

Harald Kunstmann – Publications

Peer reviewed publications

ISI-indexed

231. Sawadogo, W., Fersch, B., Bliefernicht, J., Meilinger, S., Rummler, T., Salack, S., Guug, S., Kunstmann, H. (2024) Evaluation of the WRF-solar model for 72-hour ahead forecasts of global horizontal irradiance in West Africa: A case study for Ghana, *Solar Energy*, <https://doi.org/10.1016/J.SOLENER.2024.112413>
230. Zacharias, S., Loescher, H. W., Bogena, H., Kiese, R., Schroen, M., Attinger, S., Blume, T., Borchardt, D., Borg, E., Bumberger, J., Chwala, C., Dietrich, P., Fersch, B., Frenzel, M., Gaillardet, J., Groh, J., Hajnsek, I., Itzert, S., Kunkel, R., Kunstmann, H., Kunz, M., Liebner, S., Mirtl, M., Montzka, C., Musolff, A., Puetz, T., Rebmann, C., Rinke, K., Rode, M., Sachs, T., Samaniego, L., Schmid, H. P., Vogel, H.-J., Weber, U., Wollschlaeger, U., Vereecken, Harry (2024) Fifteen Years of Integrated Terrestrial Environmental Observatories (TERENO) in Germany: Functions, Services, and Lessons Learned, *Earth's Future*, <https://doi.org/10.1029/2024EF004510>
229. Olschewski, P., Kunstmann, H. (2024) Future projections of hurricane intensity in the southeastern US: sensitivity to different Pseudo-Global Warming methods, *Frontiers in Climate*, <https://doi.org/10.3389/FCLIM.2024.1353396>
228. Petrovic, D., Fersch, B., Kunstmann, H. (2024) Heat wave characteristics: evaluation of regional climate model performances for Germany, *Natural Hazards and Earth System Sciences*, <https://doi.org/10.5194/NHESS-24-265-2024>
227. Tanimoune, L., Abiodun, B. J., Pouwerea, N., Kunstmann, H., Smiatek, G., Ajayi, V. O., Sanda, I. S. (2024) How well does MPAS simulate the West African Monsoon?, *Journal of Earth System Science*, <https://doi.org/10.1007/S12040-023-02245-4>
226. Graf, M., Wagner, A., Polz, J., Lliso, L., Lahuerta, J. A., Kunstmann, H., Chwala, C. (2024) Improved rain event detection in commercial microwave link time series via combination with MSG SEVIRI data, *Atmospheric Measurement Techniques*, <https://doi.org/10.5194/AMT-17-2165-2024>
225. Sun, Q., Olschewski, P., Wei, J., Tian, Z., Sun, L., Kunstmann, H., Laux, P. (2024) Key ingredients in regional climate modelling for improving the representation of typhoon tracks and intensities, *Hydrology and Earth System Sciences*, <https://doi.org/10.5194/HESS-28-761-2024>
224. Dieng, M. D. B., Tompkins, A. M., Arnault, J., Sié, A., Fersch, B., Laux, P., Schwarz, M., Zabré, P., Munga, S., Khagayi, S., Diouf, I., Kunstmann, H. (2024) Process-Based Atmosphere-Hydrology-Malaria Modeling: Performance for Spatio-Temporal Malaria Transmission Dynamics in Sub-Saharan Africa, *Water Resources Research*, <https://doi.org/10.1029/2023WR034975>
223. Zhang, Z., Laux, P., Baade, J., Moutahir, H., Kunstmann, H., (2024) Regional Land–Atmosphere Interactions in Southern Africa: Potential Impact and Sensitivity of Forest and Plantation Change, *Dendroecology: Tree-ring Analyses Applied to Ecological Studies*, https://doi.org/10.1007/978-3-031-10948-5_10
222. Zhang, Z., Laux, P., Baade, J., Arnault, J., Wei, J., Wang, X., Shang, S., Marthews, T., Schmullius, C., Kunstmann, H. (2024) Sensitivity of joint atmospheric-terrestrial water balance simulations to soil representation: Convection-permitting coupled WRF-Hydro simulations for southern Africa, *Agricultural and Forest Meteorology*, <https://doi.org/10.1016/J.AGRFORMAT.2024.110127>
221. Fluhrer, A., Jagdhuber, T., Montzka, C., Schumacher, M., Alemohammad, H., Tabatabaeenejad, A., Kunstmann, H., Entekhabi, D. (2024) Soil moisture profile estimation by combining P-band SAR polarimetry with hydrological and multi-layer scattering models, *Remote Sensing of Environment*, <https://doi.org/10.1016/J.RSE.2024.114067>
220. Polz, J., Glawion, L., Gebisso, H., Altenstrasser, L., Graf, M., Kunstmann, H., Vogl, S., Chwala, C. (2024) Temporal Super-Resolution, Ground Adjustment, and Advection Correction of Radar Rainfall Using 3-D-Convolutional Neural Networks, *IEEE Transactions on Geoscience and Remote Sensing*, <https://doi.org/10.1109/TGRS.2024.3371577>
219. Soltani, M., Hamelers, B., Mofidi, A., Fletcher, C. G., Staal, A., Dekker, S. C., Laux, P., Arnault, J., Kunstmann, H., van der Hoeven, T., Lanters, M. (2023) A 20-year satellite-reanalysis-based

climatology of extreme precipitation characteristics over the Sinai Peninsula, *Earth System Dynamics*, <https://doi.org/10.5194/ESD-14-931-2023>

218. Fluhrer, A., Jagdhuber, T., Montzka, C., Schumacher, M., Alemdhammad, H., Tabatabaeenejad, A., Kunstmann, H., Entekhabi, D. (2023) Estimating Soil Moisture Profiles by Combining P-Band Sar with Hydrological Modeling, *IEEE International Geoscience and Remote Sensing Symposium - IGARSS*, <https://doi.org/10.1109/IGARSS52108.2023.10282246>
217. Polz, J., Glawion, L., Graf, M., Blettner, N., Lasota, E., Schmidt, L., Kunstmann, H., Chwala, C. (2023) Expert Flagging of Commercial Microwave Link Signal Anomalies: Effect on Rainfall Estimation And Ambiguity Of Flagging, *Ieee International Conference on Acoustics, Speech, and Signal Processing Workshops, Icasspw*, <https://doi.org/10.1109/ICASSPW59220.2023.10193654>
216. Sawadogo, W., Bliefernicht, J., Fersch, B., Salack, S., Guug, S., Ogunjobi, K. O., Meilinger, S., Kunstmann, H. (2023) Global Horizontal Irradiance in West Africa: Evaluation of the WRF-Solar Model in Convection-Permitting Mode with Ground Measurements, *Journal of Applied Meteorology and Climatology*, <https://doi.org/10.1175/JAMC-D-22-0186.1>
215. Djibo, M., Chwala, C., Graf, M., Polz, J., Kunstmann, H., Zougmore, F. (2023) High-Resolution Rainfall Maps from Commercial Microwave Links for a Data-Scarce Region in West Africa, *Journal of Hydrometeorology*, <https://doi.org/10.1175/JHM-D-23-0015.1>
214. Sawadogo, W., Bliefernicht, J., Fersch, B., Salavk, S., Guug, S., Diallo, B., Ogunjobi, K. O., Nakoulma, G., Tanu, M., Meilinger, S., Kunstmann, H. (2023) Hourly global horizontal irradiance over West Africa: A case study of one-year satellite- and reanalysis-derived estimates vs. in situ measurements, *Renewable Energy*, <https://doi.org/10.1016/J.RENENE.2023.119066>
213. Laux, P., Weber, E., Feldmann, D. Kunstmann, H. (2023) The Robustness of the Derived Design Life Levels of Heavy Precipitation Events in the Pre-Alpine Oberland Region of Southern Germany, *Atmosphere*, 14 (9), 1384, <https://doi.org/10.3390/atmos14091384>.
212. Achugbu, I. C., Laux, P., Chen, L., Dudhia, J., Balogun, I. A., Arnault, J., Adeyewa, Z. D., Akintola, O. A., Kunstmann, H. (2023) Performance evaluation of a high-resolution regional climate model in West Africa: sensitivity to land surface schemes, *Theoretical and Applied Climatology*, <https://doi.org/10.1007/S00704-023-04800-X>
211. Wang, X., Zhang, Z., Zhang, B., Tian, L., Tian, J., Arnault, J., Kunstmann, H., He, C. (2023) Quantifying the Impact of Land Use and Land Cover Change on Moisture Recycling With Convection-Permitting WRF-Tagging Modeling in the Agro-Pastoral Ecotone of Northern China, *Journal of Geophysical Research: Atmospheres*, <https://doi.org/10.1029/2022JD038421>
210. Arnault, J., Mwanthi, A. M., Portele, T. C., Li, L., Rummel, T., Fersch, B., Hassan, M. A., Bahaga, T. K., Zhang, Z., Mortey, E. M. Achugbu, I. C., Moutahir, H., Sy, S., Wei, J., Laux, P., Sobolowski, S., Kunstmann, H. (2023) Regional water cycle sensitivity to afforestation: synthetic numerical experiments for tropical Africa, *Frontiers in Climate*, <https://doi.org/10.3389/FCLIM.2023.1233536>
209. Tanimoune, L. I., Smiatek, G., Kunstmann, H., Abiodun, B. (2023) Simulation of Temperature Extremes Over West Africa With MPAS, *Journal of Geophysical Research: Atmospheres*, <https://doi.org/10.1029/2023JD039055>
208. Glawion, L., Polz, J., Kunstmann, H., Fersch, B., Chwala, C. (2023) spateGAN: Spatio-Temporal Downscaling of Rainfall Fields Using a cGAN Approach, *Earth and Space Science*, <https://doi.org/10.1029/2023EA002906>
207. Blettner, N., Fencl, M., Bares, V., Kunstmann, H., Chwala, C. (2023) Transboundary Rainfall Estimation Using Commercial Microwave Links, *Earth and Space Science*, <https://doi.org/10.1029/2023EA002869>
206. Kunstmann, H., Fröhle, P., Hattermann, F. F., Marx, A., Smiatek, G., Wanger, C. (2023) Wasserhaushalt im Klimawandel, *Springer Nature*, Pages 213-226, https://doi.org/10.1007/978-3-662-66696-8_16
205. Boeker, B., Laux, P., Olschewski, P., Kunstmann, H. (2023) Added value of an atmospheric circulation pattern-based statistical downscaling approach for daily precipitation distributions in complex terrain, *International Journal of Climatology*, <https://doi.org/10.1002/joc.8136>
204. Weber, J. N., Lorenz, C., Portele, T. C., Kunstmann, H. (2023): Seasonal forecasts for Germany: enhancing the predictive capability of global SEAS5 ensemble forecasts using bias correction, *Hydrologie & Wasserbewirtschaftung*, 67, (2), 90-109. DOI: 10.5675/HyWa_2023.2_2

203. Olschewski, P., Laux, P., Wei, J., Boeker, B., Tian, Z., Sun, L., Kunstmann, H. (2023) An ensemble-based assessment of bias adjustment performance, changes in hydrometeorological predictors and compound extreme events in EAS-CORDEX, *Weather and Climate Extremes*, <https://doi.org/10.1016/j.wace.2022.100531>
202. Li, X., Fang, G., Wei, J., Arnault, J., Laux, P., Wen, X., Kunstmann, H. (2023) Evaluation and projection of precipitation and temperature in a coastal climatic transitional zone in China based on CMIP6 GCMs, *Climate Dynamics*, <https://doi.org/10.1007/s00382-023-06781-z>
201. Wang, X., Zhang, B., Zhang, Z., Tian, L., Kunstmann, H., He, C. (2023) Identifying spatiotemporal propagation of droughts in the agro-pastoral ecotone of northern China with long-term WRF simulations, *Agricultural and Forest Meteorology*, <https://doi.org/10.1016/j.agrformet.2023.109474>
200. Zhang, Z., Laux, P., Baade, J., Arnault, J., Wei, J., Wang, X., Liu, Y., Schmullius, C., Kunstmann, H. (2023) Impact of alternative soil data sources on the uncertainties in simulated land-atmosphere interactions, *Agricultural and Forest Meteorology*, <https://doi.org/10.1016/j.agrformet.2023.109565>
199. Mortey, E. M., Annor, T., Arnault, J., Inoussa, M. M., Madougou, S., Kunstmann, H., Nyantakyi, E. K. (2023) Interactions between Climate and Land Cover Change over West Africa, *Land*, <https://doi.org/10.3390/land12020355>
198. Feldmann, D., Laux, P., Heckl, A., Schindler, M., Kunstmann, H. (2023) Near surface roughness estimation: A parameterization derived from artificial rainfall experiments and two-dimensional hydrodynamic modelling for multiple vegetation coverages, *Journal of Hydrology*, <https://doi.org/10.1016/j.jhydrol.2022.128786>
197. Rousi, E., Fink, A. H., Andersen, L. S., Becker, F. N., Beobide-Arsuaga, G., Breil, M., Cozzi, G., Heinke, J., Jach, L., Niermann, D., Petrovic, D., Richling, A., Riebold, J., Steidl, S., Suarez-Gutierrez, L., Tradowsky, J. S., Coumou, D., Düsterhus, A., Ellsäßer, F., Frakouolidis, G., Glikman, D., Handorf, D., Haustein, K., Kornhuber, K., Kunstmann, H., Pinto, J. G., Warrach-Sagi, K., Xoplaki, E. (2023) The extremely hot and dry 2018 summer in central and northern Europe from a multi-faceted weather and climate perspective, *Natural Hazards and Earth System Sciences*, <https://doi.org/10.5194/nhess-23-1699-2023>
196. Achugbu, I. C., Laux, P., Olufayo, A. A., Balogun, I. A., Dudhia, J., Arnault, J., Gbode, I. E., Naabil, E., Kunstmann, H. (2023) The impacts of land use and land cover change on biophysical processes in West Africa using a regional climate model experimental approach, *International Journal of Climatology*, <https://doi.org/10.1002/joc.7943>
195. Dong, N., Yang, M., Wei, J., Arnault, J., Laux, P., Xu, S., Wang, H., Yu, Z., Kunstmann, H. (2023) Toward Improved Parameterizations of Reservoir Operation in Ungauged Basins: A Synergistic Framework Coupling Satellite Remote Sensing, Hydrologic Modeling, and Conceptual Operation Schemes, *Water Resources Research*, <https://doi.org/10.1029/2022WR033026>
194. Lorenz, M., Bliefernicht, J., Kunstmann, H. (2022) Bias correction of daily precipitation for ungauged locations using geostatistical approaches: A case study for the CORDEX-Africa ensemble, *International Journal of Climatology*, <https://doi.org/10.1002/joc.7649>
193. Bleitner, N., Chwala, C., Haese, B., Horning, S., Kunstmann, H. (2022) Combining Commercial Microwave Link and Rain Gauge Observations to Estimate Countrywide Precipitation: A Stochastic Reconstruction and Pattern Analysis Approach, *Water Resources Research*, <https://doi.org/10.1029/2022WR032563>
192. Mousavian, R., Hossainali, M. M., Lorenz, C., Kunstmann, H. (2022) Copula, a new approach for optimum design of Voxel-based GNSS tropospheric tomography based on the atmospheric dynamics, *GPS Solutions*, <https://doi.org/10.1007/s10291-022-01340-1>
191. Arnault, J., Niezgoda, K., Jung, G., Hahn, A., Zabel, M., Schefuss, E., Kunstmann, H. (2022) Disentangling the Contribution of Moisture Source Change to Isotopic Proxy Signatures: Deuterium Tracing with WRF-Hydro-Iso-Tag and Application to Southern African Holocene Sediment Archives, *Journal of Climate*, <https://doi.org/10.1175/JCLI-D-22-0041.1>
190. Petrovic, D., Fersch, B., Kunstmann, H. (2022) Droughts in Germany: performance of regional climate models in reproducing observed characteristics, *Natural Hazards and Earth System Sciences*, <https://doi.org/10.5194/nhess-22-3875-2022>
189. Senatore, A., Fuoco, D., Maiolo, M., Mendicino, G., Smiatek, G., Kunstmann, H. (2022) Evaluating the uncertainty of climate model structure and bias correction on the hydrological impact of projected climate change in a Mediterranean catchment, *Journal of Hydrology*, <https://doi.org/10.1016/j.ejrh.2022.101120>

