

CURRICULUM VITAE - KATHLEEN HERMANS

PROFESSIONAL EXPERIENCE

- Since 07/2016 Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany, Department Computational Landscape Ecology
Head of research group MigSoKo "Human migration and global environmental change: A vicious cycle?" (0.8 FTE)
- Since 2017 Institute of Geosciences and Geography, Martin-Luther University Halle-Wittenberg (MLU), Halle
Lecturer
- 02/2012 – 06/2016 Wageningen University, Laboratory of Geo-information Science and Remote Sensing, and, Department of Sociology of Development and Change group the Netherlands
Post-doc: Human migration in the context of environmental change and vulnerability in the tropics (0.8 FTE)
- 08/2010 – 12/2013 Netherlands Environmental Assessment Agency (PBL), Bilthoven
Research associate: Coordination and modelling climate change impacts for the i) international model comparison ISI MIP (0.2 FTE) and ii) OECD Environmental Outlook 2012 (0.8 FTE)
- 07/2003 – 03/2006 Friedrich-Schiller-University Jena, Germany, Department of Geoinformatics and Remote Sensing
Research assistant: Implementation of land cover classification and harmonization schemes; contribution to the development of several research proposals to the European Commission (EC), the European Space Agency (ESA), and the German Aerospace Center (DLR) (0.5 FTE)
- 10/2002 – 06/2003 Leibniz Institute of Ecological and Regional Development, Dresden, Germany
Research assistant: GIS-based analysis of land use dynamics in the Dresden region (0.5 FTE)

EDUCATION

2006 – 2010	Wageningen University, the Netherlands, Department of Environmental Sciences, Land Dynamics Group <i>PhD thesis</i> "Explaining agricultural intensity at the European and global scale" (http://edepot.wur.nl/149375), supervised by Prof. Tom Veldkamp and Prof. Peter Verburg
2001 – 2002	Leibniz Institute of Ecological and Regional Development (IÖR), Dresden, Germany <i>Master thesis</i> "GIS based Analysis of Land Use Change of the Dresden Region between 1880 and 1998"
1996 – 2003	Dresden University of Technology, Germany <i>Master of Science</i> in Geography (foci: digital cartography, GIS)

FUNDING AQUISITION

2016	Research grant for installing a Junior Research Group on socio-ecological research (€ 1.5 Mio) from the German Federal Ministry of Education and Research (BMBF), co-funded by the Helmholtz Centre for Environmental Research (UFZ)
2013	VENI Post-doc grant (€ 250.000) from the Netherlands Organisation for Scientific Research (NWO)

SCIENTIFIC SERVICE

IPCC lead author	Intergovernmental Panel on Climate Change (IPCC), Special Report on Climate Change and Land (SRCCL), Chapter 'Land degradation' (2018/19)
Editorial board member	Regional Environmental Change, since 07/2017 Sustainability Science, since 05/2021
Reviewer for scientific journals	Agriculture, Ecosystems & Environment, Applied Geography, Biogeosciences; Climate and Development; Climatic Change; Environmental Pollution, Environmental Research Letters, Global Change Biology; Land Degradation and Development, Nature Climate Change; Regional Environmental Change, Society and Natural Resources
Reviewer for research proposals	Alexander von Humboldt foundation (Germany), Belgian Science Policy Office (Belgium), Danida Fellowship Centre (Denmark), Wimek/Sense Research School (the Netherlands), Graduate School for Production Ecology and Research Conservation (PE&RC) (the Netherlands)

PUBLICATIONS

Publications till 2017 were published under the surnames Neumann and Hermans-Neumann.

