

List of Publications by Christian Klassert

JOURNAL ARTICLES (ISI-GELISTET)

Published:

Yoon, J., **Klassert, C.**, Selby, P., Lachaut, T., Knox, S., Avisse, N., Harou, J., Tilmant, A., Klauer, B., Mustafa, D., Sigel, K., Talozzi, S., Gawel, E., Meddelin-Azuara, J., Bataineh, B., Zhang, H., & Gorelick, S.M. (2021). Coupled human-natural system analysis of freshwater security under climate and population change. *Proceedings of the National Academy of Sciences (PNAS)* 118(14): e2020431118. DOI: 10.1073/pnas.2020431118.

Zozmann, H., **Klassert, C.**, Sigel, K., Gawel, E., & Klauer, B. 2019. Commercial Tanker Water Demand in Amman, Jordan – A Spatial Simulation Model of Water Consumption Decisions under Intermittent Network Supply. *Water* 11(2): 254. ISI-Impact-Faktor: 1.832.

Klassert, C., Sigel, K., Klauer, B., Gawel, E. 2018. Increasing Block Tariffs in an Arid Developing Country: A Discrete/Continuous Choice Model of Residential Water Demand in Jordan. *Water* 10: 248. ISI-Impact-Faktor: 1.832.

Groeneveld, J., Müller, B., Buchmann, C. M., Dressler, G., Guo, C., Hase, N., Hoffmann, F., John, F., **Klassert, C.**, Lauf, T., Liebelt, V., Nolzen, H., Pannicke, N., Schulze, J., Weise, H., Schwarz, N. 2017. Theoretical foundations of human decision-making in agent-based land use models – A review. *Environ. Modell. Softw.* 87: 39-48. ISI-Impact-Faktor: 4.420.

Klassert, C., Sigel, K., Gawel, E., Klauer, B. 2015. Modeling residential water consumption in Amman: the role of intermittency, storage, and pricing for piped and tanker water. *Water* 7: 3643-3670. ISI-Impact-Faktor: 1.428.

Müller, B., Balbi, S., Buchmann, C. M., de Sousad, L., Dressler, G., Groeneveld, J., **Klassert, C.**, Le, Q. B., Millington, J. D. A., Nolzen, H., Parker, D. C., Polhill, J. G., Schlüter, M., Schulze, J., Schwarz, N., Sun, Z., Taillandier, P., Weise, H. 2014. Standardised and transparent model descriptions for agent-based models: current status and prospects. *Environ. Modell. Softw.* 55: 156–163. ISI-Impact-Faktor: 4.420.

Klassert, C., Möckel, S. 2013. Improving the policy mix: the scope for market-based instruments in EU biodiversity policy. *Environ. Policy Governance* 23: 311-322. ISI-Impact-Faktor: 1.614.

Müller, B., Bohn, F., Dressler, G., Groeneveld, J., **Klassert, C.**, Martin, R., Schlüter, M., Schulze, J., Weise, H., Schwarz, N. 2013. Describing human decisions in agent-based models – ODD+D an extension of the ODD protocol. *Environ. Modell. Softw.* 48: 37-48. ISI-Impact-Faktor: 4.420.

Submitted manuscripts:

Klassert, C., Yoon, J., Sigel, K., Klauer, B., Talozzi, S., Lachaut, T., Selby, P., Knox, S., Avisse, N., Tilmant, A., Harou, J., Mustafa, D., Meddelin-Azuara, J., Bataineh, B., Zhang, H., Gawel, E., Gorelick, S.M. (*submitted*). Unexpected growth of an illegal water market. *Manuscript submitted to Nature Sustainability*.

Yoon, J., Voisin, N., **Klassert, C.**, Thurber, T., Xu, W. (*in review*). Farmer cropping adaptation alleviates simulated water shortage in the United States. *Manuscript in review at Nature Communications*.

Karutz, R., Omann, I., Gorelick, S.M., Zozmann, H., Zhu, Y., Kabisch, S., **Klassert, C.**, Kindler, A., Figueroa, A.J., Wang, A., Küblböck, K., Burek, P., Smilovic, M., Klauer, B. (*in review*). Capturing Stakeholders' Challenges of the Food-Water-Energy Nexus - A Participatory Approach for Pune and the Bhima Basin, India. *Manuscript in review at Environmental Research Letters*.