188. Bardossy, A., Seidel, J., Eisele, M., El Hachem, A., Kunstmann, H., Chwala, C., Graf, M., Demuth, N., Gerlach, N. (2022) Improvement of the Estimation of Area Precipitation by means of opportunistic Precipitation Measurements using the Example of the Ahr Flood in July 2021, *Hydrologie und Wasserbewirtschaftung*
187. Rummel, T., Wagner, A., Arnault, J., Kunstmann, H. (2022) Lateral terrestrial water fluxes in the LSM of WRF-Hydro: Benefits of a 2D groundwater representation, *Hydrological Processes*, <https://doi.org/10.1002/hyp.14510>
186. Dong, N., Wei, J., Yang, M., Yan, D., Yang, C., Gao, H., Arnault, Joel, Laux, P., Zhang, X., Liu, Y., Niu, J., Wang, H., Wang, H., Kunstmann, H. (2022) Model Estimates of China's Terrestrial Water Storage Variation Due To Reservoir Operation, *Water Resources Research*, <https://doi.org/10.1029/2021WR031787>
185. Senatore, A., Gochis, D. J. J., Kunstmann, H., McAllister, M., Mendicino, G. (2022) Preface - special issue on "coupled atmosphere-hydrological processes: Novel system developments and cross-compartment evaluations ", *Hydrological Processes*, <https://doi.org/10.1002/hyp.14780>
184. Ndiaye, A., Moussa, M. S., Dione, C., Sawadogo, W., Bliefernicht, J., Dungall, L., Kunstmann, H. (2022) Projected Changes in Solar PV and Wind Energy Potential over West Africa: An Analysis of CORDEX-CORE Simulations, *Energies*, <https://doi.org/10.3390/en15249602>
183. Shang, S., Arnault, J., Zhu, G., Chen, H., Wei, J., Zhang, K., Zhang, Z., Laux, P., Kunstmann, H. (2022) Recent Increase of Spring Precipitation over the Three-River Headwaters Region-Water Budget Analysis Based on Global Reanalysis (ERA5) and ET-Tagging Extended Regional Climate Modeling, *Journal of Climate*, <https://doi.org/10.1175/JCLI-D-21-0829.1>
182. Fluhrer, A., Jagdhuber, T., Tabatabaeenejad, A., Alemohammad, H., Montzka, C., Friedl, P., Forootan, E., Kunstmann, H. (2022) Remote Sensing of Complex Permittivity and Penetration Depth of Soils Using P-Band SAR Polarimetry, *Remote Sensing*, <https://doi.org/10.3390/rs14122755>
181. Borne, M., Lorenz, C., Portele, T., Martins, E. S. P. R., Vasconcelos Junior, F. C., Kunstmann, H. (2022) Seasonal sub-basin-scale runoff predictions: A regional hydrometeorological Ensemble Kalman Filter framework using global datasets, *Journal of Hydrology*, <https://doi.org/10.1016/j.ejrh.2022.101146>
180. Djibo, M., Ouedraogo, W. Y. S. B., Doumounia, A., Sanou, S. R., Sawadogo, M., Guira, I., Kone, N., Chwala, C., Kunstmann, H., Zougmore, F. (2022) Towards Innovative Solutions for Monitoring Precipitation in Poorly Instrumented Regions: Real-Time System for Collecting Power Levels of Microwave Links of Mobile Phone Operators for Rainfall Quantification in Burkina Faso, *Applied System Innovation*, <https://doi.org/10.3390/asi6010004>
179. Fersch, B., Wagner, A., Kamm, B., Shehaj, E., Schenk, A., Yuan, P., Geiger, A., Moeller, G., Heck, B., Hinz, S., Kutterer, H., Kunstmann, H. (2022) Tropospheric water vapor: a comprehensive high-resolution data collection for the transnational Upper Rhine Graben region, *Earth System Science Data*, <https://doi.org/10.5194/essd-14-5287-2022>
178. Xing, Z., Yu, Z., Wei, J., Zhang, X., Ma, M., Yi, P., Ju, Q., Wang, J., Laux, P., Kunstmann, H. (2022) Lagged influence of ENSO regimes on droughts over the Poyang Lake basin, China, *Atmospheric Research*, <https://doi.org/10.1016/j.atmosres.2022.106218>
177. Thom, D., Rammer, W., Laux, P., Smiatek, G., Kunstmann, H., Seibold, S., Seidl, R. (2022) Will forest dynamics continue to accelerate throughout the 21st century in the Northern Alps?, *Global Change Biology*, <https://doi.org/10.1111/gcb.16133>
176. Wagner, A., Fersch, B., Yuan, P., Rummel, T., Kunstmann, H. (2022) Assimilation of GNSS and Synoptic Data in a Convection Permitting Limited Area Model: Improvement of Simulated Tropospheric Water Vapor Content, *Frontiers in Earth Science*, <https://doi.org/10.3389/feart.2022.869504>
175. Adeyeri, O. E., Laux, P., Ishola, K. A., Zhoud, W., Balogun, A., Adeyewa, Z. D., Kunstmann, H. (2022) Homogenising meteorological variables: Impact on trends and associated climate indices, *Journal of Hydrology*, <https://doi.org/10.1016/j.jhydrol.2022.127585>
174. Bliefernicht, J., Rauch, M., Laux, P., Kunstmann, H. (2022) Atmospheric circulation patterns that trigger heavy rainfall in West Africa, *International Journal of Climatology*, <https://doi.org/10.1002/joc.7613>
173. Dieng, D., Cannon, A. J., Laux, P., Hald, C., Adeyeri, O., Rahimi, J., Srivastava, A. K., Mbaye, M. L., Kunstmann, H. (2022) Multivariate Bias-Correction of High-Resolution Regional Climate Change Simulations for West Africa: Performance and Climate Change Implications, *Journal of Geophysical Research: Atmospheres*, <https://doi.org/10.1029/2021JD034836>

172. Bogena, H. R., Schrön, M., Jakobi, J., Ney, P., Zacharias, S., Andreasen, M., Baatz, R., Boorman, D., Duygu, M. B., Eguibar-Galán, M. A., Fersch, B., Franke, T., Geris, J., González Sanchis, M., Kerr, Y., Korf, T., Mengistu, Z., Mialon, A., Nasta, P., Nitychoruk, J., Pisinaras, V., Rasche, D., Rosolem, R., Said, H., Schattan, P., Zreda, M., Achleitner, S., Albentosa-Hernández, E., Akyürek, Z., Blume, T., del Campo, A., Canone, D., Dimitrova-Petrova, K., Evans, J. G., Ferraris, S., Frances, F., Gisolo, D., Guntner, A., Herrmann, F., Iwema, J., Jensen, K. H., Kunstmann, H., Lidón, A., Looms, M. C., Oswald, S., Panagopoulos, A., Patil, A., Power, D., Rebmann, C., Romano, N., Scheiffele, L., Seneviratne, S., Weltin, G., Vereecken, G. (2022) COSMOS-Europe: a European network of cosmic-ray neutron soil moisture sensors, *Earth System Science Data*, <https://doi.org/10.5194/essd-14-1125-2022>
171. Quenum, G. M. L. D., Arnault, J., Klutse, N. A. B., Zhang, Z., Kunstmann, H., Oguntunde, P. G. (2022) Potential of the Coupled WRF/WRF-Hydro Modeling System for Flood Forecasting in the Ouvémé River (West Africa), *Water*, <https://doi.org/10.3390/w14081192>
170. Rummler, T., Wagner, A., Arnault, J., Kunstmann, H. (2022) Lateral terrestrial water fluxes in the LSM of WRF - Hydro: Benefits of a 2D groundwater representation, *Hydrological Processes*, <https://doi.org/10.1002/hyp.14510>
169. Zhang, Z., Arnault, J., Laux, P., Ma, N., Wei, J., Kunstmann, H. (2021) Diurnal cycle of surface energy fluxes in high mountain terrain: High-resolution fully coupled atmosphere-hydrology modelling and impact of lateral flow, *Hydrological Processes*, <https://doi.org/10.1002/HYP.14454>
168. Bliefernicht, J., Salack, S., Waongo, M., Annor, T., Laux, P., Kunstmann, H. (2021) Towards a historical precipitation database for West Africa: Overview, quality control and harmonization, *International Journal of Climatology*, <https://doi.org/10.1002/joc.7467>
167. Redlich, S., Zhang, J., Benjamin, C., Singh Dhillon, M., Englmeier, J., Ewald, J., Fricke, U., Ganuza, C., Haensel, M., Hovestadt, T., Kollmann, J., Koellner, T., Kübert-Flock, C., Kunstmann, H., Menzel, A., Moning, C., Peters, W., Riebl, R., Rummler, T., Rojas-Botero, S., Tobisch, C., Uhler, J., Uphus, L., Müller, J., Steffan-Dewenter, I. (2021) Disentangling effects of climate and land use on biodiversity and ecosystem services—A multi - scale experimental design, *Methods in Ecology and Evolution*, <https://doi.org/10.1111/2041-210X.13759>
166. Zhang, Z., Arnault, J., Laux, P., Ma, N., Wei, J., Shang, S., Kunstmann, H. (2021) Convection-permitting fully coupled WRF-Hydro ensemble simulations in high mountain environment: impact of boundary layer- and lateral flow parameterizations on land–atmosphere interactions, *Climate Dynamics*, <https://doi.org/10.1007/s00382-021-06044-9>
165. Schunke, J., Laux, P., Bliefernicht, J., Waongo, M., Sawadogo, W., Kunstmann, H. (2021) Exploring the Potential of the Cost-Efficient TAHMO Observation Data for Hydro-Meteorological Applications in Sub-Saharan Africa, *Water*, <https://doi.org/10.3390/w13223308>
164. Arnault, J., Jung, G., Haese, B., Fersch, B., Rummler, T., Wei, J., Zhang, Z., Kunstmann, H. (2021) A Joint Soil-Vegetation-Atmospheric Modeling Procedure of Water Isotopologues: Implementation and Application to Different Climate Zones With WRF-Hydro-Iso, *Journal of Advances in Modeling Earth Systems*, <https://doi.org/10.1029/2021MS002562>
163. Graf, M., El Hachem, A., Eisele, M., Seidel, J., Chwala, C., Kunstmann, H., Bárdossy, A. (2021) Rainfall estimates from opportunistic sensors in Germany across spatio-temporal scales, *Journal of Hydrology: Regional Studies*, <https://doi.org/10.1016/j.ejrh.2021.100883>
162. Laux, P., Dieng, D., Portele, T., Wei, J., Shang, S., Zhang, Z., Arnault, J., Lorenz, C., Kunstmann, H. (2021) A High-Resolution Regional Climate Model Physics Ensemble for Northern Sub-Saharan Africa, *Frontiers in Earth Science*, <https://doi.org/10.3389/feart.2021.700249>
161. Patil, A., Fersch, B., Franssen, H.-J. H., Kunstmann, H. (2021) Assimilation of Cosmogenic Neutron Counts for Improved Soil Moisture Prediction in a Distributed Land Surface Model, *Frontiers in Water*, <https://doi.org/10.3389/frwa.2021.729592>
160. Schalge, B., Baroni, G., Haese, B., Erdal, D., Geppert, G., Saavedra, P., Haefliger, V., Vereecken, H., Attinger, S., Kunstmann, H., Cirpka, O. A., Ament, F., Kollet, S., Neuweiler, I., Hendricks Franssen, H.-J., and Simmer, C. (2021) Presentation and discussion of the high-resolution atmosphere-land-surface-subsurface simulation dataset of the simulated Neckar catchment for the period 2007-2015, *Earth System Science Data*, <https://doi.org/10.5194/essd-13-4437-2021>
159. Graf, M., Arnault, J., Fersch, B., Kunstmann, H. (2021) Is the soil moisture precipitation feedback enhanced by heterogeneity and dry soils? A comparative study, *Hydrological Processes*, <https://doi.org/10.1002/hyp.14332>

