002. In: *Proceedings of the International Workshop on Water-wise Rice Production*, 8-12 April 2002, Los Banos, Philippines, International Rice Research Institute, ISBN 971-22-0182-1

Describing Hydrological Characteristics for Inland Valley Development. *Proceedings of the second scientific workshop of the Inland Valley Consortium*, 4-6 June, 1997, Bouaké, Côte d’Ivoire. P.N. Windmeijer, M.J. Dugué, J.Y. Jamin, N. van de Giesen (Ed.), 2002. WARDA/ADRAO, ISBN 92 9113 134 2.

“Estimation of crop water deficit through remote sensing in Central Luzon, Philippines.” M.M. Hafeez, Y. Chemin, N. van de Giesen, B.A.M. Bouman, 2002. In: *Proceedings Geoscience and Remote Sensing Symposium, IGARSS '02. 2002 IEEE International*, Volume: 5, 24-28 June 2002, p. 2778 – 2780

“Field Evapotranspiration Estimation in Central Luzon, Philippines, Using Different Sensors: Landsat 7 ETM+, Terra Modis and Aster.” M.M. Hafeez, Y. Chemin, N. van de Giesen,

- B.A.M. Bouman, 2002. Proceedings ISPRS Symposium on Geospatial Theory, Processing and Applications, Ottawa 2002, IAPRS, Vol. XXXIV, part 4, ISSN 1682-1750
- “Modeling Water Availability: Scaling Issues.” N. van de Giesen, L.J. Mata, P. Döll, A. Hoekstra, M. Pfeffer and J.A. Ramirez. In: Understanding the Earth System: Compartments, Processes and Interactions, (E. Ehlers and T. Krafft, eds), p. 245-255, Springer Verlag, May 2001
- “Efficient institutions as a precondition for sustainable water use.” Annette van Edig, Annette and Nick van de Giesen. ZEF news, No. 7, May 2001, p.3.
- “The GLOWA Volta Project: Sustainable Water Use in the Volta Basin.” Marc Andreini and Nick van de Giesen. IHDP Update, 1/01, pp 10, 2001
- “Sustainable water use under changing land use, rainfall reliability, and water demands in the Volta basin.” Thomas Berger, Soojin Park, Fabio Vescovi, Paul L.G. Vlek, Nick van de Giesen. Lucc Newsletter, No 6, May 2001, pp 14-16
- “Institutional and legal aspects of the (transboundary) Water Resources Commission in Ghana.” Annette van Edig, Nick van de Giesen, Mark Andreini and Wolfram Laube. Wasserkonflikte in der Dritten Welt, Vol.18, 2001
- “Internationale und nationale Wasserkonflikte: Institutionelle und rechtliche Hintergründe der Wassernutzung des Voltaflusses am Beispiel Ghanas.” Annette van Edig, Wolfram Laube and Nick van de Giesen. IHP/OHP Berichte, Sonderheft 12: Hydrological Challenges in Transboundary Water Resources Management, Koblenz, 2001
- “Wasser und Landschaftserosion”. N. Van de Giesen. In: Wasser, (B. Busch and L. Förster, eds), Wienand Verlag, pp 417-425, 2000
- Volta Basin Water Balance, M. Andreini, N. van de Giesen, A. van Edig, M. Fosu, and W. Andah. ZEF-Discussion Papers on Development Policy #21, Bonn, 2000
- “Modelling the Daily Rainfall in West Africa”. S.G.K. Adiku, N. van de Giesen, G.N.N. Dowuona. In: Climate Variability, Water Resources and Agricultural Productivity: Food Security Issues in Tropical Sub-Saharan Africa, (Hassan Virji, Cory Fleming, Amy Freise, Mayuri Sobti, Eds), START/IGBP/IHDP/WCRP, pp 101-107, 2000
- “Potential of Satellite Radar Imagery for Inland Valley Monitoring.” N. van de Giesen. In: Proceedings of the Regional Workshop on Sustainable Development of Inland Valleys, Cotonou, January 1996, FAO, Accra, pp 17-32, 1998
- “Transformation de systèmes de cultures rizicoles inondés en systèmes hydromorphiques: Economies potentielles de l’eau dans les petits systèmes d’irrigation en zone de savane Ouest-Africaine.” N. van de Giesen, A. Sow, M. Dingkuhn, and E. Agbossou. In: Colloques CIRAD, (N. Ahmadi & B. Teme, eds), Montpellier, pp 375-379, 1998
- “Rice in West Africa - The toposequence concept.” P.N. Windmeijer, M. Becker, N. van de Giesen. Royal Tropical Institute/AED Working Papers Series, Amsterdam, Nr 1, pp 141-159, 1997
- “Surface Runoff Scale effects in a West African Catena Landscape.” N. van de Giesen, N. de Ridder and T.J. Stomph. Abstracted in EOS, Supplement S122, April 23, 1996
- “Hydrological and Hydraulic Parameters for Inland Valley Characterization.” N. van de Giesen and R. Diallo. In: Proceedings Workshop on Characterization of Inland-Valley Agro-Ecosystems, IVC, Bouaké, 1995

“The Smallholder Farm as an Appropriate Water Management Unit in Wetland Development.” N. van de Giesen. In: *Dambo Farming in Zimbabwe: Water Management, Cropping and Soil Potentials for Smallholder Farming in the Wetlands*, (Owen, e.a., Eds.), Ithaca, NY, pp 61-68, 1994

“Hydrology of Upland Valleys in Rwanda.” N. van de Giesen and T.S. Steenhuis. Spring 1993 Meeting of the American Geophysical Union, Baltimore, MD, abstracted in EOS, Supplement April, 1993

“For the Sake of Progress: Land Use Rights and Development in Rwandan Wetlands.” N. van de Giesen. In: *Proceedings of the 5th Congress of the Commission on Folk Law and Legal Pluralism*, Wellington, August 1992, IUAES

U.S. Financed Irrigation and Drainage Research: Applications for Developing Countries. N. van de Giesen, T.S. Steenhuis, L.W. Fitzgerald, M.E. Jensen, and J. Wolf. ISPAN Report no.44, Arlington, VA, 1992

An Evaluation of Risks Associated with Underground Storage Tanks in Tompkins County. N. van de Giesen and T.S. Steenhuis. Cornell University, Ithaca, NY, 1991

“Organization of Labor in Food for Work Projects” (Portuguese). N. van de Giesen, I.J.H. de Jong and P.J. Slabbers. International Workshop on Mangrove Rice, Bissau, WAU, 1987

“The Role of Leadership in Small Rural Engineering Projects” (Portuguese). I.J.H. de Jong, N. van de Giesen and P.J. Slabbers. International Workshop on Mangrove Rice, Bissau, WAU, 1987

Surplus Production and Distribution in the Bissassema Rural Engineering Project. N. van de Giesen. M.Sc. Thesis, Agricultural University of Wageningen, 1987