Heilemann, J., Klauer, B., **Klassert, C.** (*in review*). The underestimated role of growing inequality: Combining top-down and bottom-up scenarios to assess the social vulnerability to climate change in Pune, India. *Manuscript in review at GAI*.

Warnecke, L., **Klassert, C.**, Klauer B. (*in review*). Feasibility of a coal phase-out in Maharashtra, India. *Manuscript in review at Energy Policy*.

Al-Kebsi, A., Talozzi, S., **Klassert, C.** (*in review*). Assessment of the Water-Energy Nexus of Jordan's Main Water Conveyance System between 2015 and 2050. *Manuscript in review at Energy Policy*.

Zozmann, H., **Klassert, C.**, Klauer, B., Gawel, E. (*in review*). Heterogeneity, household co-production, and risks of water services – Water demand of private households with multiple water sources. *Manuscript in review at Water Economics and Policy*.

Zozmann, H., **Klassert, C.**, Klauer, B., Gawel, E. (*in review*). The economic value of water procurement time and its implications for household water demand – Insights from a water diary study in five informal settlements of Pune, India. *Manuscript in review at Water*.

JOURNAL ARTICLES (NOT ISI-RANKED)

Gawel, E., **Klassert, C.** 2013. Besondere Ausgleichsregelung im EEG: Quo vaderis? *Energiewirtschaftliche Tagesfragen (et)* 63 (10): 29-34.

Gawel, E., **Klassert, C.** 2013. Probleme der besonderen Ausgleichsregelung im EEG. *Zeitschrift für Umweltrecht (ZUR)* 24 (9): 467-480.

BOOK CHAPTERS

Klassert, C., Gawel, E., Sigel, K., Klauer, B. 2018. Sustainable transformation of urban water infrastructure in Amman, Jordan: Meeting residential water demand in the face of deficient public supply and alternative private water markets. In: S. Kabisch, F. Koch, E. Gawel, A. Haase, S. Knapp, K. Krellenberg, J. Nivala, A. Zehnsdorf (Hrsg.): *Urban Transformations: Sustainable urban development towards resource efficiency, quality of life and resilience*. Springer: Berlin: 93-116.

Klassert, C., Sigel, K., Gawel, E., Klauer, B. 2015. Residential Water Consumption and Informal Tanker Water Markets in Amman, Jordan. In: T. Bruckner, E. Gawel, R. Holländer, D. Thrän, T. Weinsziehr, M. Verhoog (Hrsg.): *Zehn Jahre transdisziplinäre Nachhaltigkeitsforschung an der Universität Leipzig*. Festschrift anlässlich des zehnjährigen Bestehens des Instituts für Infrastruktur und Ressourcenmanagement (IIRM), Studies in Infrastructure and Resources Management, Vol. 5. Logos Verlag: Berlin: 103-108.

REPORTS AND WORKING PAPERS

Sigel, K., **Klassert, C.**, Zozmann, H., Talozzi, S., Klauer, B., Gawel, E. (2017). Impacts of Private Tanker Water Markets on Sustainable Urban Water Supply: An Empirical Study of Amman, Jordan; UFZ Report 02/2017; Helmholtz Centre for Environmental Research—UFZ: Leipzig.

Vohland, K. *et al.* (**Klassert, C.**). 2015. Ecosystem services, biodiversity, and climate change: foundations (chapter 3). In: Hartje, V., Wüstemann, H., Bonn, A. (Hrsg.): *Natural capital and climate policy – synergies and conflicts. Natural Capital Germany – The Economics of Ecosystems and Biodiversity (TEEB DE) Report No. 1*. Technische Universität Berlin, Helmholtz Zentrum für Umweltforschung (UFZ): Berlin.

Klassert, C., Möckel, S. 2012. Constraints and opportunities for the implementation of policy mix concepts in EU nature conservation law. In: J. Similä, E. Primmer (Hrsg.): *Legal analysis of the relationship between WTO law, European state aid and nature conservation law, and economic instruments for biodiversity protection. POLICYMIX Report No. 7/2012*. Norwegian Institute for Nature Research (NINA): Oslo, Norwegen.