158. Wei, J., Dong, N., Fersch, B., Arnault, J., Wagner, S., Laux, P., Zhang, Z., Yang, Q., Yang, C., Shang, S., Gao, L., Yu, Z., Kunstmann, H. (2021) Role of reservoir regulation and groundwater feedback in a simulated ground-soil-vegetation continuum: A long-term regional scale analysis, *Hydrological Processes*, <https://doi.org/10.1002/hyp.14341>
157. Shang, S., Zhu, G., Wei, J., Li, Y., Zhang, K., Li, R., Arnault, J., Zhang, Z., Laux, P., Yang, Q., Dong, N., Gao, L., Kunstmann, H. (2021) Associated atmospheric mechanisms for the increased cold season precipitation over the Three-River Headwaters region from the late 1980s, *Journal of Climate*, <https://doi.org/10.1175/JCLI-D-21-0077.1>
156. Laux, P., Rotter, R. P., Webber, H., Dieng, D., Rahimi, J., Wei, J., Faye, B., Srivastava, A. K., Bliefernicht, J., Adeyeri, O., Arnault, J., Kunstmann, H. (2021) To bias correct or not to bias correct? An agricultural impact modelers' perspective on regional climate model data, *Agricultural and Forest Meteorology*, <https://doi.org/10.1016/j.agrformet.2021.108406>
155. Lorenz, C., Portele, T., Laux, P., Kunstmann, H. (2021) Bias-corrected and spatially disaggregated seasonal forecasts: a long-term reference forecast product for the water sector in semi-arid regions, *Earth System Science Data*, <https://doi.org/10.5194/essd-13-2701-2021>
154. Arnault, J., Fersch, B., Rummler, T., Zhang, Z., Quenou, M., Wei, J., Graf, M., Laux, P., Kunstmann, H. (2021) Lateral terrestrial water flow contribution to summer precipitation at continental scale - A comparison between Europe and West Africa with WRF-Hydro-tag ensembles, *Hydrological Processes*, <https://doi.org/10.1002/hyp.14183>
153. Portele, T., Lorenz, C., Dibrani, B., Laux, P., Bliefernicht, J., Kunstmann, H. (2021) Seasonal forecasts offer economic benefit for hydrological decision making in semi-arid regions, *Scientific Reports*, <https://doi.org/10.1038/s41598-021-89564-y>
152. Hartmann, A., Jasechko, S., Gleeson, T., Wada, Y., Andreo, B., Barberá, J. A., Briemann, H., Bouchaou, L., Charlier, J.-P., Darling, G., Filippini, M., Garvelmann, J., Goldscheider, N., Kralik, M., Kunstmann, H., Ladouce, B., Lange, J., Lucianetti, G., Martín, J. F., Mudarra, M., Sánchez, D., Stumpp, C., Zagana, E., Wagener, T., (2021) Risk of groundwater contamination widely underestimated because of fast flow into aquifers, *Proceedings of the National Academy of Sciences*, <https://doi.org/10.1073/pnas.2024492118>
151. Portele, T., Laux, P., Lorenz, C., Janner, A., Horna, N., Fersch, B., Iza, M., Kunstmann, H. (2021) Ensemble-Tailored Pattern Analysis of High-Resolution Dynamically Downscaled Precipitation Fields: Example for Climate Sensitive Regions of South America, *Frontiers in Earth Science*, <https://doi.org/10.3389/feart.2021.669427>
150. Suman, M., Maity, R., Kunstmann, H. (2021) Precipitation of Mainland India: Copula-based bias-corrected daily CORDEX climate data for both mean and extreme values, *Geoscience Data Journal*, <https://doi.org/10.1002/gdj3.118>
149. Eshel, A., Messer, H., Kunstmann, H., Alpert, P., Chwala, C. (2021) Quantitative Analysis of the Performance of Spatial Interpolation Methods for Rainfall Estimation Using Commercial Microwave Links, *Journal of Hydrometeorology*, <https://doi.org/10.1175/JHM-D-20-0164.1>
148. Yang, Q., Yu, Z., Wei, J., Yang, C., Gu, H., Xiao, M., Shang, S., Dong, N., Gao, L., Arnault, J., Laux, P., Kunstmann, H. (2021) Performance of the WRF model in simulating intense precipitation events over the Hanjiang River Basin, China - A multi-physics ensemble approach, *Atmospheric Research*, <https://doi.org/10.1016/j.atmosres.2020.105206>
147. Chaaraoui, S., Bebber, M., Meilinger, S., Rummery, S., Schneiders, T., Sawadogo, W., Kunstmann, H. (2021) Day-Ahead Electric Load Forecast for a Ghanaian Health Facility Using Different Algorithms, *Energies*, <https://doi.org/10.3390/en14020409>
146. Laux, P., Böker, B., Martins, E. S., Vasconcelos Junior, F. C., Moron, V., Portele, T., Lorenz, C., Philipp, A., Kunstmann, H. (2021) A semi-objective circulation pattern classification scheme for the semi-arid Northeast Brazil, *International Journal of Climatology*, <https://doi.org/10.1002/joc.6608>
145. Zhang, Z., Arnault, J., Laux, P., Ma, N., Wei, J., Shang, S., Kunstmann, H. (2021) Convection-permitting fully coupled WRF-Hydro ensemble simulations in high mountain environment: impact of boundary layer- and lateral flow parameterizations on land-atmosphere interactions, *Climate Dynamics*, <https://doi.org/10.1007/s00382-021-06044-9>
144. Redlich, S., Zhang, J., Benjamin, C., Dhillon, M. S., Englmeier, J., Ewald, J., Fricke, U., Ganuza, C., Haensel, M., Hovestadt, T., Kollmann, J., Koellner, T., Kübert-Flock, C., Kunstmann, H., Menzel, A., Moning, C., Peters, W., Riebl, R., Rummler, T., Rojas-Botero, S., Tobisch, C., Uhler, J., Uphus, L., Müller, J., Steffan-Dewenter, I. (2021) Disentangling effects of climate and land use on biodiversity

- and ecosystem services - A multi-scale experimental design, *Methods in Ecology and Evolution*, <https://doi.org/10.1111/2041-210X.13759>
143. Adeyeri, O. E., Laux, P., Lawin, A. E., Ige, S. O. Kunstmann, H. (2020) Analysis of hydrometeorological variables over the transboundary Komadugu-Yobe basin, West Africa, *Journal of Water and Climate Change*, <https://doi.org/10.2166/wcc.2019.283>
 142. Mousavian, R., Lorenz, C., Hossainali, M. M., Fersch, B., Kunstmann, H. (2020) Copula-based modeling of dependence structure in geodesy and GNSS applications: case study for zenith tropospheric delay in complex terrain, *GPS Solutions*, <https://doi.org/10.1007/S10291-020-01044-4>
 141. Chwala, C., Kunstmann, H. (2020) Landesweite Niederschlagsmessung mit Richtfunkstrecken des Handynetzes, *Wasserwirtschaft*, <https://doi.org/10.1007/S35147-020-0447-2>
 140. Fersch, B., Francke, T., Heistermann, M., Schroen, M., Doepper, V., Jakobi, J., Baroni, G., Blume, T., Bogena, H., Budach, C., Graenzig, T., Foerster, M., Guentner, A., Hendricks Franssen, H.-J., Kasner, M., Koehli, M., Kleinschmit, B., Kunstmann, H., Patil, A., Rasche, D., Scheiffele, L., Schmidt, U., Szulc-Seyfried, S., Weimar, J., Zacharias, S., Zreda, M., Heber, B., Kiese, R., Mares, V., Mollenhauer, H., Voelksch, I., Oswald, S. (2020) A dense network of cosmic-ray neutron sensors for soil moisture observation in a highly instrumented pre-Alpine headwater catchment in Germany, *Earth System Science Data*, <https://doi.org/10.5194/ESSD-12-2289-2020>
 139. Yang, Q., Yu, Z., Wei, J., Yang, C., Gu, H., Xiao, M., Shang, S., Dong, N., Gao, L., Arnault, J., Laux, P., Kunstmann, H. (2020) Performance of the WRF model in simulating intense precipitation events over the Hanjiang River Basin, China – A multi-physics ensemble approach, *Atmospheric Research*, <https://doi.org/10.1016/J.ATMOSRES.2020.105206>
 138. Polz, J., Chwala, C., Graf, M., Kunstmann, H. (2020) Rain event detection in commercial microwave link attenuation data using convolutional neural networks, *Atmospheric Measurement Techniques*, <https://doi.org/10.5194/AMT-13-3835-2020>
 137. Dong, N., Yang, M., Yu, Z., Wei, J., Yang, C., Yang, Q., Liu, X., Lei, X., Wang, H., Kunstmann, H. (2020) Water resources management in a reservoir-regulated basin: Implications of reservoir network layout on streamflow and hydrologic alteration, *Journal of Hydrology*, <https://doi.org/10.1016/J.JHYDROL.2020.124903>
 136. Graf, M., Chwala, C., Polz, J., Kunstmann, H. (2020) Rainfall estimation from a German-wide commercial microwave link network: optimized processing and validation for 1 year of data, <https://doi.org/10.5194/HESS-24-2931-2020>
 135. Fersch, B., Senatore, A., Adler, B., Arnault, J., Mauder, M., Schneider, K., Voelksch, I., Kunstmann, H. (2020) High-resolution fully coupled atmospheric-hydrological modeling: a cross-compartment regional water and energy cycle evaluation, *Hydrology and Earth System Sciences*, <https://doi.org/10.5194/HESS-24-2457-2020>
 134. Laux, P., Boeker, B., Martins, E. S., Vasconcelos Junior, F. C., Moron, V., Portele, T., Lorenz, C., Philipp, A., Kunstmann, H. (2020) A semi-objective circulation pattern classification scheme for the semi-arid Northeast Brazil, *International Journal of Climatology*, <https://doi.org/10.1002/JOC.6608>
 133. Adeyeri, O. E., Laux, P., Arnault, J., Lawin, A. E., Kunstmann, H. (2020) Conceptual hydrological model calibration using multi-objective optimization techniques over the transboundary Komadugu-Yobe basin, Lake Chad Area, West Africa, *Journal of Hydrology: Regional Studies*, <https://doi.org/10.1016/J.EJRH.2019.100655>
 132. Coppola, E., Sobolowski, S., Pichelli, E., Raffaele, F., Ahrens, B., Anders, I., Ban, N., Bastin, S., Belda, M., Belusic, D., Caldas-Alvarez, A., Cardoso, R. M., Davolio, S., Dobler A., Fernandez, J., Fita, L., Fumiere, Q., Giorgi, F., Goergen, K., Gütter, I., Halenka, T., Heinzel, D., Hodnebrog, Ø., Jacob, D., Kartsios, S., Katragkou, E., Kendon, E., Khodayar, S., Kunstmann, H., Knist, S., Lavin-Gullón, A., Lind, P., Lorenz, T., Maraun, D., Marelle, L., van Meijgaard, E., Milovac, J., Myhre, G., Panitz, H.-J., Piazza, M., Raffa, M., Raub, T., Rockel, B., Schär, C., Sieck, K., Soares, P. M. M., Somot, S., Srnec, L., Stocchi, P., Tölle, M. H., Truhetz, H., Vautard, R., De Vries, H., Warrach-Sagi, K. (2020) A first-of-its-kind multi-model convection permitting ensemble for investigating convective phenomena over Europe and the Mediterranean, *Climate Dynamics*, <https://doi.org/10.1007/s00382-018-4521-8>
 131. Moroder, C., Siart, U., Chwala, C., Kunstmann, H. (2020) Modeling of Wet Antenna Attenuation for Precipitation Estimation from Microwave Links, *IEEE Geoscience and Remote Sensing Letters*, <https://doi.org/10.1109/LGRS.2019.2922768>

