

Publication List Peter Bauer-Gottwein

Published Preprints:

1. **Bauer-Gottwein, P.**, Zakharova, E., Coppo Frías, M., Ranndal, H., Nielsen, K., Christoffersen, L., Liu, J., Jiang, L. (2022). A hydraulic model of the Amur River informed with ICESat-2 elevation, <https://doi.org/10.21203/rs.3.rs-2203742/v1>
2. **Bauer-Gottwein, P.**, Grosen, H., Druce, D., Tøttrup, C., Johansen, H.E., Löwe, R. (2022). Surface Water Extent Mapping in Denmark: Comparison of Satellite Earth Observation and Airborne Thermal Imagery, <https://doi.org/10.20944/preprints202210.0449.v1>
3. Liu, J., Jiang, L., Frías, M. C., & **Bauer-Gottwein, P.** (2022). Discharge estimates with stage-fall-discharge rating curves and ICESat-2 altimetry at backwater-affected virtual stations. *Earth and Space Science Open Archive*, 17. <https://doi.org/10.1002/essoar.10512270.1>
4. Coppo Frías, M., Liu, S., Mo, X., Nielsen, K., Randall, H., Jiang, L., Ma, J., & **Bauer-Gottwein, P.** (2022). River hydraulic modelling with ICESat-2 land and water surface elevation. *EGU Sphere*, 2022, 1–27. <https://doi.org/10.5194/egusphere-2022-377>
5. Filippo Bandini, Lukas Kooij, Bjørn Karl Mortensen, Marie Boeskov Caspersen, Lasse Gammelby Thomsen, Daniel Olesen, **Peter Bauer-Gottwein** (2022): Bathymetry observations of inland waterbodies retrieved with Ground Penetrating Radar (GPR) on board Unmanned Aerial Systems (UASs) benchmarked against sonar and RTK GNSS measurements. <https://doi.org/10.21203/rs.3.rs-877656/v1>
6. Shen, Y., Liu, D., Jiang, L., Nielsen, K., Yin, J., Liu, J., & **Bauer-Gottwein, P.** (2022). High-resolution water level and storage variation datasets for 338 reservoirs in China during 2010–2020. *Earth System Science Data Discussions*, 2022, 1–30. <https://doi.org/10.5194/essd-2021-470>

ISI-indexed journal publications:

1. Jun Liu, Liguang Jiang, Filippo Bandini et al. Spatio-temporally Varying Manning Roughness in Rivers and Streams: A calibration approach using in-situ water level and UAS altimetry, *Journal of Hydrology*, in press, PREPRINT (Version 1) available at Research Square, <https://doi.org/10.21203/rs.3.rs-1107960/v1>
2. Bandini, F., Frías, M. C., Liu, J., Simkus, K., Karagkiolidou, S., & **Bauer-Gottwein, P.** (2022). Challenges with regard to unmanned aerial systems (UASs) measurement of river surface velocity using Doppler radar. *Remote Sensing*, 14(5) doi:10.3390/rs14051277
3. Shen, Y., Liu, D., Jiang, L., Tøttrup, C., Druce, D., ..., **Bauer-Gottwein, P.**, ... Zhao, X. (2022). Estimating reservoir release using Multi-Source satellite datasets and hydrological modeling techniques. *Remote Sensing*, 14(4) doi:10.3390/rs14040815
4. Jiang, L., Westphal Christensen, S., & **Bauer-Gottwein, P.** (2021). Calibrating 1D hydrodynamic river models in the absence of cross-section geometry using satellite observations of water surface elevation and river width. *Hydrology and Earth System Sciences*, 25(12), 6359–6379. doi:10.5194/hess-25-6359-2021
5. Abdalla, S., Abdeh Kolahchi, A., Ablain, M., Adusumilli, S., Aich Bhowmick, S., Alou-Font, E., Amarouche, L., Andersen, O. B., Antich, H., Aouf, L., Zinchenko, V., & Zlotnicki, V. (2021). Altimetry for the future: Building on 25 years of progress. *Advances in Space Research*, 68(2), 319–363. <https://doi.org/10.1016/j.asr.2021.01.022>
6. Skjolding, L. M., Jørgensen, L. V., Dyhr, K. S., Köppl, C. J., McKnight, U. S., **Bauer-Gottwein, P.**, Mayer, P., Bjerg, P. L., & Baun, A. (2021). Assessing the aquatic toxicity and environmental safety of tracer compounds Rhodamine B and Rhodamine WT. *Water Research*, 197. <https://doi.org/10.1016/j.watres.2021.117109>
7. Köppl, C. J., Malureanu, R., Dam-Hansen, C., Wang, S., Jin, H., Barchiesi, S., . . . **Bauer-Gottwein, P.**, Garcia, M. (2021). Hyperspectral reflectance measurements from UAS under intermittent clouds: Correcting irradiance measurements for sensor tilt. *Remote Sensing of Environment*, 267 doi:10.1016/j.rse.2021.112719