Peer-reviewed journal articles

1. **Hermans, K.** & R. McLeman (2021): Climate Change, Drought, Land Degradation and Migration: Exploring the linkages. – In: *Current Opinion in Environmental Sustainability*, vol. (50).
2. Groth, J., **Hermans, K.**, Wiederkehr, C., Kassa, E., and Thober, J. (2021): Investigating environment-related migration processes in Ethiopia – A participatory Bayesian network. – In: *Ecosystems and People*, vol. 17 (1).
1. Groth, J., Ide, T., Sakdapolrak, P., Kassa, E. and **Hermans, K.** (2020): Deciphering interwoven drivers of environment-related migration – A multisite case study from the Ethiopian highlands. – In: *Global Environmental Change*, vol. 63.
2. Wiederkehr, C., Schröter, M., Adams, H., Seppelt, R. and **Hermans, K.** (2019): How does nature contribute to human mobility? A conceptual framework and qualitative analysis. – In: *Ecology and Society*, vol. 24 (4).
3. **Hermans, K.** and Garbe, L. (2019): Droughts, livelihoods and human migration in Northern Ethiopia. – In: *Regional Environmental Change*, vol. 19.
4. Schmook, B., Støen, M., Radel, C., Carte, L., **Hermans, K.**, Jokisch, B., Aldrich, S., and Zimmerer, K. (2019): Migration and displacement as features of land system transitions. – In: *Current Opinion in Environmental Sustainability*, vol. 38C, 103-110.
5. **Hermans, K.** and Ide, T. (2019): Advancing Research on Climate Change, Conflict and Migration. – In: *Die Erde*, vol. 150 (1).
6. Wiederkehr, C., Beckmann, M. and **Hermans, K.** (2018): Environmental change, adaptation strategies and the relevance of migration in Sub-Saharan drylands. – In: *Environmental Research Letters*, vol. 13(11).
7. Thober, J., Schwarz, N. and **Hermans, K.** (2018): Agent-based modeling of environment-migration linkages: A review. – In: *Ecology & Society*, vol. 23(2), 41.
8. Jaeger-Erben, M., Kramm, J., Sonnberger, M., Völker, C., Albert, C., Graf, A., **Hermans, K.**, Lange, S., Santarius, T., Schröter, B., Sievers-Glotzbach, S. and Winzer, J. (2018): Building Capacities for Transdisciplinary Research. – In: *GAIA*, vol. 27 (4), 379-386.
9. Doelman, J., Stehfest, E., Tabeau, A., Meijl, H.v., Lassaletta, L., Gernaat, D., **Hermans, K.**, Harmsen, M., Daioglou, V., Biemans, H., Sluis, S.v.d. and Vuuren, D.v. (2018): Exploring SSP land-use dynamics using the IMAGE model: Regional and gridded scenarios of land-use change and land-based climate change mitigation. – In: *Global Environmental Change*, vol. 48, 119–135.
10. Cord, A., Bartkowski, B., Beckmann, M., Dittrich, A., **Hermans-Neumann, K.**, Kaim, A., Lienhoop, N., Locher-Krause, K., Priess, J., Schröter-Schlaack, C., Schwarz, N., Seppelt, Sr., Strauch, M., Václavík, T., Volk, M. (2017): Towards systematic analyses of ecosystem service trade-offs and synergies: Main concepts, methods and the road ahead. – In: *Ecosystem Services*, vol. 28, part c, 264-272.
11. **Hermans-Neumann, K.**, Herold, M. and Priess J. (2017): Human migration, climate change, and land degradation: hotspots of socio-ecological pressure in Ethiopia. – In: *Regional Environmental Change*, vol. 17, 1479–1492.
12. Carter, S., Manceur, A., Seppelt, R., **Hermans-Neumann, K.**, Herold, M., and Verchot, L. (2017): Large scale land acquisitions and REDD+: a synthesis of conflicts and opportunities" – In: *Environmental Research Letters*, vol. 12.