130. Moroder, C., Siart, U., Chwala, C., Kunstmann, H. (2020) Microwave Instrument for Simultaneous Wet Antenna Attenuation and Precipitation Measurement, *IEEE Transactions on Instrumentation and Measurement*, <https://doi.org/10.1109/TIM.2019.2961498>
129. Hald, C., Zeeman, M., Laux, P., Mauder, M., Kunstmann, H. (2019) Large-Eddy Simulations of Real-World Episodes in Complex Terrain Based on ERA-Reanalysis and Validated by Ground-Based Remote Sensing Data, *Monthly Weather Review*, <https://doi.org/10.1175/MWR-D-19-0016.1>
128. Warscher, M., Wagner, S., Marke, T., Laux, P., Smaitek, G., Strasser, U., Kunstmann, H. (2019) A 5 km Resolution Regional Climate Simulation for Central Europe: Performance in High Mountain Areas and Seasonal, Regional and Elevation-Dependent Variations, *Atmosphere*, 10(11), 682, <https://doi.org/10.3390/atmos10110682>
127. Rauch, M., Bliefernicht, J., Laux, P., Salack, S., Waongo, M., Kunstmann, H. (2019) Seasonal Forecasting of the Onset of the Rainy Season in West Africa, *Atmosphere*, doi: 10.3390/ATMOS10090528
126. Smiatek, G., Kunstmann, H. (2019) Simulating Future Runoff in a Complex Terrain Alpine Catchment with EURO-CORDEX Data, *Journal of Hydrometeorology*, doi: 10.1175/JHM-D-18-0214.1
125. Dong, N., Yu, Z., Gu, H., Yang, C., Yang, M., Wei, J., Wang, H., Arnault, J., Laux, P., Kunstmann, H. (2019) Climate-induced Hydrological Impact Mitigated by a High-density Reservoir Network in the Poyang Lake Basin, *Journal of Hydrology*, doi: 10.1016/J.JHYDROL.2019.124148
124. Adeyeri, O. E., Laux, P., Lawin, A. E., Ige, O., Kunstmann, H. (2019) Analysis of hydrometeorological variables over the transboundary Komadugu-Yobe basin, West Africa, *Journal of Water and Climate Change*, doi: 10.2166/WCC.2019.283
123. Arnault, J., Wei, J., Rummel, T., Fersch, B., Zhang, Z., Jung, G., Wagner, S., Kunstmann, H. (2019) A joint soil-vegetation-atmospheric water tagging procedure with WRF-Hydro: Implementation and application to the case of precipitation partitioning in the upper Danube river basin, *Water Resources Research*, doi: 10.1029/2019WR024780
122. Zhang, Z., Arnault, J., Wagner, S., Laux, P., Kunstmann, H. (2019) Impact of lateral terrestrial water flow on land - atmosphere interactions in the Heihe river basin in China: Fully coupled modeling and precipitation recycling analysis, *Journal of Geophysical Research: Atmospheres*, doi: 10.1029/2018JD030174
121. Blöschl et al. (2019) Twenty-three unsolved problems in hydrology (UPH) – a community perspective, *Hydrological Sciences Journal*, doi: 10.1080/02626667.2019.1620507
120. Auer, H., Bliefernicht, J., Seidel, J., Kunstmann, H., Demuth, N. (2019) Evaluation of High-Resolution Ensemble Precipitation Forecasts for Early Flood Warnings in Small-Scale River Basins during the Heavy Rainfall Period 2016 in Germany, *Hydrologie und Wasserbewirtschaftung*, doi: 10.5675/HYWA_2019.3_1
119. Mott, R., Wolf, A., Kehl, M., Kunstmann, H., Warscher, M., Grünwald, T. (2019) Avalanches and micrometeorology driving mass and energy balance of the lowest perennial ice field of the Alps: a case study, *The Cryosphere*, 13, 1247-1265, doi: 10.5194/tc-13-1247-2019
118. Maity, R., Suman, M., Laux, P., Kunstmann, H. (2019) Bias correction of zero-inflated RCM precipitation fields: A copula-based scheme for both mean and extreme conditions, *Journal of Hydrometeorology*, April 2019, pages 595-611, doi: 10.1175/JHM-D-18-0126.1
117. Chwala, C. and Kunstmann, H. (2019) Commercial microwave link networks for rainfall observation: Assessment of the current status and future challenges, *Wiley Interdisciplinary Reviews: Water*, Volume 6, Issue 2, doi: 10.1002/wat2.1337
116. Soltani, M., Laux, P., Mauder, M., Kunstmann, H. (2019) Inverse distributed modelling of streamflow and turbulent fluxes: A sensitivity and uncertainty analysis coupled with automatic optimization, *Journal of Hydrology*, Volume 571, pages 856-872, doi: <https://doi.org/10.1016/j.jhydrol.2019.02.033>
115. Laux, P., Kerandi, N., Kunstmann, H. (2019) Physics Parameterization Selection in RCM and ESM Simulations Revisited: New Supporting Approach Based on Empirical Copulas, *Atmosphere*, 10 (3), 150, doi: 10.3390/atmos10030150
114. Rummel, T., Arnault, J., Gochis, D., Kunstmann, H. (2019) Role of Lateral Terrestrial Water Flow on the Regional Water Cycle in a Complex Terrain Region: Investigation with a Fully Coupled Model System, *Journal of Geophysical Research: Atmospheres*, doi: 10.1029/2018JD029004

113. Bliefernicht, J., Waongo, M., Salack, S., Seidel, J., Laux, P., Kunstmann, H. (2019) Quality and Value of Seasonal Precipitation Forecasts issued by the West African Regional Climate Outlook Forum, *Journal of Applied Meteorology and Climatology*, doi: 10.1175/JAMC-D-18-0066.1
112. Lorenz, C., Montzka, C., Jagdhuber, T., Laux, P., Kunstmann, H. (2018) Long-Term and High-Resolution Global Time Series of Brightness Temperature from Copula-Based Fusion of SMAP Enhanced and SMOS Data, *Remote Sensing*, Volume: 10, Issue: 11, doi: 10.3390/rs10111842
111. Bliefernicht, J., Berger, S., Salack, S., Guug, S., Hingerl, L., Heinzeller, D., Mauder, M., Steinbrecher, R., Steup, G., Bossa, A. Y., Waongo, M., Quansah, E., Balogun, A. A., Yira, Y., Arnault, J., Wagner, S., Klein, C., Gessner, U., Knauer, K., Straub, A., Schönrocj, R., Kunkel, R., Okogbue, E. C., Rogmann, A., Neidl, F., Jahn, C., Diekkrüger, B., Aduna, A., Barry, B., Kunstmann, H. (2018) The WASCAL Hydro-Meteorological Observatory in the Sudan Savanna of Burkina Faso and Ghana, *Vadose Zone Journal*, doi: 10.2136/vzj2018.03.0065
110. Kiese, R., Fersch, B., Baessler, C., Brosy, C., Butterbach-Bahl, K., Chwala, C., Dannenmann, M., Fu, J., Gasche, R., Grote, R., Jahn, C., Klatt, J., Kunstmann, H., Mauder, M., Rödiger, T., Smiatek, G., Soltani, M., Steinbrecher, R., Völksch, I., Werhahn, J., Wolf, B., Zeeman, M., Schmid, H. P. (2018) The TERENO Pre-Alpine Observatory: Integrating Meteorological, Hydrological, and Biogeochemical Measurements and Modeling, *Vadose Zone Journal*, Volume: 17, doi: 10.2136/vzj2018.03.0060
109. Sylla, M. B., Pal, J. S., Faye, A., Kangbeni, D., Kunstmann, H. (2018) Climate change to severely impact West African basin scale irrigation in 2 °C and 1.5 °C global warming scenarios, *Scientific Reports*, Volume: 8, Issue: 1, Pages: 14395, doi: 10.1038/s41598-018-32736-0
108. Lorenz, M., Bliefernicht, J., Haese, B., Kunstmann, H. (2018) Copula-based downscaling of daily precipitation fields, *Hydrological Processes*, doi: 10.1002/hyp.13271
107. Berger, S., Bliefernicht, J., Linstädter, A., Canak, K., Guug, S., Heinzeller, D., Hingerl, L., Mauder, M., Neidl, F., Quansah, E., Salack, S., Steinbrecher, R., Kunstmann, H. (2019) The impact of rain events on CO₂ emissions from contrasting land use systems in semi-arid West African savannas, *Science of The Total Environment*, Volume: 647, Pages: 1478-1489, doi: 10.1016/j.scitotenv.2018.07.397
106. Dieng, D., Laux, P., Smiatek, G., Heinzeller, D., Bliefernicht, J., Sarr, A., Gaye, A. T., Kunstmann, H. (2018) Performance analysis and projected changes of agro-climatological indices across West Africa based on high-resolution regional climate model simulations, *Journal of Geophysical Research: Atmospheres*, doi: 10.1029/2018JD028536
105. Sylla, M. B., Faye, A., Giorgi, F., Diedhiou, A., Kunstmann, H. (2018) Projected heat stress under 1.5°C and 2°C global warming scenarios creates unprecedented discomfort for humans in West Africa, *Earth's Future*, doi: 10.1029/2018EF000873
104. Dang, T., Pedroso, R., Laux, P., Kunstmann, H. (2018) Development of an integrated hydrological-irrigation optimization modeling system for a typical rice irrigation scheme in Central Vietnam, *Agricultural Water Management*, Volume: 208, Pages: 193-293, doi: 10.1016/j.agwat.2018.05.018
103. Arnault, J., Rummel, T., Baur, F., Lerch, S., Wagner, S., Fersch, B., Zhang, Z., Kerandi, N., Keil, C., Kunstmann, H. (2018) Precipitation sensitivity to the uncertainty of terrestrial water flow in WRF-Hydro – An ensemble analysis for Central Europe, *Journal of Hydrometeorology*, doi: 10.1175/JHM-D-17-0042.1
102. Wagner, A., Heinzeller, D., Wagner, S., Rummel, T., Kunstmann, H. (2018) Explicit convection and scale-aware cumulus parameterizations: High-resolution simulations over areas of different topography in Germany, *Monthly Weather Review*, doi: 10.1175/MWR-D-17-0238.1
101. Soltani, M., Laux, P., Mauder, M., Kunstmann, H. (2018) Spatiotemporal variability and empirical Copula-based dependence structure of modeled and observed coupled water and energy fluxes, *Hydrology Research*, doi: 10.2166/nh.2018.163
100. Heinzeller, D., Dieng, D., Smiatek, G., Olusegun, C., Klein, C., Hamann, I., Salack, S., Bliefernicht, J., Kunstmann, H. (2018) The WASCAL high-resolution regional climate simulation ensemble for West Africa: concept, dissemination and assessment, *Earth Syst. Sci.*, Volume: 10, Issue: 2, Pages: 815-835, doi: 10.5194/essd-10-815-2018
99. Haese, B., Hörring, S., Chwala, C., Bárdossy, A., Schalge, B., Kunstmann, H. (2017) Stochastic Reconstruction and Interpolation of Precipitation Fields Using Combined Information of Commercial Microwave Links and Rain Gauges, *Water Resources Research*, Volume: 53, Issue: 12, Pages: 10740-10756, doi: 10.1002/2017WR021015
98. Mauder, M., Genzel, S., Fu, J., Kiese, R., Soltani, M., Steinbrecher, R., Zeemann, M., Banerjee, T., De Roo, F., Kunstmann, H. (2017) Evaluation of energy balance closure adjustment methods by

independent evapotranspiration estimates from lysimeters and hydrological simulations, *Hydrological Processes*, Volume: 32, Issue: 1, Pages: 39-50, doi: 10.1002/hyp.11397

97. Demuth, N., Johst, M., Meuser, A., Kunstmann, H. (2017) Application of Ensemble Predictions for the operational Flood Warning in Germany, *Hydrologie Und Wasserbewirtschaftung*, Volume: 61, Issue: 5, Pages: 296
96. Bartels, J., Bliefernicht, J., Seidel, J., Bárdossy, A., Kunstmann, H., Johst, M., Demuth, N. (2017) Assessment of Ensemble Discharge Forecasts for Operational Flood Warnings, *Hydrologie Und Wasserbewirtschaftung*, Volume: 61, Issue: 5, Pages: 297-310, doi: 10.5675/HyWa_2017,5_1
95. Garvelmann, J., Warscher, M., Leonhardt, G., Franz, H., Lotz, A., Kunstmann, H. (2017) Quantification and characterization of the dynamics of spring and stream water systems in the Berchtesgaden Alps with a long-term stable isotope dataset, *Environmental Earth Sciences*, Volume: 76, Issue: 22, Pages: 766, doi: 10.1007/s12665-017-7107-6
94. Brosy, C., Krampf, K., Zeeman, M., Wolf, B., Junkermann, W., Schäfer, K., Emeis, S., Kunstmann, H. (2017) Simultaneous multicopter-based air sampling and sensing of meteorological variables, *Atmos. Meas. Tech.*, Volume: 10, Issue: 8, Pages: 2773-2784, doi: 10.5194/amt-10-2773-2017
93. Soltani, M., Mauder, M., Laux, P., Kunstmann, H. (2017) Turbulent flux variability and energy balance closure in the TERENO prealpine observatory: a hydrometeorological data analysis, *Theoretical and Applied Climatology*, doi: 10.1007/s00704-017-2235-1
92. Annor, T., Lampertey, B., Wagner, S., Oguntunde, P., Arnault, J., Heinzeller, D., Kunstmann, H. (2017) High-resolution long-term WRF climate simulations over Volta Basin. Part 1: validation analysis for temperature and precipitation, *Theoretical and Applied Climatology*, doi: 10.1007/s00704-017-2223-5
91. Dang, Q. T., Laux, P., Kunstmann, H. (2017) Future high and low flow estimations for Central Vietnam: a hydrometeorological modelling chain approach, *Hydrological Sciences Journal*, doi: 10.1080/02626667.2017.1353696
90. Golston, L. M., Tao, L., Brosy, C., Schäfer, K., Wolf, B., McSpiritt, J., Buchholz, B., Caulton, D. R., Pan, D., Zondlo, M. A., Yoel, D., Kunstmann, H., McGregor, M. (2017) Lightweight mid-infrared methane sensor for unmanned aerial systems, *Applied Physics B*, doi: 10.1007/s00340-017-6735-6
89. Smiatek, G., Keis, F., Chwala, C., Fersch, B., Kunstmann, H. (2017) Potential of commercial microwave linknetwork derived rainfall for river runoff simulations, *Environmental Research Letters*, doi: 10.1088/1748-9326/aa5f46
88. Paeth, H., Paxian, A., Sein, D. V., Jacob, D., Panitz, H. J., Warscher, M., Fink, A., Kunstmann, H., Breil, M., Engel, T., Krause, A., Toedter, J., Ahrends, B. (2017) Decadal and multi-year predictability of the West African monsoon and the role of dynamical downscaling, *Meteorologische Zeitschrift*, doi: 10.1127/metz/2017/0811
87. Dieng, D., Smiatek, G., Bliefernicht, J., Heinzeller, D., Sarr, A., Gaye, A. T., Kunstmann, H. (2017) Evaluation of the COSMO-CLM high-resolution climate simulations over West Africa, *Journal of Geophysical Research: Atmospheres*, doi: 10.1002/2016JD025457
86. Quansah, E., Katake, G., Mauder, M., Annor, T., Amekudzi, L., Bliefernicht, J., Heinzeller, D., Balogun, A. A., Kunstmann, H. (2017) Numerical Simulation of Surface Energy and Water Balances over a Semiarid Grassland Ecosystem in the West African Savanna, *Advances in Meteorology*, doi: 10.1155/2017/6258180
85. Kerandi, N., Arnault, J., Laux, P., Wagner, S., Kitheka, J., Kunstmann, H. (2017) Joint atmospheric-terrestrial water balances for East Africa: a WRF-Hydro case study for the upper Tana River basin, *Theoretical and Applied Climatology*, doi: 10.1007/s00704-017-2050-8
84. Klein, C., Bliefernicht, J., Heinzeller, D., Gessner, U., Klein, I., Kunstmann, H. (2017) Feedback of observed interannual vegetation change: a regional climate model analysis for the West African monsoon, *Climate Dynamics*, doi: 10.1007/s00382-016-3237-x
83. Kerandi, N., Laux, P., Arnault, J., Kunstmann, H. (2016) Performance of the WRF model to simulate the seasonal and interannual variability of hydrometeorological variables in East Africa: a case study for the Tana River basin in Kenya, *Theoretical and Applied Climatology*, Volume: 130, Issue: 1-2, Pages: 401-418, doi: 10.1007/s00704-016-1890-y
82. Laux, P., Nguyen, P. N. B., Cullmann, J., Van, T. P., Kunstmann, H. (2016) How many RCM ensemble members provide confidence in the impact of land-use land cover change?, *International Journal of Climatology*, doi: 10.1002/joc.4836