8. Payet-Burin, R., Kromman, M., Pereira-Cardenal, S. J., Strzepek, K. M., & **Bauer-Gottwein, P.** (2021). The impact of assuming perfect foresight when planning infrastructure in the Water–Energy–Food nexus. *Frontiers in Water*, 3 doi:10.3389/frwa.2021.778003
9. Liu, J., Jiang, L., Zhang, X., Druce, D., Kittel, C. M. M., Tøttrup, C., & **Bauer-Gottwein, P.** (2021). Impacts of water resources management on land water storage in the north china plain: Insights from multi-mission earth observations. *Journal of Hydrology*, 603 doi:10.1016/j.jhydrol.2021.126933
10. Kittel, C. M. M., Hatchard, S., Neal, J. C., Nielsen, K., Bates, P. D., & **Bauer-Gottwein, P.** (2021). Hydraulic model calibration using CryoSat-2 observations in the zambezi catchment. *Water Resources Research*, 57(9) doi:10.1029/2020WR029261
11. Payet-Burin, R., Kromann, M., Pereira-Cardenal, S., Strzepek, K.M., **Bauer-Gottwein, P.** (2021): Nexus vs. Silo Investment Planning Under Uncertainty. *Frontiers in Water*, <https://doi.org/10.3389/frwa.2021.672382>
12. Martinsen, G., Liu, S., Mo, X., Davidsen, C., Payet-Burin, R., **Bauer-Gottwein, P.** (2021): The Impact of Assuming Perfect Foresight in Hydroeconomic Analysis of Yellow River Diversions to the Hai River Basin, China: A Framework Combining Linear Programming and Model Predictive Control. *Frontiers in Water*, <https://doi.org/10.3389/frwa.2021.648934>
13. Liu, J., Jiang, L., Zhang, X., Druce, D., Kittel, C.M.M., Tøttrup, C. **Bauer-Gottwein, P.** (2021). Impacts of water resources management on land water storage in the North China Plain: insights from multi-mission earth observations. *Journal of Hydrology*, DOI: 10.1016/j.jhydrol.2021.126933
14. Kittel, C.M.M., Hatchard, S., Neal, J.C., Nielsen, K., Bates, P.D., **Bauer-Gottwein, P.** (2021). Hydraulic model calibration using CryoSat-2 observations in the Zambezi catchment. *Water Resources Research*, DOI: 10.1029/2020WR029261
15. Abdalla, S., Abdeh Kolahchi, A., Ablain, M., Adusumilli, S., Aich Bhowmick, S., Alou-Font, E., . . . International Altimetry Team. (2021). Altimetry for the future: Building on 25 years of progress. *Advances in Space Research*, 68(2), 319-363. doi:10.1016/j.asr.2021.01.022
16. Skjolding, L. M., Jørgensen, L. V., Dyhr, K. S., Köppl, C. J., McKnight, U. S., **Bauer-Gottwein, P.**, . . . Baun, A. (2021). Assessing the aquatic toxicity and environmental safety of tracer compounds rhodamine B and rhodamine WT. *Water Research*, 197 doi:10.1016/j.watres.2021.117109
17. Deng, S., Liu, S., Mo, X., Jiang, L., & **Bauer-Gottwein, P.** (2021). Polar drift in the 1990s explained by terrestrial water storage changes. *Geophysical Research Letters*, 48(7) doi:10.1029/2020GL092114
18. Bandini, F., Lüthi, B., Peña-Haro, S., Borst, C., Liu, J., Karagkiolidou, S., . . . **Bauer-Gottwein, P.** (2021). A drone-borne method to jointly estimate discharge and Manning's roughness of natural streams. *Water Resources Research*, 57(2) doi:10.1029/2020WR028266
19. Kittel, C. M. M., Jiang, L., Tøttrup, C., & **Bauer-Gottwein, P.** (2021). Sentinel-3 radar altimetry for river monitoring - A catchment-scale evaluation of satellite water surface elevation from sentinel-3A and sentinel-3B. *Hydrology and Earth System Sciences*, 25(1), 333-357. doi:10.5194/hess-25-333-2021
20. Jiang, L., Nielsen, K., Andersen, O. B., & **Bauer-Gottwein, P.** (2020). A bigger picture of how the tibetan lakes have changed over the past decade revealed by CryoSat-2 altimetry. *Journal of Geophysical Research: Atmospheres*, 125(23) doi:10.1029/2020JD033161
21. Shen, Y., Liu, D., Jiang, L., Yin, J., Nielsen, K., **Bauer-Gottwein, P.**, . . . Wang, J. (2020). On the contribution of satellite altimetry-derived water surface elevation to hydrodynamic model calibration in the Han river. *Remote Sensing*, 12(24), 1-18. doi:10.3390/rs12244087
22. Zhang, X, Jiang, L., ... & **Bauer-Gottwein, P.**, 2020. On the performance of Sentinel-3 altimetry over new reservoirs: Approaches to determine on-board a-priori elevation. *Geophysical Research Letters*, 47(17), e2020GL088770, <https://doi.org/10.1029/2020GL088770>
23. Kittel, C. M. M., Arildsen, A. L., Dybkjær, S., Hansen, E. R., Linde, I., Slott, E., Tøttrup, C., & **Bauer-Gottwein, P.** (2020). Informing hydrological models of poorly gauged river catchments - A parameter regionalization and calibration approach. *Journal of Hydrology*, 587, [124999]. <https://doi.org/10.1016/j.jhydrol.2020.124999>
24. Jiang, L., Bandini, F., Smith, O., Jensen, I. K., & **Bauer-Gottwein, P.**, 2020. The value of distributed high-resolution UAV-borne observations of water surface elevation for river management and hydrodynamic modeling. *Remote Sensing*, 12(7) doi:10.3390/rs12071171