Müller, B., Angermüller, F., Drees, R., Dressler, G., Groeneveld, J., **Klassert, C.**, Schlüter, M., Schulze, J., Weise, H., N. Schwarz. 2012. Describing human decisions in agent-based social-ecological models – ODD+D an extension of the ODD protocol. *Social Science Research Network (SSRN) Working Paper (23. April 2012)*: o. O.

CONFERENCE CONTRIBUTIONS

Session co-convener:

Reed, P., Yoon, J., Trutnevyte, E., Romero-Lankao, P., Klassert, C., and Lickey, M. (2021). *GC13B – MultiSector Dynamics: Science and Modeling for Societal Transformations III*. AGU Fall Meeting session, 13-17 December 2021, San Francisco, CA, USA (semi-virtual event).

Reed, P., Yoon, J., Klassert, C., and Trutnevyte, E. (2020). *GC077 – Multisector Dynamics: Science and Modeling for Societal Transformations III*. AGU Fall Meeting session, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Oral presentations:

Klassert, C., Figueroa, A.J.F., Zhu, Y., Karutz, R., Zozmann, H., Klauer, B., Gawel, E., and Gorelick S.M. (2020). *Multiple-source water demands of a representative agent population under various food-water-energy scenarios: A hydro-economic analysis of the Upper Bhima basin, India*. American Geophysical Union Fall Meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Figueroa, A.J.F., **Klassert, C.**, Smilovic, M., Lee, J-Y., Kahil, T., Burek, P., Karutz, R., Zhu, Y., Zozmann, H., Küblböck, K., Omann, I., Grohs, H., Klauer, B., Wada, Y., Naylor, R., and Gorelick S.M. (2020). *A framework for understanding and modelling the links between food, water and energy in the rapidly urbanizing city of Pune, India*. American Geophysical Union Fall Meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Urban, N.M., Yoon, J., Romero-Lankao, P., **Klassert, C.**, Reed, P.M., Yang, Y.-C.E., Flores, A.N., Kaiser, K.E., Voisin, N., Keller, K. (2020). *A New Typology fore Representing Human Decision Making MultiSector Dynamics (MSD) Models*. American Geophysical Union Fall Meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Athinarayanan, S., Figueroa, A.J.F., Gorelick, S.M. and Klassert C. (2020). *Impacts and Equity in Pune, India's Potential 24x7 Piped Water Supply System*. American Geophysical Union Fall Meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Gorelick, S.M., Küblböck, K., Omann, I., Grohs, H., Klauer, B., **Klassert, C.**, Kabisch, S., Kindler, A., Karutz, R., Zhu, Y., Zozmann, H., Dib, J., Wada, Y., Burek, P., Kahil, T., Smilovic, M., Naylor, R.L., Figueroa, A.J.F., Khan, H.F., and Lee J.Y. (2019). *Food-water-energy for Urban Sustainable Environments (FUSE): Integrated Analyses Focused on Pune, India and Amman, Jordan*. American Geophysical Union fall meeting 2020, 9-13 December 2019, San Francisco, CA, USA.

Karutz, R., Kindler, A., **Klassert, C.**, and Kabisch, S. (2019). *Modeling interdependencies between the Food-Water-Energy-Nexus and urban spatial development – The case of Pune, India*. American Geophysical Union fall meeting 2020, 9-13 December 2019, San Francisco, CA, USA.

Klassert, C., Yoon, J., Gawel, E., Klauer, B., Sigel, S., Talozzi, S., Lachaut, T., Selby, P.D., Knox, S., Gorelick, S., Tilmant, A., Harou, J., Mustafa, D., Medellin-Azuara, J., Rajsekhar, D., Avisse, N., Zhang, H. 2016. *Simulating partially illegal markets of private tanker water providers on the country level: A multi-agent, hydroeconomic case-study of Jordan*. American Geophysical Union Fall Meeting, 12-16 December 2016, San Francisco, CA, USA.

Gorelick, S., Yoon, J., Rajsekhar, D., Mueller, M.F., Zhang, H., Gawel, E., Klauer, B., **Klassert, C.**, Sigel, S., Tilmant, A., Avisse, N., Lachaut, T., Harou, J., Knox, S., Selby, P.D., Mustafa, D., Talozzi, S., Haddad Y., Shamekh, M. 2016. *Jordan Water Project: an interdisciplinary evaluation of freshwater vulnerability and security*. American Geophysical Union Fall Meeting, 12-16 December 2016, San Francisco, CA, USA.