81. Salack, S., Klein, C., Giannini, A., Sarr, B., Worou, O., Belko, N., Bliefernicht, J., Kunstmann, H. (2016) Global warming induced hybrid rainy seasons in the Sahel, *Environmental Research Letters*, doi: 10.1088/1748-9326/11/10/104008
80. Schmieder, J., Hanzer, F., Marke, T., Garvelmann, J., Warscher, M., Kunstmann, H., Strasser, U. (2016) The importance of snowmelt spatiotemporal variability for isotope-based hydrograph separation in a high-elevation catchment, *Hydrol. Earth Syst. Sci.*, doi: 10.5194/hess-20-5015-2016
79. Wolf, B., Chwala, C., Fersch, B., Garvelmann, J., Junkermann, W., Zeeman, M. J., Angerer, A., Adler, B., Beck, C., Brosy, C., Brugger, P., Emeis, S., Dannenmann, M., De Roo, F., Diaz-Pines, E., Haas, E., Hagen, M., Hajnsek, I., Jacobbeit, J., Jagdhuber, T., Kalthoff, N., Kiese, R., Kunstmann, H., Kosak, O., Krieg, R., Malchow, C., Mauder, M., Merz, R., Notarnicola, C., Philipp, A., Reif, W., Reineke, S., Rödier, T., Ruehr, N., Schäfer, K., Schrön, M., Senatore, A., Shupe, H., Völsch, I., Wanninger, C., Zacharias, S., Schmid, H. P. (2016) The ScaleX campaign: scale-crossing land-surface and boundary layer processes in the TERENO-preAlpine observatory, *Bulletin of the American Meteorological Society*, doi: 10.1175/BAMS-D-15-00277.1
78. Heinzeller, D., Junkermann, W., Kunstmann, H. (2016) Anthropogenic aerosol emissions and rainfall decline in South-West Australia: coincidence or causality?, *Journal of Climate*, doi: 10.1175/JCLI-D-16-0082.1
77. Smiatek, G., Kunstmann, H., Senatore, A. (2016) EURO-CORDEX regional climate model analysis for the Greater Alpine Region (GAR): Performance and expected future change, *Journal of Geophysical Research-Atmospheres*, doi: 10.1002/2015JD02472
76. Wei, J., Knoche, H.-R., Kunstmann, H. (2016) Atmospheric residence times from transpiration and evaporation to precipitation: An age-weighted regional evaporation tagging approach, *Journal of Geophysical Research-Atmospheres*, doi: 10.1002/2015JD024650
75. Hingerl, L., Kunstmann, H., Wagner, S., Mauder, M., Bliefernicht, J., Rigon, R. (2016) Spatiotemporal variability of water and energy fluxes - A case study for a meso-scale catchment in pre-alpine environment, *Hydrological Processes*, doi: 10.1002/hyp.10893
74. Paxian, A., Sein, D., Panitz, H. J., Warscher, M., Breil, M., Engel, T., Tödter, J., Krause, A., Cabos Narvaez, W. D., Fink, A. H., Ahrens, B., Kunstmann, H., Jacob, D., Paeth, H. (2016) Bias reduction in decadal predictions of West African monsoon rainfall using regional climate models, *Journal of Geophysical Research-Atmospheres*, Volume 121, Issue 4, Pages 1715-1735, doi: 10.1002/2015JD024143
73. Arnault, J., Knoche, H.-R., Wei, J., Kunstmann, H. (2016) Evaporation tagging and atmospheric water budget analysis with WRF: A regional precipitation recycling study for West Africa, *Water Resources Research*, doi: 10.1002/2015WR017704
72. Wagner, S., Fersch, B., Yuan, F., Yu, Z., Kunstmann, H. (2016) Fully coupled atmospheric-hydrological modeling at regional and long-term scales: Development, application, and analysis of WRF-HMS, *Water Resources Research*, doi: 10.1002/2015WR018185
71. Chwala, C., Keis, F., Kunstmann, H. (2016) Real-time data acquisition of commercial microwave link networks for hydrometeorological applications, *Atmos. Meas. Tech.*, Volume 9, Issue 3, Pages 991-999, doi: 10.5194/amt-9-991-2016
70. Heinzeller, D., Duda, M. G., Kunstmann, H. (2016) Towards convection-resolving, global atmospheric simulations with the Model for Prediction Across Scales (MPAS) v3.1: an extreme scaling experiment, *Geosci. Model Dev.*, Volume 9, Issue 1, Pages 77-110, doi: 10.5194/gmd-9-77-2016
69. Soltani, M., Laux, P., Kunstmann, H., Stan, K., Sohrabi, M. M., Molanejad, M., Sabziparvar, A. A., Ranjbar Saadat Abadi, A., Ranjbar, F., Rousta, I., Zawar-Reza, P., Khoshakhlagh, F., Soltanzadeh, I., Babu, C. A., Azizi, G. H., Martin, M. V. (2015) Assessment of climate variations in temperature and precipitation extreme events over Iran, *Theoretical and Applied Climatology*, Pages 1-21, doi: 10.1007/s00704-015-1609-5
68. Lorenz, C., Tourian, M. J., Devaraju, B., Sneeuw, N., Kunstmann, H. (2015) Basin-scale runoff prediction: An Ensemble Kalman Filter framework based on global hydrometeorological data sets, *Water Resources Research*, Volume 51, Issue 10, Pages 8450-8475, doi: 10.1002/2014WR016794
67. Smiatek, G., Kunstmann, H. (2015) Expected future runoff of the Upper Jordan River simulated with a CORDEX climate data ensemble, *Journal of Hydrometeorology*, doi: 10.1175/JHM-D-15-0066.1
66. Senatore, A., Giuseppe, M., Gochis, D., Yu, W., Yates, D. N., Kunstmann, H. (2015) Fully coupled atmosphere-hydrology simulations for the central Mediterranean: Impact of enhanced hydrological

parameterization for short and long time scales, *Journal of Advances in Modeling Earth Systems*, doi: 10.1002/2015MS000510

65. Gosset, M., Kunstmann, H., Zougmore, F., Cazenave, F., Leijnse, H., Uijlenhoet, R., Chwala, C., Keis, F., Doumounia, A., Boubacar, B., Kacou, M., Alpert, P., Messer, H., Rieckermann, J., Hoedjes, J. (2015) Improving Rainfall Measurement in gauge poor regions thanks to mobile telecommunication networks, *Bulletin of the American Meteorological Society*, doi: 10.1175/BAMS-D-15-00164.1
64. Arnault, J., Wagner, S., Rummler, T., Fersch, B., Bliefernicht, J., Andresen, S., Kunstmann, H. (2016) Role of runoff-infiltration partitioning and resolved overland flow on land-atmosphere feedbacks: A case-study with the WRF-Hydro coupled modeling system for West Africa, *Journal of Hydrometeorology*, doi: 10.1175/JHM-D-15-0089.1
63. Alshawaf, F., Fersch, B., Hinz, S., Kunstmann, H., Mayer, M., Meyer, F. J. (2015) Water vapor mapping by fusing InSAR and GNSS remote sensing data and atmospheric simulations, *Hydrology and Earth System Sciences*, Volume 19, Issue 12, Pages 4747-4764, doi: 10.5194/hess-19-4747-2015
62. Siegmund, J., Bliefernicht, J., Laux, P., Kunstmann, H. (2015) Toward a seasonal precipitation prediction system for West Africa: Performance of CFSv2 and high-resolution dynamical downscaling, *Journal of Geophysical Research-Atmospheres*, Volume 120, Pages 7316–7339, doi: 10.1002/2014JD022692
61. Wei, J., Knoche, H.-R., Kunstmann, H. (2015) Contribution of transpiration and evaporation to precipitation: An ET-Tagging study for the Poyang Lake region in Southeast China, *Journal of Geophysical Research - Atmospheres*, doi: 10.1002/2014JD022975
60. Mao, G., Vogl, S., Laux, P., Wagner, S., Kunstmann, H. (2015) Stochastic bias correction of dynamically downscaled precipitation fields for Germany through Copula-based integration of gridded observation data, *Hydrol. Earth Syst. Sci.*, Volume 19, Issue 4, Pages 1787–1806, doi: 10.5194/hess-19-1787-2015
59. Chen, C., Börnick, H., Cai, Q., Dai, X., Jähnig, S., Kong, Y., Krebs, P., Kuenzer, C., Kunstmann, H., Liu, Y., Nixdorf, E., Pang, Z., Rode, M., Schueth, C., Song, Y., Yue, T., Zhou, K., Zhang, J., Kolditz, O. (2015) Challenges and opportunities of German-Chinese cooperation in water science and technology, *Environ Earth Sci*, 73:4861–4871, doi: 10.1007/s12665-015-4149-5
58. Salack, S., Sarr, B., Sangare, S. K., Ly, M., Sanda, I. S., Kunstmann, H. (2015) Crop-climate ensemble scenarios to improve risk assessment and resilience in the semi-arid regions of West Africa, *Climate Research*, Volume 65, Pages 107-121, doi: 10.3354/cr01282
57. Waongo, M., Laux, P., Kunstmann, H. (2015) Adaptation to climate change: The impacts of optimized planting dates on attainable maize yields under rainfed conditions in Burkina Faso, *Agricultural and Forest Meteorology*, Volume 205, Pages 23-39, doi: 10.1016/j.agrformet.2015.02.006
56. Klein, C., Heinzeller, D., Bliefernicht, J., Kunstmann, H. (2015) Variability of West African monsoon patterns generated by a WRF multi-physics ensemble, *Climate Dynamics*, doi: 10.1007/s00382-015-2505-5
55. Lorenz, C., Kunstmann, H., Devaraju, B., Tourian, M., Sneeuw, N., Rieger, J. (2014) Large-scale runoff from landmasses: a global assessment of the closure of the hydrological and atmospheric water balances, *Journal of Hydrometeorology*, doi: 10.1175/JHM-D-13-0157.1
54. Senatore, A., Mendicino, G., Knoche, H.-R., Kunstmann, H. (2014) Sensitivity of modeled precipitation to sea surface temperature in regions with complex topography and coastlines: a case study for the Mediterranean, *Journal of Hydrometeorology*, doi: 10.1175/JHM-D-13-089.1
53. Sneeuw, N., Lorenz, C., Devaraju, B., Tourian, M., Rieger, J., Kunstmann, H., Bárdossy, A. (2014) Estimating Runoff Using Hydro-Geodetic Approaches, *Surveys in Geophysics*, doi: 10.1007/s10712-014-9300-4
52. Waongo, M., Laux, P., Traore, S., Kunstmann, H. (2014) A Crop Model and Fuzzy Rule Based Approach for Optimizing Maize Planting Dates in Burkina Faso, West Africa, *Journal of Applied Meteorology and Climatology*, Volume 53, Issue 3, Pages: 598-613, doi: 10.1175/JAMC-D-13-0116.1
51. Chwala, C., Kunstmann, H., Hipp, S., Siart, U. (2014) A monostatic microwave transmission experiment for line integrated precipitation and humidity remote sensing, *Atmospheric Research*, Volume 144, Pages: 57-72, doi: 10.1016/j.atmosres.2013.05.014
50. Smiatek G., Kunstmann H., Heckl, A. (2014) High-Resolution Climate Change Impact Analysis on Expected Future Water Availability in the Upper Jordan Catchment and the Middle East, *Journal of Hydrometeorology*, Volume 15, Issue 4, doi: 10.1175/JHM-D-13-0153.1