25. Jiang, L., Nielsen, K., Dinardo, S., Andersen, O. B., **Bauer-Gottwein, P.**, 2020. Evaluation of Sentinel-3 SRAL SAR altimetry over Chinese rivers. *Remote Sensing of Environment*, 237 doi:10.1016/j.rse.2019.111546
26. Bandini, F., Sunding, T. P., Linde, J., Smith, O., Jensen, I. K., Köppl, C. J., . . . **Bauer-Gottwein, P.**, 2020. Unmanned aerial system (UAS) observations of water surface elevation in a small stream: Comparison of radar altimetry, LIDAR and photogrammetry techniques. *Remote Sensing of Environment*, 237 doi:10.1016/j.rse.2019.111487
27. Payet-Burin, R., Kromann, M., Pereira-Cardenal, S., Marc Strzepek, K., **Bauer-Gottwein, P.**, 2019. WHAT-IF: An open-source decision support tool for water infrastructure investment planning within the water-energy-food-climate nexus. *Hydrology and Earth System Sciences*, 23(10), 4129-4152. doi:10.5194/hess-23-4129-2019
28. Wang, S., Baum, A., Zarco-Tejada, P. J., Dam-Hansen, C., Thorseth, A., **Bauer-Gottwein, P.**, . . . Garcia, M., 2019. Unmanned aerial system multispectral mapping for low and variable solar irradiance conditions: Potential of tensor decomposition. *ISPRS Journal of Photogrammetry and Remote Sensing*, 155, 58-71. doi:10.1016/j.isprsjprs.2019.06.017
29. Vilhelmsen, T. N., Auken, E., Christiansen, A. V., Barfod, A. S., Marker, P. A., **Bauer-Gottwein, P.**, 2019. Combining clustering methods with MPS to estimate structural uncertainty for hydrological models. *Frontiers in Earth Science*, 7 doi:10.3389/feart.2019.00181
30. Wang, S., Garcia, M., **Bauer-Gottwein, P.**, Jakobsen, J., Zarco-Tejada, P.J., Bandini, F., Paz, V.S., Ibrom, A., 2019. High spatial resolution monitoring land surface energy, water and CO2 fluxes from an Unmanned Aerial System. *Remote Sensing of Environment*, 229: 14-31.
31. Jiang, L., **Bauer-Gottwein, P.**, 2019. How do GPM IMERG precipitation estimates perform as hydrological model forcing? Evaluation for 300 catchments across Mainland China. *Journal of Hydrology*, 572: 486-500.
32. Jiang, L., Madsen, H., **Bauer-Gottwein, P.**, 2019. Simultaneous calibration of multiple hydrodynamic model parameters using satellite altimetry observations of water surface elevation in the Songhua River. *Remote Sensing of Environment*, 225: 229-247.
33. Luchner, J., Riegels, N.D., **Bauer-Gottwein, P.**, 2019. Benefits of Cooperation in Transnational Water-Energy Systems. *Journal of Water Resources Planning and Management*, 145(5): art. no. 05019007
34. Martinsen, G., Liu, S., Mo, X., **Bauer-Gottwein, P.**, 2019. Joint optimization of water allocation and water quality management in Haihe River basin. *Science of the Total Environment*, 654: 72-84.
35. Jiang, L., Andersen, O.B., Nielsen, K., Zhang, G., **Bauer-Gottwein, P.**, 2019. Influence of local geoid variation on water surface elevation estimates derived from multi-mission altimetry for Lake Namco. *Remote Sensing of Environment*, 221: 65-79.
36. Vilhelmsen, T., Marker, P., Foged, N., Wernberg, T., Auken, E., Christiansen, A.V., **Bauer-Gottwein, P.**, Christensen, S., Høyer, A.-S., 2019. A Regional Scale Hydrostratigraphy Generated from Geophysical Data of Varying Age, Type, and Quality. *Water Resources Management*, 33(2):539-553.
37. Wang, S., Garcia, M., Ibrom, A., Jakobsen, J., Köppl, C.J., Mallick, K., Looms, M.C., **Bauer-Gottwein, P.**, 2018. Mapping root-zone soil moisture using a temperature-vegetation triangle approach with an unmanned aerial system: Incorporating surface roughness from structure from motion. *Remote Sensing*, 10(12): Article number 1978
38. Bandini, F., Lopez-Tamayo, A., Merediz-Alonso, G, Olesen, D, Jakobsen, J, Wang, S, Garcia, M, **Bauer-Gottwein, P.**, 2018. Unmanned aerial vehicle observations of water surface elevation and bathymetry in the cenotes and lagoons of the Yucatan Peninsula, Mexico. *Hydrogeology Journal*, 26(7):2213-2228
39. Bandini, F., Olesen, D., Jakobsen, J., Kittel, C.M.M., Wang, S., García, M., **Bauer-Gottwein, P.**, 2018. Technical note: Bathymetry observations of inland water bodies using a tethered single-beam sonar controlled by an unmanned aerial vehicle. *Hydrology and Earth System Sciences*, 22(8): 4165-4181
40. R. Payet-Burin, F. Bertoni, C. Davidsen, and **P. Bauer-Gottwein**, 2018. Optimization of regional water - power systems under cooling constraints and climate change, *Energy*, vol. 155: 484-494