13. **Neumann, K.** and Hermans, F. (2017): What drives human migration in Sahelian countries? A meta-analysis. – In: *Population, Space and Place*, vol. 23.
14. **Hermans-Neumann, K.**, Gerstner, K., Geijzendorffer, I., Herold, M., Seppelt, R. and Wunder, S. (2016): Why do forest products become less available? A pan-tropical comparison of drivers of forest-resource degradation. – In: *Environmental Research Letters*, vol. 11.
15. Berg, M.v.d., **Neumann, K.**, Vuuren, D.v., Bouwman, A.F., Kram, T. and Bakkes, J. (2016): Exploring resource efficiency for energy, land and phosphorus use: Implications for resource scarcity and the global environment. – In: *Global Environmental Change*, vol. 36, 21-34.
16. Carter, S., Herold, M., Rufino, M.C., **Neumann, K.**, Kooistra, L. and Verchot, L. (2015): Mitigation of agriculture-driven deforestation in the tropics: comparing land-sparing options at the national level. – In: *Biogeosciences*, vol. 12, 4809-4825.
17. **Neumann, K.** and Hilderink, H. (2015): Opportunities and challenges for investigating the environment-migration nexus. – In: *Human Ecology*, vol. 43, 309-322.
18. **Neumann, K.**, Sietz, D., Hilderink, H., Janssen, P, Kok, M. and van Dijk, H. (2015): Environmental drivers of human migration in drylands - A spatial picture. – In: *Applied Geography*, vol. 56, 116-126.
19. Frieler, K., Müller, C., Elliott, J., Heinke, J., Arneth, A., Bierkens, M.F.P., Ciais, P., Clark, D.B., Deryng, D., Doell, P., Falloon, P., Fekete, B., Folberth, C., Friend, A.D., Gellhorn, C., Gosling, S.N., Haddeland, I., Khabarov, N., Lomas, M., Masaki, Y., Nishina, K., **Neumann, K.**, Oki, T., Pavlick, R., Ruane, A.C., Schmid, E., Schmitz, C., Stacke, T., Stehfest, E., Tang, Q., Huber, V., Piontek, F., Warszawski, L., Schewe, J., Levermann, A., Lotze-Campen, H. and Schellnhuber, H.J. (2015): A framework for the cross-sectoral integration of multi-model impact projections: land use decisions under climate impacts uncertainties. – In: *Earth System Dynamics*, vol. 6, 447-460.
20. Rosenzweig, C., Elliott, J., Deryng, D., Ruane, A.C., Arneth, A., Boote, K.J., Folberth, C., Glotter, M., Müller, C., **Neumann, K.**, Piontek, F., Pugh, T., Schmid, E., Stehfest, E. and Jones, J.W. (2014): Assessing agricultural risks of climate change in the 21st century in a global gridded crop model intercomparison. – In: *Proceedings of the National Academy of Sciences (PNAS)*, vol. 111, 3268-3272.
21. Piontek, F., Müller, C., Pugh, T.A.M., Clark, D.B., Deryng, D., Elliott, J., Colón-González, F.J., Flörke, M., Folberth, C., Franssen, W., Frieler, K., Friend, A.D., Gosling, S.N., Hemming, D., Khabarov, N., Kim, H., Lomas, M.R., Masaki, Y., Mengel, M., Morse, A., **Neumann, K.**, Nishina, K., Ostberg, S., Pavlick, R., Ruane, A.C., Schewe, J., Schmid, E., Stacke, T., Tang, Q., Tessler, Z., Tompkins, A.M., Warszawski, L., Wisser, D. and Schellnhuber, H.J. (2014): Multisectoral climate impact hotspots in a warming world. – In: *Proceedings of the National Academy of Sciences (PNAS)*, vol. 111, 3233-3238.
22. **Neumann, K.**, Stehfest, E., Verburg, P.H., Siebert, S., Müller, C. and Veldkamp, T. (2011): Explaining the global irrigation pattern: A multilevel modeling approach. – In: *Agricultural Systems*, vol. 104, 703 -713.
23. Verburg, P.H., **Neumann, K.** and Nol, L. (2011): Challenges in using land use and land cover data for global change studies. – In: *Global Change Biology*, vol. 17, 974–989.
24. **Neumann, K.**, Verburg P.H., Elbersen, B.S., Stehfest, E. and Woltjer, G. (2010): Multi-scale scenarios of spatial-temporal dynamics in the European livestock sector. – In: *Agriculture, Ecosystems & Environment*, vol. 140, 88–101.
25. **Neumann, K.**, Verburg, P.H., Stehfest, E. and Müller, C. (2010): The yield gap of global grain production: A spatial analysis. – In: *Agricultural Systems*, vol. 103, 316–326.