49. Souvignet, M., Laux, P., Freer, J., Cloke, H., Thinh, D. Q., Thuc, T., Cullmann, J., Nauditt, A., Flügel, W. A., Kunstmann, H., Ribbe, L. (2014) Recent climatic trends and linkages to river discharge in Central Vietnam, *Hydrological Processes*, Volume 28, Issue 4, doi: 10.1002/hyp.9693
48. Fersch, B. and Kunstmann, H. (2013) Atmospheric and terrestrial water budgets: sensitivity and performance of configurations and global driving data for long term continental scale WRF simulations, *Climate Dynamics*, doi: 10.1007/s00382-013-1915-5
47. Knoche, H.-R. and Kunstmann, H. (2013) Tracking atmospheric water pathways by direct evaporation tagging: A case study for West Africa, *Journal of Geophysical Research-Atmospheres*, Volume 118, Issue 22, Pages 12345-12358, doi: 10.1002/2013JD019976
46. Van der Ent, R., Tuinenburg, O. A., Knoche, H.-R., Kunstmann, H., Savenije, H. H. G. (2013) Should we use a simple or complex model for moisture recycling and atmospheric moisture tracking?, *Hydrology and Earth System Sciences*, 17, 4869-4884, doi: 10.5194/hess-17-4869-2013
45. Warscher, M., Strasser, U., Kraller, G., Marke, T., Franz, H., Kunstmann, H. (2013) Performance of complex snow cover descriptions in a distributed hydrological model system: A case study for the high Alpine terrain of the Berchtesgaden Alps, *Water Resources Research*, 49(5), pp. 2619-2637, doi: 10.1002/wrcr.20219
44. Ott, I., Duethmann, D., Liebert, J., Berg, P., Feldmann, H., Ihringer, J., Kunstmann, H., Merz, B., Schaedler, G., Wagner, S. (2013) High-Resolution Climate Change Impact Analysis on Medium-Sized River Catchments in Germany: An Ensemble Assessment, *Journal of Hydrometeorology*, Volume 14, Issue 4, pp. 1175-1193, doi: 10.1175/JHM-D-12-091.1
43. Marke, T., Strasser, U., Kraller, G., Warscher, M., Kunstmann, H., Franz, H., Vogel, M. (2013) The Berchtesgaden National Park (Bavaria, Germany) - A Platform for Interdisciplinary Catchment Research, *Environmental Earth Sciences*, Volume 69, Issue 2, pp. 679-694, doi: 10.1007/s12665-013-2317-z
42. Smiatek G., Kaspar, S. Kunstmann H. (2013) Hydrological climate change impact analysis for the Figeh Spring in Damascus area, Syria, *Journal of Hydrometeorology*, Volume 14, Issue 2, pp. 577-593, doi: 10.1175/JHM-D-12-065.1
41. Berg, P., Wagner, S., Kunstmann, H., Schädler, G. (2013) High resolution regional climate model simulations for Germany: Part I - Validation, *Climate Dynamics*, Volume 40, Issue 1, pp 401-414, doi: 10.1007/s00382-012-1508-8
40. Wagner, S. Berg, P., Schädler, G., Kunstmann, H. (2013) High resolution regional climate model simulations for Germany: Part II – Projected Climate Changes, *Climate Dynamics*, Volume 40, Issue 1, Page 415-427, doi: 10.1007/s00382-012-1510-1
39. Wagner, A., Seltmann, J., Kunstmann, H. (2012) Joint statistical correction of clutters, spokes and beam height for a radar derived precipitation climatology in southern Germany, *Hydrol. Earth Syst. Sci.*, 16, 4101–4117, doi: 10.5194/hess-16-4101-2012
38. Hartmann, A., Lange, J., Aguado, A.V., Mizyed, N., Smiatek, G., Kunstmann, H. (2012) A multi-model approach for improved simulations of future water availability at a large Eastern Mediterranean karst spring, *Journal of Hydrology*, 468-469, pp. 130-138, doi: 10.1016/j.jhydrol.2012.08.024
37. Smiatek, G., Kunstmann, H., Werhahn, J. (2012) Implementation and performance analysis of a high resolution coupled numerical weather and river runoff prediction model system for an Alpine catchment, *Environmental Modeling and Software*, Volume 38, pp. 231-243, doi: 10.1016/j.envsoft.2012.06.001
36. Chwala, C., Gmeiner, A., Qiu, W., Hipp, S., Nienaber, D., Siart, U., Eibert, T., Pohl, M., Seltmann, J., Fritz, J., Kunstmann, H. (2012) Precipitation observation using microwave backhaul links in the alpine and pre-alpine region of Southern Germany, *Hydrology and Earth System Sciences*, 16, 2647–2661, doi:10.5194/hess-16-2647-2012
35. Vogl, S., Laux, P., Qiu, W., Ganquan, M., Kunstmann, H. (2012) Copula-based assimilation of radar and gauge information to derive bias corrected precipitation fields, *Hydrology and Earth System Sciences*, 16, 2311–2328, doi:10.5194/hess-16-2311-2012
34. Kraller, G., Warscher, M., Kunstmann, H., Vogl, S., Marke, T., Strasser, U. (2012) Water balance estimation in high Alpine terrain by combining distributed modeling and a neural network approach (Berchtesgaden Alps, Germany), *Hydrology and Earth System Sciences*, 16, 1969-1990, doi:10.5194/hess-16-1969-2012

33. Fersch, B., Kunstmann, H., Bardossy, A., Devaraju, B., Sneeuw, N. (2012) Continental Scale Basin Water Storage Variation from Global and Dynamically Downscaled Atmospheric Water Budgets in Comparison with GRACE Derived Observations, *Journal of Hydrometeorology*, doi: 10.1175/JHM-D-11-0143.1
32. Lorenz, C. and Kunstmann, H. (2012) The Hydrological Cycle in Three State of the Art Reanalyses: Intercomparison and Performance Analysis. *Journal of Hydrometeorology*, doi:10.1175/JHM-D-11-088.1
31. Jung, G., Wagner, S., Kunstmann, H. (2012) Joint Climate-Hydrology Modelling: An Impact Study for the Data Sparse Environment of the Volta Basin in West Africa, *Hydrology Research*, Vol 43 No 3, pp 231–248, doi:10.2166/nh.2012.044
30. Lutz, K., Jacobbeit, J., Philipp, A., Seubert, S., Kunstmann, H. and Laux, P. (2012) Comparison and evaluation of statistical downscaling techniques for station-based precipitation in the Middle East. *Int. J. Climatol.*, 32: 1579–1595. doi: 10.1002/joc.2381
29. Bogena, H., Puetz, T., Vereecken, H., Kruger, E., Zacharias, S., Dietrich, P., Wollschlager, U., Kunstmann, H., Papen, H., Schmid, HP., Munch, JC., Priesack, E., Schwank, M., Bens, O., Brauer, A., Borg, E., Hajnsek, I. (2012) TERENO - Long-term monitoring network for terrestrial environmental research, *Hydrologie und Wasserbewirtschaftung*, Volume 56, Issue: 3, Pages 138-143
28. Samuels R. Smiatek G. Krichak, S., Kunstmann, H., Alpert, P. (2011) Extreme Value Indicators in Highly Resolved Climate Change Simulations for the Jordan River Area, *Journal of Geophysical Research*, doi:10.1029/2011JD016322
27. Laux, P., Vogl, S., Qiu, W., Knoche, H.R., Kunstmann, H. (2011) Copula-based statistical refinement of precipitation in RCM simulations over complex terrain, *Hydrol. Earth Syst. Sci.*, 15, 2401–2419, doi:10.5194/hess-15-2401-2011
26. Smiatek, G., Kunstmann, H., Heckl, A. (2011) High resolution Climate Change Simulations for the Jordan River Area, *Journal of Geophysical Research – Atmosphere*, Vol. 116, D16111, doi:10.1029/2010JD015313
25. Zacharias, S., Bogena, H., Samaniego, L., Mauder, M., Fuß, R., Pütz, T., Frenzel, M., Schwank, M., Baessler, C., Butterbach-Bahl, K., Bens, O., Borg, E., Brauer, A., Dietrich, P., Hajnsek, I., Helle, G., Kiese, R., Kunstmann, H., Klotz, S., Munch, J.C., Papen, H., Priesack, E., Schmid, H.P., Steinbrecher, R., Rosenbaum, U., Teutsch, G., Vereecken, H. (2011) A network of terrestrial environmental observatories in Germany, *Vadose Zone Journal*, Vol. 10 No. 3, p. 955-973, doi: 10.2136/vzj2010.0139
24. Senatore, A., Mendicino, G., Smiatek, G., Kunstmann, H. (2010) Regional climate change projections and hydrological impact analysis for a Mediterranean basin in Southern Italy, *Journal of Hydrology*, doi:10.1016/j.jhydrol.2010.12.035
23. Laux, P., Jäckel, G., Tingem, R. M., Kunstmann, H. (2010) Impact of climate change on agricultural productivity under rainfed conditions in Cameroon - A method to improve attainable crop yields by planting date adaptations, *Agricultural and Forest Meteorology*, doi: 10.1016/j.agrformet.2010.05.008
22. Smiatek, G., Kunstmann, H., Knoche, H.-R., Marx, A. (2009) Precipitation and temperature statistics in high - resolution regional climate models: evaluation for the European Alps, *Journal of Geophysical Research*, Vol. 114, D19107, doi: 10.1029/2008JD011353, 16 pp.
21. Laux, P., Wagner, S., Wagner, A., Bárdossy, A., Jacobbeit, J., Kunstmann, H. (2009) Modelling Daily Precipitation Features in the Volta Basin of West Africa, *International Journal of Climatology*, Volume 29, Issue 7, Pages 937-954, doi: 10.1002/joc.1852
20. Grote, R., Lehmann, E., Brümmer, C., Brüggemann, N., Szarzynski, J., Kunstmann, H. (2009) Modeling and observation of biosphere-atmosphere interactions in natural savannah and agriculture in Burkina Faso - West Africa, *Physics and Chemistry of the Earth*, 34, pp. 251-260, doi: 10.1016/j.pce.2008.05.003
19. Laux, P., Kunstmann, H. (2008) Detection of regional weekly weather cycles across Europe, *Environ. Res. Lett.* (3), doi: 10.1088/1748-9326/3/4/044005, 7pp
18. Intsiful, J., Kunstmann, H. (2008) Upscaling of Land Surface Parameters through Inverse Stochastic SVAT-Modeling, *Boundary Layer Meteorology*, doi: 10.1007/s10546-008-9303-0, 129:137-158
17. Wagner, S., Kunstmann, H., Bárdossy, A., Conrad, C., Colditz, R. (2009) Water balance estimations of poorly gauged catchments in West Africa using dynamical downscaling of meteorological fields and

- remote sensing information, *Physics and Chemistry of the Earth*, 34, pp. 225-235, doi: 10.1016/j.pce.2008.04.002
16. Marx, A., Mast, M., Knoche, R., Kunstmann, H. (2008) Globaler Klimawandel und regionale Auswirkungen auf den Wasserhaushalt – Fallstudie Chiemgau-Inn-Salzach-Berchtesgadener Land, *Wasserwirtschaft*, 9/2008, pp. 12- 16
 15. Marx, A., Kunstmann, H., Burose, D., Moene, A. (2008) Uncertainty analysis for satellite derived sensible heat fluxes and scintillometer measurements over Savannah environment and comparison to mesoscale meteorological simulation results, *Journal of Agricultural Meteorology*, doi: 10.1016/j.agrmet.2007.11.009
 14. Kunstmann, H. (2008) Effective SVAT model parameters through inverse stochastic modelling and second order first moment propagation, *Journal of Hydrology*, 348, doi: 10.1016/j.jhydrol.2007.09.032
 13. Ahrends, H., Mast, M., Rodgers, Ch., Kunstmann, H. (2008) Coupled Hydrological-Economic Modelling for Optimised Irrigated Cultivation in a Semi-arid Catchment of West Africa, *Environmental Modelling and Software*, doi: 10.1016/j.envsoft.2007.08.002
 12. Laux P., Kunstmann H., Bárdossy A. (2008) Predicting the Regional Onset of the Rainy Season in West Africa, *International Journal of Climatology*, Volume 20, Issue 3, pp. 329-342, doi: 10.1002/joc.1542
 11. Jung, G., Kunstmann H. (2007) High-resolution Regional Climate Modelling for the Volta Basin of West Africa, *Journal of Geophysical Research*, doi: 10.1029/2006JD007951, 17 pages
 10. Kunstmann, H., Jung, G., Wagner, S., Clottee, H. (2007) Integration of atmospheric sciences and hydrology for the development of decision support systems in sustainable water management, *Physics and Chemistry of the Earth*, doi: 10.1016/j.pce.2007.04.010
 9. Kunstmann, H., Krause, J., Mayr, S. (2006) Inverse distributed hydrological modelling of Alpine catchments, *Hydrology and Earth System Sciences*, 10, pp. 395-412.
 8. Kunstmann, H., Kastens, M. (2006) Direct propagation of probability density functions in hydrological equations, *Journal of Hydrology*, 325, 82-95.
 7. Kunstmann, H., Kastens, M. (2006) Determination of stochastic wellhead protection zones by direct propagation of uncertainties of particle tracks, *Journal of Hydrology*, Vol. 323, 215-229.
 6. Kunstmann, H., Stadler, C. (2005) High resolution distributed atmospheric-hydrologic modeling for Alpine catchments, *Journal of Hydrology*, 314, pp. 105-124.
 5. Kunstmann, H., Schneider, K., Forkel, R., Knoche, R. (2004) Impact analysis of climate change for an Alpine catchment using high resolution dynamic downscaling of ECHAM4 time slices, *Hydrology and Earth System Sciences*, 8(6), pp. 1030-1044.
 4. Kunstmann, H., Kinzelbach W., Siegfried, T. (2002) Conditional first-order second-moment method and its application to the quantification of uncertainty in groundwater modeling, *Water Resources Research*, Vol. 38, No 4, pp. 6.1-6.13.
 3. Van Tonder, G.J., Botha J., Chiang, W., Kunstmann, H., Xu, Y (2001) Estimation of the sustainable yields of boreholes in fractured rock formations, *Journal of Hydrology*, 241, pp. 70-90.
 2. Kunstmann, H., Kinzelbach, W. (2000) Computation of stochastic wellhead protection zones by combining the first-order second-moment method and Kolmogorov backward equation analysis, *Journal of Hydrology*, Vol. 237, pp. 127-146.
 1. Kunstmann, H., Kinzelbach, W., Marschall, P., Li, G. (1997) Joint inversion of tracer tests in reversed flow fields, *Journal of Contaminant Hydrology*, Vol 26