41. Kittel, C.M.M., Nielsen, K., Tøttrup, C., **Bauer-Gottwein, P.**, 2018. Informing a hydrological model of the Ogooué with multi-mission remote sensing data. *Hydrology and Earth System Sciences*, 22(2):1453-1472
42. Schneider, R., Ridler, M.-E., Godiksen, P.N., Madsen, H., **Bauer-Gottwein, P.**, 2018. A data assimilation system combining CryoSat-2 data and hydrodynamic river models. *Journal of Hydrology*, 557, 197–210. doi:10.1016/j.jhydrol.2017.11.052
43. Schneider, R., Tarpanelli, A., Nielsen, K., Madsen, H., **Bauer-Gottwein, P.**, 2018. Evaluation of multi-mode CryoSat-2 altimetry data over the Po River against in situ data and a hydrodynamic model. *Advances in Water Resources*, 112, 17–26. doi:10.1016/j.advwatres.2017.11.027
44. Wang, S., Ibrom, A., **Bauer-Gottwein, P.**, Garcia, M., 2018. Incorporating diffuse radiation into a light use efficiency and evapotranspiration model: An 11-year study in a high latitude deciduous forest. *Agricultural and Forest Meteorology*, 248, in press, doi:10.1016/j.agrformet.2017.10.023
45. Jiang, L., Nielsen, K., Andersen, O.B., **Bauer-Gottwein, P.**, 2017: CryoSat-2 radar altimetry for monitoring freshwater resources of China. *Remote Sensing of Environment*, 200:125-139
46. Bandini, F., Butts, M., Jacobsen, T.V., and **Bauer-Gottwein, P.**, 2017: Water level observations from Unmanned Aerial Vehicles for improving estimates of surface water-groundwater interaction, *Hydrological Processes*, DOI: 10.1002/hyp.11366
47. Bandini, F., Jakobsen, J., Olesen, D., Reyna-Gutierrez, J.A., **Bauer-Gottwein, P.**, 2017. Measuring water level in rivers and lakes from lightweight Unmanned Aerial Vehicles. *Journal of Hydrology*, 548, 237–250. doi:10.1016/j.jhydrol.2017.02.038
48. Jiang, L., Schneider, R., Andersen, O.B., **Bauer-Gottwein, P.**, 2017. CryoSat-2 Altimetry Applications over Rivers and Lakes. *Water* 9(3), 211; doi:10.3390/w9030211
49. Marker, P., Vilhelmsen, T., Foged, N., Wernberg, T., Auken, E., **Bauer-Gottwein, P.**, 2017: Probabilistic predictions using a groundwater model informed with airborne EM data. *Advances in Water Resources*, in press, doi:10.1016/j.advwatres.2017.03.002
50. Dhaubanjari, S., Davidsen, C., **Bauer-Gottwein, P.**, 2017. Multi-Objective Optimization for Analysis of Changing Trade-Offs in the Nepalese Water–Energy–Food Nexus with Hydropower Development. *Water* 9(3), 162; doi:10.3390/w9030162
51. Schneider, R., Godiksen, P. N., Villadsen, H., Madsen, H., and **Bauer-Gottwein, P.**, 2017: Application of CryoSat-2 altimetry data for river analysis and modelling, *Hydrology and Earth System Sciences*, 21, 751-764, doi:10.5194/hess-21-751-2017
52. Jiang, L., Nielsen, K., Andersen, O.B., **Bauer-Gottwein, P.**, 2017. Monitoring recent lake level variations on the Tibetan Plateau using CryoSat-2 SARIn mode data. *Journal of Hydrology* 544(1): 109-124
53. Pereira-Cardenal, S.J., Mo, B., Gjelsvik, A., Riegels, N.D., Arnbjerg-Nielsen, K., **Bauer-Gottwein, P.**, 2016. Joint optimization of regional water-power systems. *Advances in Water Resources* 92, 200–207. doi:10.1016/j.advwatres.2016.04.004
54. Davidsen, C., Liu, S., Mo, X., Rosbjerg, D., **Bauer Gottwein, P.**, 2016. The cost of ending groundwater overdraft on the North China Plain. *Hydrology and Earth System Sciences*. 20(2): 771-785
55. **Bauer-Gottwein, P.**, Schneider, R., Davidsen, C., 2016. Optimizing Wellfield Operation in a Variable Power Price Regime. *Groundwater* 54(1): 92-103
56. Chongo, M., Christiansen, A.V., Fiandaca, G., Nyambe, I.A., Larsen, F. and **Bauer-Gottwein, P.** (2015): Mapping localized freshwater anomalies in the brackish Paleo-Lake sediments of the Machile-Zambezi Basin with transient electromagnetic sounding, geoelectrical imaging and induced polarization. *Journal of Applied Geophysics*, 123: 81-92
57. Marker, P.A., Foged, N., He, X., Christiansen, A. V., Refsgaard, J.C., Auken, E., and **Bauer-Gottwein, P.** (2015): Performance evaluation of groundwater model hydrostratigraphy from airborne electromagnetic data and lithological borehole logs. *Hydrology and Earth System Sciences*, 19, 3875-3890
58. Wang, S., Liu, S., Mo, X., Peng, B., Qiu, J., Li, M., Liu, C., Wang, Z., **Bauer-Gottwein, P.** (2015): Evaluation of Remotely Sensed Precipitation and its Performance for Streamflow Simulations in Basins of the Southeast Tibetan Plateau. *Journal of Hydrometeorology*, 16(6): 2577-2594