Yoon, J., **Klassert, C.**, Lachaut, T., Selby, P.D., Knox, S., Gorelick, S., Rajsekhar, D., Tilmant, A., Avisse, N., Harou, J., Medellin-Azuara, J., Gawel, E., Klauer, B., Mustafa, D., Talozzi, S., Sigel, S., Zhang, H. 2016. *Evaluation of water security in Jordan using a multi-agent, hydroeconomic model: Initial model results from the Jordan Water Project*. American Geophysical Union Fall Meeting, 12-16 December 2016, San Francisco, CA, USA.

Lachaut, T., Yoon, J., **Klassert, C.**, Talozzi, S., Mustafa, D., Knox, S., Selby, P.D., Haddad Y., Gorelick, S., Tilmant, A. 2016. *A Bottom-up Vulnerability Analysis of Water Systems with Decentralized Decision Making and Demographic Shifts – the Case of Jordan*. American Geophysical Union Fall Meeting, 12-16 December 2016, San Francisco, CA, USA.

Klassert, C., Gawel, E., Klauer, B., Sigel, K. 2015. *Modeling residential water consumption in Amman: the role of multiple supply sources, intermittency, and storage*. International Water Resources Association (IWRA) World Water Congress XV, 25.-29. Mai 2015: Edinburgh, Scotland.

Klassert, C., Gawel, E., Frank, K., Thrän, D. 2014. *Transregional land-use effects of biofuel policies – agent-based economic analyses with the ILUC-MAP model*. Helmholtz Zentrum für Umweltforschung (UFZ) Bioenergie Department Workshop “Biomass for Energy – Lessons from the Bioenergy Boom”, KUBUS Leipzig, 24-25 November 2014: Leipzig, Germany.

Barton, D. N., **Klassert, C.**, Adamowicz, V. 2014. *From panacea to policyscapes: evaluating landscape level effects of property level PES targeting within a polymix for biodiversity conservation*. Keynote address at the Ecosystem Service Partnership Annual Conference, 8-12 September 2014: San Jose, Costa Rica.

Barton, D. N., **Klassert, C.**, Adamowicz, V. 2014. *Path dependent policyscapes: an agent-based modeling approach to the evaluation of polymixes for biodiversity conservation*. International Conference on Policy Mixes in Environmental and Conservation Policies, KUBUS Leipzig, 25-27 February 2014: Leipzig, Germany.

Klassert, C., Gawel, E., Frank, K., Thrän, D. 2013. *Transregional land-use dynamics of bioenergy policies: an agent-based approach*. 10th Biennial Conference of the European Society for Ecological Economics (ESEE) "Ecological Economics and Institutional Dynamics", 18-21 June 2013: Lille, France.

Groeneveld, J., Müller, B., Angermüller, F., Drees, R., Dreßler, G., **Klassert, C.**, Schulze, J., Weise, H., Schwarz, N. 2012. *Good modelling practice: expanding the ODD model description protocol for socio-environmental agent-based models*. In: R. Seppelt, A.A. Voinov, S. Lange, D. Bankamp (eds.): *Managing resources of a limited planet: pathways and visions under uncertainty*. Proceedings of the Sixth Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs), 1-5 July 2012: Leipzig, Germany: 2480-2484.

Klassert, C., Möckel, S. 2012. *The scope for economic instruments in EU nature conservation law and related sectoral policies*. Vortrag bei der 12th Biennial Conference of the International Society for Ecological Economics (ISEE) "Ecological Economics and Rio+20. Contributions and Challenges for a Green Economy", 16-19 June 2012: Rio de Janeiro, Brazil.