Non-ISI indexed

50. Salack, S., Bossa, A., Bliefernicht, J., Berger, S., Yira, Y., Sanoussi, K. A., Guug, S., Heinzeller, D., Avocanh, A. S., Hamadou, B., Meda, S., Diallo, B. A., Bado, I. B., Saley, I. A., Daku, E. K., Lawson, N. Z., Ganaba, A., Sanfo, S., Hien, K., Aduna, A., Steup, G., Diekkrüger, B., Waongo, M., Rogmann, A., Kunkel, R., Lamers, J. P. A., Sylla, M. B., Kunstmann, H., Barry, B., Sedogo, L. G., Jaminon, C., Vlek, P., Adegoke, J., Savadogo, M. (2019) Designing Transnational Hydroclimatological Observation Networks and Data Sharing Policies in West Africa, *Data Science Journal*, doi: 10.5334/DSJ-2019-033

49. Heinzeller, D., Duda, M. G., Kunstmann, H., (2018) Exascale computing in numerical weather prediction: massively parallel I/O in atmospheric models on conformal meshes in High Performance Computing in Science and Engineering, *Science and Engineering*, pages 187-188, ISBN 978-3-9816675-2-3
48. Oluwadare, A. O., Okogbue, E. C., Kunstmann, H., Akinluyi, F., Arnault, J., Tayari, S., Hingerl, L., Bliefernicht, J. (2018) Comparison of SEBAL Estimated Heat Fluxes and Evapotranspiration Using Field and Remote Sensing Data in the Sudanian Savanna in West Africa, *International Journal of Agriculture and Environmental Research*, Volume 04, Issue 02, ISSN: 2455-6939
47. Naabil, E., Lamptey, B. L., Arnault, J., Olufayo, A., Kunstmann, H. (2017) Water resources management using the WRF-Hydro modelling system: Case-study of the Tono dam in West Africa, *Journal of Hydrology: Regional Studies*, doi: <https://doi.org/10.1016/j.ejrh.2017.05.010>
46. Kunstmann, H. and Früh, B. (2017) Herausforderung regionale Klimamodellierung, *promet*, Heft 99
45. Dieng, D., Smiatek, G., Heinzeller, D., Kunstmann, H. (2016) Simulation of the Rain Belt of the West African Monsoon (WAM) in High Resolution CCLM Simulation, in: *High Performance Computing in Science and Engineering '16* (Eds. W. Nagel, D.H. Kröner, M.M. Resch), pp. 547-558
44. Heinzeller, D., Junkermann, W., Kunstmann, H. (2016) Anthropogenic Aerosol Emissions and Rainfall Decline in South-West Australia, in: *High Performance Computing in Science and Engineering '16* (Eds. W. Nagel, D.H. Kröner, M.M. Resch), pp. 559-576
43. Nguyen, N. B. P., Kunstmann, H., Laux, P., Cullmann, J. (2016) Biogeophysical Impacts of Land Surface on Regional Climate in Central Vietnam, in: *High Performance Computing in Science and Engineering '16* (Eds. W. Nagel, D.H. Kröner, M.M. Resch), pp. 589-5600, doi: 10.1007/978-3-319-47066-5_40
42. Pichukka, S., Prasad, R. R., Maity, R., Kunstmann, H. (2017) Development of a method to identify change in the pattern of extreme streamflow events in future climate: Application on the Bhadra reservoir inflow in India, *Journal of Hydrology: Regional Studies*, doi: 10.1016/j.ejrh.2016.12.084
41. Kunstmann, H., Fröhle, P., Hattermann, F., Marx, A., Smiatek, G., Wanger, C. (2016) Wasserhaushalt, in: *Klimawandel in Deutschland: Entwicklung, Folgen, Risiken und Perspektiven*, pp 161-172, doi: 10.1007/978-3-662-50397-3_16
40. Givati, A., Gochis, D., Rummel, T., Kunstmann, H. (2016) Comparing One-Way and Two-Way Coupled Hydrometeorological Forecasting Systems for Flood Forecasting in the Mediterranean Region, *Hydrology*, Volume: 3 Issue: 2, doi: 10.3390/hydrology3020019
39. Quansah, E., Mauder, M., Balogun, A.A., Amekudzi, L.K., Hingerl, L., Bliefernicht, J., Kunstmann, H. (2015) Carbon dioxide fluxes from contrasting ecosystems in the Sudanian Savanna in West Africa, *Carbon Balance and Management*, 10.1, doi 10.1186/s13021-014-0011-4
38. Strasser, U., Kunstmann, H. (2013) Tackling complexity in modelling mountain hydrology: where do we stand, where do we go?, *IAHS publication 360, Cold and Mountain Region Hydrological Systems under Climate Change: Towards Improved Projections*, pp.3-12
37. Bliefernicht, J., Kunstmann, H., Hingerl, L., Rummel, T., Andresen, S., Mauder, M., Steinbrecher, R., Friess, R., Gochis, D., Gessner, U., Quansah, E., Awotuse, A., Neidl, F., Jahn, C., Barry B. (2013) Field- and simulation experiments for investigating regional land-atmosphere interactions in West Africa: Experimental setup and first results, *IAHS publication 359, Climate and Land Surface Changes in Hydrology*, pp. 226-232
36. Kunstmann, H., Hingerl, L., Mauder, M., Wagner, S., Rigon, R. (2013) A combined water and energy flux observation and modelling study at the TERENO-preAlpine observatory, *IAHS publication 359, Climate and Land Surface Changes in Hydrology*, pp. 221-225
35. Fersch, B., Wagner, S., Rummel, T., Gochis, D., Kunstmann, H. (2013) Impact of groundwater dynamics and soil type on modeling coupled water exchange processes between land and, *IAHS publication 359, Climate and Land Surface Changes in Hydrology*, pp. 140-145
34. Wagner S., Fersch, B., Kunstmann, H., Yuan, F., Yang, C., Zu, Y. (2013) Hydrometeorological modelling for Poyang Lake Region, China, *IAHS publication 359, Climate and Land Surface Changes in Hydrology*, pp. 152-157
33. Dordevic, V., Pronic-Rancic, O., Marinkovic, Z., Milijic, M., Markovic, V., Siart, U., Chwala, C., Kunstmann, H. (2013) ANN applications in detection of precipitation based on the received signal level of commercial microwave links, *IEEE Telecommunication in Modern Satellite, Cable and Broadcasting Services (TELSIKS)*, 2013 11th International Conference, Volume 2, Pages: 374- 377, doi: 10.1109/TELSKS.2013.6704402

32. Alshawaf, F., Fersch, B., Hinz, S., Kunstmann, H., Mayer, M., Thiele, A., Westerhaus, M., Meyer, F. (2012) Analysis of Atmospheric Signals in Spaceborn inSAR – Towards Water Vapor Mapping Based on Multiple Sources, *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Pages: 1960-1963, doi 10.1109/IGARSS.2012.6351118
31. Hipp, S., Siart, U., Eibert, T., Chwala, C., Kunstmann, H. (2012) Modelling of electromagnetic transmission through rain fields based on drop-scale scattering, *IEEE Geoscience and Remote Sensing Symposium (IGARSS)*, Pages: 5157- 5160, doi: 10.1109/IGARSS.2012.6352449
30. Siart, U., Hipp, S., Eibert, T., Chwala, C., Kunstmann, H. (2012) Efficient modelling of rain field microwave attenuation and doppler noise for different drop size distributions, *IEEE Microwave Radiometry and Remote Sensing of the Environment (MicroRad)*, 12th Specialist Meeting, Pages, 1-3, doi: 10.1109/MicroRad.2012.6185245
29. Chwala, C., Kunstmann, H., Hipp, S., Siart, U., Eibert, T. (2012) Precipitation observation using commercial microwave communication links, *IEEE Geoscience and Remote Sensing Symposium (IGARSS)*, Pages: 2922- 2925, doi: 10.1109/IGARSS.2012.6350714
28. Laux, P., Phan, V.T., Lorenz, Ch., Thuc, T., Ribbe, L., Kunstmann, H. (2012) Setting up Regional Climate Simulations for Southeast Asia. *High Performance Computing in Science and Engineering '12, Conference Proceedings*, Wolfgang E. Nagel, Dietmar B. Kröner, Michael M. Resch (Eds.), Springer
27. Hipp, S., Siart, U., Chwala, C., Eibert, T., and H. Kunstmann (2011) Dynamic Modelling of Atmospheric Microwave Transmission for Precipitation Quantification Using Mie Scattering In *IEEE European Conference on Antennas and Propagation (EuCAP), Rome, Italy*, pages: 3380 - 3383
26. Chwala, C., Siart, U., Hipp, S., Eibert, T., Kunstmann, H. (2010) Dual-band polarimetric coherent atmospheric transmission experiment for precipitation observation. In: *IEEE Proc. 40th European Microwave Conference. Paris, France*, September 28–30, Pages 1333 - 1336
25. Yuan, F., Kunstmann, H., Yang, C., Yu, Z., Ren, L., Fersch, B., Xie, Z. (2009) Development of a coupled land-surface and hydrology model system for mesoscale hydrometeorological simulations, in: *New Approaches to Hydrological Prediction in Data Sparse Regions*, IAHS Publ. 333, pp. 195-202.
24. Fersch, B., Kunstmann, H., Sneeuw, N., Devarajiu, B. (2009) Large scale water balance estimations through regional atmospheric moisture flux modeling and comparison to GRACE signals, in: *New Approaches to Hydrological Prediction in Data Sparse Regions*, IAHS Publ. 333, pp. 211-219
23. Laux, P., Jäckel, G., M. R. Tingem, Kunstmann, H. (2009) Onset of the rainy season and crop yield in Sub Saharan Africa - Tools and perspectives for Cameroon in: *Ecohydrology of surface and groundwater dependent ecosystems: Concepts, methods and recent developments*, IAHS Publ. 328, pp. 191-200.
22. Suppan, P., Kunstmann, H., Heckl, A., Rimmer, A. (2008) Impact of Climate Change on Water Availability in the Near East. In: F. Zereini & H. Hötzl (Ed.) *Climatic Changes and Water Resources in the Middle East and in North Africa*. Springer-Verlag, Berlin, Heidelberg, New York (552pp), 47-58, 2008, ISBN: 978-3-540-85046-5
21. Laux, P., Heckl, A., Jacobbeit, J., Bárdossy, A., Kunstmann, H. (2008). Linking droughty and wet weather in the Jordan catchment with atmospheric circulation patterns. In: *Cambio climático regional y sus impactos*. J. Sigró Rodríguez, M. Brunet India. E. Aguilar Anfrons (Eds.). Publicaciones de la Asociación Española de Climatología (AEC), 2008, Serie A, nº 6., pp. 375-386.
20. Laux, P., Kunstmann, H., Lutz, K., Jacobbeit, J., Beck, C., Philipp, A., Bárdossy, A. (2008) Comparison of different objective atmospheric circulation pattern analyses in the Jordan region, *Proceedings of Hydropredict 2009*, Prague, Czech Republic, 15.-18. September 2008 (CD-Rom)
19. Kunstmann, H., Suppan, P., Heckl, A., Rimmer, A. (2007) Regional climate change in the Middle East and impact on hydrology in the Upper Jordan catchment, *IAHS publication 313, Quantification and reduction of predictive uncertainty for sustainable water resources management*, pp. 141-149
18. Wagner, S., Kunstmann, H., Bárdossy, A. (2007) Uncertainties in water balance estimations due to scarce meteorological information: A case study for the White Volta catchment in West Africa, *IAHS publication 313, Quantification and reduction of predictive uncertainty for sustainable water resources management*, pp. 86-97
17. Laux P., Kunstmann H., Bárdossy A. (2007) Linking West African Monsoon's onset with atmospheric circulation patterns. *IAHS publication 313, Quantification and reduction of predictive uncertainty for sustainable water resources management*, pp. 40-50