59. Davidsen, C., Liu, S., Mo, X., Holm, P.E., Trapp, S., Rosbjerg, D., **Bauer-Gottwein, P.** (2015): Hydroeconomic optimization of reservoir management under downstream water quality constraints. *Journal of Hydrology*, 529: 1679-1689
60. **Bauer-Gottwein, P.**, Jensen, I.H., Guzinski, R., Bredtoft, G.K.T, Hansen, S. and Michailovsky, C. (2015): Operational river discharge forecasting in poorly gauged basins: the Kavango River Basin case study. *Hydrology and Earth System Sciences*, 19, 1469-1485, doi:10.5194/hess-19-1469-2015
61. Chongo, M., Christiansen, A.V., Tembo, A., Banda, K.E., Nyambe, I.A., Larsen, F., **Bauer-Gottwein, P.** (2015): Airborne and ground based transient electromagnetic mapping of groundwater salinity in the Machile-Zambezi Basin, south-western Zambia. *Near Surface Geophysics*, 13(4): 383-395
62. Pereira-Cardenal, S.J., Mo B., Riegels, N.D., Arnbjerg-Nielsen, K., and **Bauer-Gottwein, P.** (2014): Optimization of Multipurpose Reservoir Systems Using Power Market Models. *ASCE Journal of Water Resources Planning and Management*, 141(8): Article No.: 04014100
63. Foged, N., Marker, P.A., Christiansen, A.V., **Bauer-Gottwein, P.**, Jorgensen, F., Hoyer, A.S., Auken, E. (2014): Large-scale 3-D modeling by integration of resistivity models and borehole data through inversion. *Hydrology and Earth System Sciences*, 18(11): 349-4362
64. Davidsen, C., Pereira-Cardenal, S.J., Liu, S., Mo, X., Rosbjerg, D. and **Bauer-Gottwein, P.** (2014): Using stochastic dynamic programming to support water resources management in the Ziya River basin. *ASCE Journal of Water Resources Planning and Management*, 141(7): Article No.: 04014086
65. Pereira-Cardenal, S.J., Madsen, H., Arnbjerg-Nielsen, K., Riegels, N., Jensen, R., Mo, B., Wangensteen, I. and **Bauer-Gottwein, P.** (2014): Assessing climate change impacts on the Iberian power system using a coupled water-power model. *Climatic Change*, 126 (3-4): 351-364
66. Guzinski, R., Kass, S., Huber, S., **Bauer-Gottwein, P.**, Jensen, I.H., Naeimi, V., Doubkova, M., Walli, A., Tottrup, C. (2014): Enabling the Use of Earth Observation Data for Integrated Water Resource Management in Africa with the Water Observation and Information System. *Remote Sensing*, 6(8):7819-7839
67. Michailovsky, C.I. and **Bauer-Gottwein, P.** (2014): Operational reservoir inflow forecasting with radar altimetry: the Zambezi case study. *Hydrology and Earth System Sciences* , 18(3):997-1007
68. Loinaz, M.C., Gross, D., Unnasch, R., Butts, M. and **Bauer-Gottwein, P.** (2014): Modeling ecohydrological impacts of land management and water use in the Silver Creek Basin, Idaho. *Journal of Geophysical Research – Biogeosciences*, 119(3):487-507
69. Finsen, F., Milzow, C., Smith, R., Berry, P., **Bauer-Gottwein, P.** (2014): Using radar altimetry to update a large-scale hydrological model of the Brahmaputra River basin. *Hydrology Research*, 45(1):148-164
70. Herckenrath, D., Fiandaca, G., Auken, E., **Bauer-Gottwein, P.** (2013): Sequential and joint hydrogeophysical inversion using a field-scale groundwater model with ERT and TDEM data. *Hydrology and Earth System Sciences*, 17: 4043-4060
71. Michailovsky, C.I., Milzow, C., **Bauer-Gottwein, P.** (2013): Assimilation of Radar Altimetry to a Routing Model of the Brahmaputra River. *Water Resources Research*, 49(8): 4807-4816
72. Loinaz, M.C., Davidsen, H.C., Butts, M., **Bauer-Gottwein, P.**, (2013): Flow and Temperature Modeling at the Catchment Scale. *Journal of Hydrology*, 495: 238-251
73. Hansen, A.K., Hendricks Franssen, H.-J., **Bauer-Gottwein, P.**, Madsen, H., Rosbjerg, D., Kaiser, H.-P. (2013): Well Field Management Using Multi-Objective Optimization. *Water Resources Management*, 27(3):629-648
74. Herckenrath, D., Odum, N., Nenna, V., Knight, R., Auken, E. and **P. Bauer-Gottwein** (2013): Calibrating a saltwater intrusion model with Time Domain Electromagnetic data. *Ground Water*, 51(3):385-397
75. Riegels, N., Pulido-Velazquez, M., Douglis, C., Sturm, V., Jensen, R.A., Møller, F. and **P. Bauer-Gottwein** (2013): A systems analysis approach to the design of efficient water pricing policies under the EU Water Framework Directive. *ASCE Journal of Water Resources Planning and Management*, 139 (5): 574-582