Poster presentations:

Nagpal, M., **Klassert, C.**, Klauer, B., Gawel, E., Peichl, M. (2020). *The Economic Impact of Multi-Year Droughts on German Agriculture: First Insights from a Country-Scale Multi-Agent Model*. American Geophysical Union fall meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Yoon, J., Voisin, N., and **Klassert, C.** (2020). *Representing adaptive irrigation response to changing water availability and crop prices in a coupled human-water system model of the Continental United States*. American Geophysical Union fall meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Zozmann, H. **Klassert, C.**, Klauer, B., and Gawel, E. (2020). *Measuring Full Cost of Access to Water: A Water Diary Study in Informal Settlements of Pune, India*. American Geophysical Union fall meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Zhu, Y., **Klassert, C.**, Klauer, B., Gawel, E. (2020). *Understanding Household Water Demand in Pune, India from a Water-Energy Nexus Perspective*. American Geophysical Union fall meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Karutz, R., **Klassert, C.**, Kabisch, S. (2020) *Placing the SSPs on the map: Spatio-statistical modelling of urban growth processes in the Upper Bhima Basin, India*. American Geophysical Union fall meeting 2020, 1-17 December 2020, San Francisco, CA, USA (virtual event).

Klassert, C., Yoon, J., Sigel, K., Klauer, B., Talozzi, S., Lachaut, T., Selby, P., Knox, S., Avisse, N., Tilmant, A., Harou, J., Mustafa, D., Meddelin-Azuara, J., Bataineh, B., Zhang, H., Gawel, E., Gorelick, S.M. (2019). *The Hidden Value of Private Water Markets in Jordan: Simulating Spatial Price Equilibria in a Coupled Hydro-Economic Model*. American Geophysical Union fall meeting 2020, 9-13 December 2019, San Francisco, CA, USA.

Zhu, Y., **Klassert, C.**, Klauer, B., and Gawel, E. (2019). *Water-energy Nexus Demand Estimation Framework for Urban Formal and Slum Households in Developing Countries: A Case Study in Pune, India*. American Geophysical Union fall meeting 2020, 9-13 December 2019, San Francisco, CA, USA.

Klassert, C., Yoon, J., Gawel, E., Sigel, S., Klauer, B., Talozzi, S., Lachaut, T., Selby, P.D., Knox, S., Gorelick, S., Tilmant, A., Harou, J., Mustafa, D., Medellin-Azuara, J., Rajsekhar, D., Avisse, N., Zhang, H. 2017. *Spatial analysis of private tanker water markets in Jordan: Using a hydroeconomic multi-agent model to simulate non-observed water transfers*. European Geosciences Union General Assembly, 23-28 April 2017, Vienna, Austria.

Knox, S., Meier, P., Harou, J., Yoon, J., Selby, P.D., Lachaut, T., **Klassert, C.**, Avisse, N., Khadem, M., Tilmant, A., Gorelick, S. 2016. *Open Software Tools Applied to Jordan's National Multi-Agent Water Management Model*. European Geosciences Union General Assembly, 17-22 April 2016, Vienna, Austria.

Selby, P.D., Medellin-Azuara, J., Harou, J., **Klassert, C.**, Yoon, J. 2016. *An agent-based model of farmer decision making in Jordan*. European Geosciences Union General Assembly, 17-22 April 2016, Vienna, Austria.

Yoon, J., **Klassert, C.**, Lachaut, T., Selby, P., Knox, S., Gorelick, S., Rajsekhar, D., Tilmant, A., Harou, J., Gawel, E., Klauer, B., Mustafa, D., Talozzi, S., Sigel, K. 2015. *Design of a multi-agent hydroeconomic model to simulate a complex water system: early insights from the Jordan project*. AGU Fall Meeting, 14-18 December 2015: San Francisco, USA.

Selby, P., Knox, S., Meier, P., Harou, J., Yoon, J., Lachaut, T., **Klassert, C.**, Avisse, N., Mohamed, K., Tomlinson, J., Khadem, M., Tilmant, A., Gorelick, S. 2015. *Multi-agent modelling framework for water, energy and other resource networks*. AGU Fall Meeting, 14-18 December 2015: San Francisco, USA.

Klassert, C., Gawel, E., Klauer, B., Sigel, K. 2014. *Modeling household water consumption in a hydro-institutional system – the case of Amman, Jordan*. AGU Fall Meeting, 15-19 December 2014: San Francisco, USA.

Klassert, C., Gawel, E., Thrän, D., Frank, K. 2012. *Interregional effects of bioenergy policies: an agent-based approach*. "Planet Under Pressure 2012" conference, Excel London, 25-29 March 2012: London, UK.