16. Jung, G., Kunstmann H. (2007) Modelling regional climate change and the impact on surface and subsurface hydrology in the Volta Basin (West Africa). *IAHS publication 313, Quantification and reduction of predictive uncertainty for sustainable water resources management*, pp. 150-157
15. Kunstmann, H., Jung, G. (2007) Influence of soil moisture and land use change on precipitation in West Africa, *International Journal of River Management*, Vol. 5, issue 1, 9-16.
14. Neumann, R., Jung, G., Laux, P., Kunstmann, H. (2007) Climate trends of temperature, precipitation and river discharge in the Volta Basin of West Africa, *International Journal of River Management*, Vol. 5, issue 1, 17-30.
13. Kunstmann, H., Heckl, A., Rimmer, A. (2006) Physically based distributed hydrological modelling of the Upper Jordan Catchment and investigation of effective model equations, *Advances in Geosciences*, 9, 123-130.
12. Wagner, S., Kunstmann, H., Bárdossy, A. (2006) Model based distributed water balance monitoring of the White Volta catchment in West Africa through coupled meteorological- hydrological simulations, *Advances in Geosciences*, 9, 39-44.
11. Marx, A., Kunstmann, H., Bárdossy, A., Seltmann, J. (2006) Radar rainfall estimates in an alpine environment using inverse hydrological modelling, *Advances in Geosciences*, 9, 25-29.
10. Kunstmann, H., Jung, G. (2005) Impact of regional climate change on water availability in the Volta Basin of West Africa, *IAHS publication 295: Regional Hydrological Impacts of Climatic Variability and Change – Impact Assessment and Decision making*, pp. 75-85.
9. Kunstmann, H. (2005) Upscaling of land surface parameters through direct moment propagation, *Advances in Geosciences*, 5, Page(s) 127-131.
8. Youkhana, E., Arendt, B., Kunstmann, H., Martin, N., Rodgers, CH., Vlek, P. (2005) Das GLOWA-Volta Projekt: Untersuchungen zum nachhaltigen Umgang mit der Ressource Wasser im Voltabecken von West Afrika, *Hydrologie und Wasserbewirtschaftung*, HW 49, H. 4, 190-200.
7. Kunstmann, H., Jung, G. (2003) Investigation of feedback mechanisms between soil moisture, land use and precipitation in West Africa, *IAHS publication 280: Water Resources Systems – Water Availability and Global Change*, pp. 149-159.
6. Kunstmann, H., Stadler, C. (2003) Gekoppelte Meteorologie-Hydrologie Simulationen für das Einzugsgebiet der Mangfall, *Hydrologie und Wasserbewirtschaftung*, HW 47, H. 4., 151-159.
5. Giesen, N., Kunstmann, H., Jung, G., Liebe, J., Andreini, M., Vlek, P. (2002) The GLOWA Volta project: Integrated assessment of feedback mechanisms between climate, landuse, and hydrology, *Advances in Global Change Research*, Vol. 10: Climatic Change: Implications for the Hydrological Cycle and for Water Management, Kluwer Academic Publishers, pp 151-170.
4. Kunstmann, H., Kinzelbach, W. (2001) Direkte Fortpflanzung von Modellunsicherheiten bei der stochastischen Bestimmung von Brunneneinzugsgebieten und von Neubildungsraten im Rahmen nachhaltiger Grundwasserbewirtschaftung, *Zentralblatt für Geologie und Paläontologie*, Heft 1/2, 125-142.
3. Kunstmann, H., Kinzelbach, W., (2000) Computationally efficient methods for the quantification of uncertainties in groundwater modeling, in: *Calibration and Reliability in Groundwater Modeling*, IAHS publication no. 265, pp.285-291.
2. Van Tonder, G., Kunstmann, H., Xu, Y., Fourie, F. (2000) Estimation of the sustainable yield of a borehole including boundary information, drawdown derivatives and uncertainty information, in: *Calibration and Reliability in Groundwater Modeling*, IAHS publication no. 265, pp.367-373.
1. Kunstmann, H., Kinzelbach, W., van Tonder, G. (1998) Groundwater Resources Management under Uncertainty, *Computational Methods in Contamination and Remediation of Water Resources*, Volume: 12, Pages: 11-18

Other publications

Kunstmann H., Lohse EM, Lohse J (2022) Möglichkeiten und Schwierigkeiten regionaler Klimaschutzmaßnahmen – Das bayerische Klimaschutzgesetz aus naturwissenschaftlicher, juristischer und ökonomischer Perspektive, Bayerische Verwaltungsblätter (BayVBL) – Zeitschrift für öffentliches Recht und öffentliche Verwaltung, Boorberg Verlag, ISSN 0522-5337, 1. Mai 2022, Heft 09/2022, pp. 289-299

- Schädler, G., Berg, P., Düthmann, D., Feldmann, H., Ihringer, J., Kunstmann, H., Liebert, J., Merz, B., Ott, I., Wagner, S. (2012) Flood Hazards in a Changing Climate, Project report, CEDIM (Centre for Disaster Management), <http://www.cedim.de>, 83pp.
- Mendicino, G., Senatore, A., Smiatek, G., Kunstmann, H. (2008) Impact analysis of climate change on water resources in southern Italy through joint atmospheric-hydrological modelling, in: Drought management: scientific and technological innovations, *Options Méditerranéennes*, Series A., No. 80, pp.123-126
- Smiatek, G., Knoche, H.-R., Marx, A., Kunstmann, H. (2008) Evaluation of Regional High Resolution Climate Change Data for the Alpine Region (ClimChAlp), Final Report to *Bayerisches Landesamt für Umwelt*, 77 pages
- Kunstmann, H., (2007) Regionale Auswirkungen der Klimaänderung auf die Wasserverfügbarkeit in klimasensitiven Gebieten, in: Endlicher W. und Gerstengarbe, F.-W. (Herausgeber): *Der Klimawandel – Einblicke, Rückblicke und Ausblicke*, Herausgegeben im Auftrag der Deutschen Gesellschaft für Geographie, des Potsdam Instituts für Klimafolgenforschung und der Humboldt-Universität zu Berlin, ISBN 978-3-9811871-0-6, pp. 67-74.
- Kunstmann, H., (2007) Was leisten meteorologische Modelle in der Hydrologie?, in: Schmitz, G. H., Lennartz, F., Schwarze, R. (Herausgeber): *Dresdner Schriften zur Hydrologie*, Heft 5, ISBN 978-3-86780-005-1, pp. 242-251.
- Kunstmann, H., Marx, A., Werhahn, J., Bárdossy, A., Seltmann, J. (2006) Hochwasservorhersage in alpinen Einzugsgebieten mittels Kombination von operationellen meteorologischen Modellen und Abflussmodellen, *Forum für Hydrologie und Wasserbewirtschaftung*, in: Disse et al. (Herausgeber) Risikomanagement extremer hydrologischer Ereignisse, Heft 15.06, Band 2, ISBN-10: 3-939057-31-2, pp. 111-124.
- Zappa M, Werhahn J, Song Zhi Hong, Baumgartner MF, Gurtz J, Kunstmann H., Schädler B. 2006. Vermittlung von Know-how zur Verbesserung der Hochwasservorhersage im Yangtze-Einzugsgebiet des Drei-Schluchten-Stausees (China). In Risikomanagement extremer hydrologischer Ereignisse, Beiträge zum Tag der Hydrologie 2006, 22-23 März 2006. Forum für Hydrologie und Wasserbewirtschaftung, Heft 15.06, Band 3, pp. 227-230.
- Kunstmann, H., Knoche, H.-R., Seiler, W. (2006) Klimawandel und Auswirkungen auf den Wasserhaushalt, *Tagungsband 11. Münchner Fortbildungsseminar Geoinformationssysteme*, 1.-3. März 2006, TU München, ISBN 3-935049-83-8, 10 pages.
- Marx, A., Kunstmann, H., Bárdossy, A., Seltmann, J. (2006) Gekoppelte Meteorologie-Hydrologie Simulation: Von der technischen Strategie hin zum Frühwarnsystem, *Tagungsband 11. Münchner Fortbildungsseminar Geoinformationssysteme*, 1.-3. März 2006, TU München, ISBN 3-935049-83-8, 10 pages.
- Knoche, H.-R., Jung, G., Forkel, R., Kunstmann, H. (2005) High resolution climate simulations as a tool for climate impact and adaptation analysis, *Annalen der Meteorologie*, 41, Volume 1, 205-208.
- Kunstmann, H., Suppan, P., Heckl, A., Rimmer, A., (2005) Combined high resolution regional climate and distributed hydrological simulations for the Eastern Mediterranean and the Upper Jordan Catchment, *Proceedings of the Conference on International Agricultural Research for Development*, Stuttgart-Hohenheim, October 11-13, 8 pages.
- Kunstmann, H., Jung, G. (2003) Feedback mechanisms between soil moisture, land use and precipitation in West Africa, *Proceedings of ILEAPS: Integrated Land Ecosystems – Atmosphere Processes Study*, International Open Science Conference, 29 September- 3 October 2003, Volume 2, Helsinki, Finland, pp. 215-220.
- Knoche, H.-R., Forkel, R., Kunstmann, H. (2003) Regionale Klimasimulationen für Süddeutschland und den Alpenraum, *Forum für Hydrologie und Wasserbewirtschaftung*, in: Kleeberg (Herausgeber) Klima-Wasser-Flusgsgebietsmanagement – im Lichte der Flut, Heft 04.03, pp. 11-18.
- Kunstmann, H., Kinzelbach, W. (1998) Quantifizierung von Unsicherheiten in Grundwassermodellen, *Mathematische Geologie*, Vol. 2
- Kinzelbach W., McLaughlin D., Kunstmann H. (1998) "Sustainable Water Management and Agriculture", in: Proceedings of the Toyota Conference 1998, Japan, November 1998.
- Van Tonder G., Kunstmann H., Xu Y., (1998) Estimation of the sustainable yield of a borehole including boundary information, drawdown derivatives and uncertainty propagation, *Technical Report, University of the Orange Free State*, Bloemfontein/Republic of South Africa, 1998.

- Kinzelbach W., Kunstmann H. (1998) Sustainable Management of Groundwater Resources, in: *Proceedings of the Stockholm Water Symposium 1998*, Stockholm.
- Kinzelbach W., Kunstmann H. (1998) Quantification of Uncertainty in Groundwater Modeling, in: *Proceedings of the 3rd International Conference on Hydroscience and Engineering*, Cottbus/Berlin.
- Kunstmann, H., Kinzelbach, W. (1998) Coping with Uncertainty in Groundwater Modeling, in: *Proceedings of the International Conference on Future Groundwater Resources at Risk*, Changchun (China).
- Kunstmann, H., Kinzelbach, W. (1997) Methoden zur Quantifizierung von Unsicherheit in Grundwassерmodellen, in: *Modellierung in der Hydrologie, Tagungsband*, Technische Universität Dresden, Dresden.
- Kunstmann, H., Kinzelbach, W. (1996) Modeling Radionuclide Migration Field Experiments, *NAGRA Internal Report*, NAGRA, Wettingen (CH).
- Kunstmann, H., Kinzelbach, W., Marschall, P., Li, G. (1995) Joint Interpretation of Two Tracer Tests with Reversed Flow Fields, in *Proceedings of the Fifth International Conference on Radioactive Waste Management and Environmental Remediation*, ICEM '95, The American Society of Mechanical Engineers, New York (USA), 1995.

Edited Books

- Cold and Mountain Region Hydrological Systems Under Climate Change: Towards Improved Projections*, IAHS Publikation 360, ISSN 0144-7815, Edited by Alexander Gelfan, Daqing Yang, Yeugeniy Gusev & Harald Kunstmann, 2013
- Climate and Land Surface Changes in Hydrology*, IAHS Publikation 359, ISSN 0144-7815, Edited by Eva Boegh, Eleanor Blyth, David M. Hannah, Hege Hisdal, Harald Kunstmann, Bob Su & Koray Yilmaz, 2013
- New Approaches to Hydrological Prediction in Data-Sparse regions*, IAHS Publikation 333, ISSN 0144-7815, Edited by Koray Yilmaz, Ismail Yucel, Hoshin V. Gupta, Thorsten Wagener, Dawen Yang, Hubert Savenije, Christopher Neale, Harald Kunstmann & John Pomeroy, 2009
- Quantification and Reduction of Predictive Uncertainty for Sustainable Water resources Management*, IAHS Publikation 313, ISSN 0144-7815, Edited by Eva Boegh, Harald Kunstmann, Thorsten Wagener, Alan Hall, Luis Bastidas, Stewart Franks, Hoshin Gupta, Dan Rosbjerg & John Schaake, 2007

Popular scientific publications

- Kunstmann, H. (2001) Klimawandel – Gefahr für das Grundwasser?, *Aqua Press International*, 2/2001, Bohmann Druck und Verlag Gesellschaft, Wien, S. 32-33.
- Kinzelbach, W., Kunstmann, H. (1998): Nachhaltige Grundwassernutzung: Kriterien und Strategien, *Spektrum der Wissenschaft*, April 1998.

Book reviews

- Kunstmann, H. (2005) Symader, W.: Was passiert, wenn der Regen fällt? Eine Einführung in die Hydrologie. Verlag Eugen Ulmer, Stuttgart, 2004, in: Meteorologische Zeitschrift, Vol. 14., No. 3, 435-440.
- Kunstmann, H. (2005) Lozan,J., Graßl. P., Hupfer, P., Menzel, L., Schönwiese, C.: Warnsignal Klima: Genug Wasser für alle? – Verlag Wissenschaftliche Auswertungen, Hamburg, 2004, in: Meteorologische Zeitschrift, Vol. 14., No. 3, 435-440.
- Kunstmann, H. (2002) Landeshydrologie, Bundesamt für Wasser und Geologie (Hrsg.): Hydrologischer Atlas der Schweiz. Geographisches Institut der Universität Bern, in: Meteorologische Zeitschrift, Vol. 11., No. 1, 71-80.
- Kunstmann, H. (2001) Mendel, H.G.: Elemente des Wasserkreislaufs. Eine kommentierte Bibliografien zur Abflussbildung – Analytica Vertragsgesellschaft, Berlin, 2000, in: Meteorologische Zeitschrift, Vol. 10., No. 6, 511-514.