76. Hansen, A.K., Madsen, H., **Bauer-Gottwein, P.**, Rosbjerg, D., Falk, A.K.V., 2013: Optimization of Well Field Operation: Case Study Sønderlø Waterworks. *ASCE Journal of Water Resources Planning and Management*, 139(1):109-116
77. Michailovsky, C. I., McEnnis, S., Berry, P. A. M., Smith, R. and **P. Bauer-Gottwein** (2012): River monitoring from satellite radar altimetry in the Zambezi River Basin. *Hydrology and Earth System Sciences*, 16(7):2181-2192
78. Dorini, G.F., Thordarson, F.O., Madsen, H., **Bauer-Gottwein, P.**, Rosbjerg, D., Madsen, H. (2012): A convex programming framework for optimal and bounded sub-optimal well-field management. *Water Resources Research*, 48:W06525
79. Gondwe, B., Ottowitz, D., Supper, R., Motschka, K., Merediz-Alonso, G., **Bauer-Gottwein, P.** (2012): Regional-scale airborne electromagnetic surveying of the Yucatan karst aquifer: geological and hydrogeological interpretation. *Hydrogeology Journal*, 20(7):1407-1425
80. Herckenrath, D., E. Auken, L. Christiansen, A. Behroozmand, and **P. Bauer-Gottwein**, 2012: Coupled hydrogeophysical inversion using time-lapse magnetic resonance sounding and time-lapse gravity data for hydraulic aquifer testing: Will it work in practice? *Water Resources Research*, 48:W01539
81. Hansen, A.K., Madsen, H., **Bauer-Gottwein, P.**, Rosbjerg, D., Falk, A.K., 2012: Multi-objective optimization of the management of a waterworks using an integrated well field model, *Hydrology Research*, 43(4): 430-444
82. Siegfried, T., Bernauer, T., Guiennet, R., Sellars, S., Robertson, A.W., Mankin, J., **Bauer-Gottwein, P.**, Yakovlev, A., 2012: Will Climate Change Exacerbate Water Stress in Central Asia? *Climatic Change*, 112:881-899
83. Chongo, M., Wibroe, J., Staal-Thomsen, K., Moses, M., Nyambe, I.A., Larsen, F., **Bauer-Gottwein, P.**, 2011: The use of Time Domain Electromagnetic method and Continuous Vertical Electrical Sounding to map groundwater salinity in the Barotse sub-basin, Zambia. *Physics and Chemistry of the Earth*, 36(14-15): 798-805
84. Milzow, C., Krogh, P.E. and **Bauer-Gottwein, P.**, 2011: Combining satellite radar altimetry, SAR surface soil moisture and GRACE total storage changes for model calibration and validation in a large ungauged catchment. *Hydrology and Earth System Sciences*, 15(6): 1729-1743
85. Christiansen, L., Binning, P., Rosbjerg, D., Andersen, O.B., **Bauer-Gottwein, P.**, 2011: Using time-lapse gravity for groundwater model calibration: An application to alluvial aquifer storage. *Water Resources Research*, 47:W06503
86. Christiansen, L., Lund, S., Andersen, O.B., Binning, P., Rosbjerg, D., **Bauer-Gottwein, P.**, 2011: Measuring gravity change caused by water storage variations: performance assessment under controlled conditions. *Journal of Hydrology*, 402: 60-70
87. Christiansen, L., Haarder, E.B., Hansen, A.B., Looms, M.C., Binning, P.J., Rosbjerg, D., Andersen, O.B., **Bauer-Gottwein, P.**, 2011: Calibrating vadose zone models with time-lapse gravity data. *Vadose Zone Journal*, 10(3):1034-1044
88. Gondwe, B.R.N., Merediz-Alonso, G. & **Bauer-Gottwein, P.**, 2011: The influence of conceptual model uncertainty on management decisions for a groundwater-dependent ecosystem in karst. *Journal of Hydrology*, 400 (1-2): 24-40
89. Pereira-Cardenal, S.J., Riegels, N.D., Berry, P.A.M., Smith, R.G., Yakovlev, A., Siegfried, T.U. & **Bauer-Gottwein, P.**, 2011: Real-time remote sensing driven river basin modelling using radar altimetry. *Hydrology and Earth System Sciences* 15, 241-254
90. Riegels, N.D., Jensen, R., Bensasson, L., Banou, S., Møller, F., **Bauer-Gottwein, P.**, 2011: Estimating resource costs of compliance with EU WFD ecological status requirements at the river basin scale. *Journal of Hydrology*, 396 (3-4): 197-214
91. **Bauer-Gottwein, P.**, Gondwe, B.R.N., Charvet, G., Marín, L., Rebolledo-Vieyra, M., Merediz-Alonso, G., 2011: Regional Review: The Yucatán Peninsula karst aquifer, México. *Hydrogeology Journal*, 19(3): 507-524
92. Gondwe, B.R.N., Lerer, S., Stisen, S., Marín, L., Rebolledo-Vieyra, M., Merediz-Alonso, G., **Bauer-Gottwein, P.**, 2010: Hydrogeology of the south-eastern Yucatan Peninsula: New insights from water level measurements, geochemistry, geophysics and remote sensing. *Journal of Hydrology*, 389: 1-17

93. Krogh, P.E., Andersen, O.B., Michailovsky, C.I.B., **Bauer-Gottwein, P.**, Rowlands, D.D., Luthcke, S.B., Chinn, D.S., 2010: Evaluating terrestrial water storage variations from regionally constrained GRACE mascon data and hydrological models over Southern Africa – Preliminary results. *International Journal of RemoteSensing*, 31(14):3899-3912
94. **Bauer-Gottwein, P.**, Gondwe, B.N., Christiansen, L., Herckenrath, D., Kgotlhang, L. and Zimmermann, S., 2010: Hydrogeophysical Exploration of Three-dimensional Salinity Anomalies with the Time-Domain Electromagnetic Method (TDEM). *Journal of Hydrology*, 380(3-4): 318-329
95. Gondwe, B.N., Hong, S.H., Wdowinski, S. and **Bauer-Gottwein, P.**, 2010: Hydrodynamics of the groundwater-dependent Sian Ka'an wetlands, Mexico, from InSAR and SAR data. *Wetlands*, 30: 1-13
96. Milzow, C. , Kgotlhang, L., **Bauer-Gottwein, P.**, Meier, P., and W. Kinzelbach, 2009: Regional review: the hydrology of the Okavango Delta - processes, data and modelling. *Hydrogeology Journal* 17: 1297–1328.
97. Supper,R., Motschka, K., Ahl, A., **Bauer-Gottwein, P.**, Gondwe, B.N., Merediz Alonso,G., Romer, A., Ottowitz, D., and W. Kinzelbach, 2009. Spatial Mapping of Submerged Cave Systems by Means of Airborne Electromagnetics: an Emerging Technology to Support Protection of Endangered Karst Aquifers. *Near Surface Geophysics*, 7(5):613-627.
98. Milzow,C., Kgotlhang, L., Kinzelbach, W., Meier, P. and **Bauer-Gottwein, P.**, 2009: The role of remote sensing in hydrological modelling of the Okavango Delta, Botswana. *Journal of Environmental Management*, 90(7): 2252-2260.
99. Leiriao, S., He, X., Christiansen, L., Andersen, O.B., and **P. Bauer-Gottwein**, 2009: Calculation of the temporal gravity variation from spatially varying water storage change in soils and aquifers. *Journal of Hydrology*, 365:302-309.
100. **Bauer-Gottwein, P.**, Rasmussen, N.F., Feificova, D. and Trapp, S., 2008: Phytotoxicity of salt and plant salt uptake: Modeling eco-hydrological feedback mechanisms. *Water Resources Research*, 44: W04418.
101. Christiansen, C.M., Riis, C., Christensen, S.B., Broholm, M.M., Christensen, A.G., Klint, K.E., Wood, J.S., **Bauer-Gottwein, P.** and Bjerg, P.L., 2008: Characterization and quantification of pneumaticfracturing effects at a clay till site. *Environmental Science & Technology*, 42(2): 570-576.
102. Trapp, S., Feificova, D., Rasmussen, N.F. and **Bauer-Gottwein, P.**, 2008: Plant uptake of NaCl in relation to enzyme kineticsand toxic effects. *Environmental and Experimental Botany*, 64(1): 1-7.
103. **Bauer-Gottwein, P.**, T. Langer, H. Prommer, P. Wolskiand W. Kinzelbach, 2007: Okavango Delta Islands: Interaction between density-driven flow and geochemical reactions under evapo-concentration, *Journal of Hydrology*, 335(3-4): 389-405.
104. Brunner, P., Franssen, H.J.H., Kgotlhang, L., **Bauer-Gottwein, P.** and Kinzelbach, W., 2007: How can remote sensing contributein groundwater modeling? *Hydrogeology Journal*, 15(1): 5-18.
105. **Bauer, P.**, T. Gumbricht, and W. Kinzelbach, 2006: A regional coupled surface water/groundwater model of the Okavango Delta, Botswana. *Water Resources Research*, 42, W04403.
106. **Bauer, P.**, R. Supper, S. Zimmermann and W. Kinzelbach, 2006: Geoelectrical imaging of groundwater salinization in the Okavango Delta, Botswana. *Journal of Applied Geophysics*, 60(2): 126-141.
107. **Bauer, P.**, R. Held, S. Zimmermann, F. Linn and W.Kinzelbach, 2006: Coupled flow and salinity transport modelling in semi-arid environments: The Shashe River Valley, Botswana. *Journal of Hydrology* 316(1-4): 163-183.
108. Zimmermann, S., **P. Bauer**, R. Held, J. Walther and W. Kinzelbach, 2006: Salt Transport on Islands in the Okavango Delta: Numerical Investigations. *Advances in Water Resources* 29(1): 11-29.
109. Gumbricht, T., T. S. McCarthy, and **P. Bauer**, 2005: The micro-topography of the wetlands of the Okavango Delta, Botswana. *Earth Surface Processes and Landforms* 30:27-39.
110. Brunner, P., **P. Bauer**, M. Eugster, and W. Kinzelbach, 2004: Using remote sensing to regionalize local precipitation recharge rates obtained from the Chloride Method. *Journal of Hydrology* 294:241-250.

111. **Bauer, P.**, G. Thabeng, F. Stauffer, and W. Kinzelbach, 2004: Estimation of the evapotranspiration rate from diurnal groundwater level fluctuations in the Okavango Delta, Botswana. *Journal of Hydrology* 288:344-355.
112. Kinzelbach, W., **P. Bauer**, T. Siegfried, and P. Brunner, 2003: Sustainable groundwater management - problems and scientific tools. *Episodes* 26:279-284.
113. **Bauer, P.**, S. Attinger, and W. Kinzelbach, 2001: Transport of a decay chain in homogenous porous media: analytical solutions. *Journal of Contaminant Hydrology* 49:217-239.

Other peer-reviewed publications

1. Schneider, R. Nygaard, Godiksen, P., Ridler, M., Villadsen, H., Madsen, H., **Bauer-Gottwein, P.**, 2016. Combining Envisat and CryoSat-2 altimetry to inform hydrodynamic models. *Proceedings Living Planet Symposium 2016*. ed. / L. Ouwehand. European Space Agency, ESA, 2016. 1407 (E S A - S P, Vol. SP-740).
2. Herckenrath, D., Auken, E., **Bauer-Gottwein, P.**, 2011: Monitoring of aquifer pump tests with Magnetic Resonance Sounding (MRS): a synthetic case study. Part of: Calibration And Reliability In Groundwater Modelling: Managing Groundwater And The Environment (ISBN: 9781907161155), pages: 267-272, 2011, IAHS Press. Presented at: 7th International Conference on Calibration and Reliability in Groundwater Modeling, Wuhan, 2011
3. Pereira Cardenal, S., Carrion-Sanchez, L., Arnbjerg-Nielsen, K., Larsen, H., **Bauer-Gottwein, P.**, 2012: Integration of Hydropower in a Competitive power market model for water-energy scenario analysis Part of: Proceedings of the 14th IWRA World Water Congress, 2012, IWRA. Presented at: 14th IWRA World Water Congress, Pernambuco, Brazil, 2011
4. **Bauer-Gottwein, P.**, Christiansen, L., Rosbjerg, D., 2011: Informing hydrological models with ground-based time-lapse relative gravimetry: potential and limitations. Part of: GRACE, Remote Sensing and Ground-based Methods in Multi-Scale Hydrology : International Association of Hydrological Sciences (IAHS) (ISBN: 9781907161186), pages: 187-194, 2011, IAHS Press. Presented at: 25th General Assembly of the International Union of Geodesy and Geophysics, Melbourne, Australia, 2011
5. Rein, A., **Bauer-Gottwein, P.**, Trapp, S., 2011: Dynamic plant uptake modelling and mass flux estimation. Part of: GQ10: Groundwater Management in a Rapidly Changing World (ISBN: 978-1-907161-16-2), pages: 55-58, 2011, IAHS Press. Presented at: GQ10: Groundwater Quality Management in a Rapidly Changing World : 7th International Groundwater Quality Conference, Zurich, 2011
6. Andersen, O., Krogh, P., **Bauer-Gottwein, P.**, Leiriao, S., Smith, R., Berry, P., 2011: Terrestrial Water Storage from GRACE and Satellite Altimetry in the Okavango Delta (Botswana). Part of: Gravity, Geoid and Earth Observation (ISBN: 978-3-642-10633-0), pages: 521-526, 2011, Springer. Presented at: International Symposium on Gravity, Geoid and Earth Observation, Chania, 2010
7. **Bauer, P.**, and W. Kinzelbach, 2004: Wassernutzungskonflikte am Okavango: Szenarios als Entscheidungshilfe. *Gaia* 13:50-60.

Book chapters

1. **Bauer-Gottwein, P.**, Riegels, N., Pulido-Velazquez, M., Harou, J.J., Cai, X., Davidsen, C., Pereira-Cardenal, S.J., 2017: Hydroeconomic Analysis. Part of: Handbook of Applied Hydrology, edited by V. Singh, McGraw-Hill
2. **Bauer-Gottwein, P.**, Bates, P., Getirana, A., Andreadis, K., Matgen, P., Neal, J., Biancamaria, S., Michailovsky, C., 2013: Altimetry Data Assimilation in Hydrological Modeling. Part of: Inland water altimetry, edited by J. Benveniste, S. Vignudelli and A. Kostianoy. Springer, in press
3. Simmons, C.T., **Bauer-Gottwein, P.**, Graf, T., Kinzelbach, W., Kooi, H., Li, L., Post, V., Prommer, H., Therrien, R., Voss, C., Ward, J., Werner, A., 2010: Variable density groundwater flow: from

modelling to applications. Part of: Groundwater Modelling in Arid and Semi-Arid Areas (ISBN: 9780521111294), pages: 87-117, Cambridge University Press, Cambridge

4. **Bauer-Gottwein, P.**, Zimmerman, S., Kinzelbach, W., 2008: Groundwater flow and transport modeling in semi-arid Africa. Part of: Applied groundwater studies in Africa (ISBN: 978-0-415-45273-1), pages: 417-436, C R C Press LLC, Philadelphia, PA