26. **Neumann, K.**, Elbersen, B.S., Verburg P.H., Staritsky I., Perez-Soba, M., Vries, Wim de and Rienks, W.A. (2009): Modelling the spatial distribution of livestock in Europe. – In: *Landscape Ecology*, vol. 24, 1207–1222.
27. **Neumann, K.**, Herold, M., Hartley, A. and Schmullius, C. (2007): Comparative assessment of CORINE2000 and GLC2000: Spatial Analysis of Land Cover data for Europe. – In: *International Journal of Applied Earth Observation and Geoinformation*, vol. 9, 425–437.
28. Hese, S., Lucht, W., Schmullius, C., Barnsley, M., Dubayah, R., Knorr, D., **Neumann, K.**, Riedel, T. and Schröter, K. (2005): Global biomass mapping for an improved understanding of the CO₂ balance – the Earth observation mission Carbon-3D. – In: *Remote Sensing of Environment*, vol. 94, 94–104.
29. Meinel, G. and **Neumann, K.** (2003): Flächennutzungsentwicklung der Stadtregion Dresden seit 1790 – Methodik und Ergebnisse eines Langzeitmonitorings. – In: *Photogrammetrie – Fernerkundung – Geoinformation*, vol. 5, 409-422.

PhD thesis

- Neumann, K.** (2010): Explaining agricultural intensity at the European and global scale. Wageningen University

Other publications

1. Hunter, L., Brandi, C., Connell, J., **Hermans, K.**, Newig, J. und Stafford Smith, M. (2019): On the move: migration can contribute to sustainable economic development. Rethink, Stockholm Resilience Centre.
2. Modelling contributions to: OECD (2012): OECD Environmental Outlook to 2050. OECD Publishing, Paris, France.
3. Kram, T., **Neumann, K.**, Berg, M. v.d. und Bakkes, J. (2012): Global integrated assessment to support EU future environment policies (GLIMP). PBL policy study, Bilthoven (the Netherlands).
4. Berg, M. v.d., Bakkes, J., Bouwman, A.F., Jeuken, M., Kram, T., **Neumann, K.** und Vuuren, D.v. (2011): EU Resource efficiency perspectives in a global context. PBL policy study, Bilthoven (the Netherlands).
5. Herold M., **Neumann, K.** und Schmullius, C. (2004): Report on the Land Cover Implementation Team Meeting, Jena, Germany, 2–4 March 2004, GOF-C-GOLD report series 18.

CONFERENCES AND WORKSHOPS (SELECTION)

Organized workshops and conference sessions

Webinar

Workshop 'Place-based socio-ecological research in times of COVID-19'. Online event hosted at UFZ Leipzig (Germany)

The effect of environmental change on rural livelihoods and migration in South Wollo. Stakeholder Workshop, 18-19 Mar 2019, Dessie (Ethiopia)

Opportunities and challenges for transferability methods in the field of climate-migration studies. Impacts World 2017 Conference, 11-13 Oct 2017, Potsdam (Germany)

Doing transdisciplinary research? Addressing challenges faced by early career researchers. International Transdisciplinarity Conference 2017, 10-14 Sep 2017, Lüneburg (Germany)

Invited presentations

Socio-ecological systems in the context of natural resource dynamics and human migration. Colloquium at the Karlsruhe Institute of Technology (KIT), 10 Jan 2019, Garmisch-Partenkirchen (Germany)

Global climate change, land degradation and local livelihoods: hotspots of socio-ecological pressure in Ethiopia. Global Land Programme 3rd Open Science Meeting, 24-17 Oct 2016, Beijing China

Analysing the spatial dimension in human-environmental research. Colloquium at the Department Computational Landscape Ecology (UFZ), Leipzig, Nov 2012

Identifying the agricultural yield gap in the tropics. Impacts of Global Change on Tropical Ecosystems - cross-cutting the Abiotic, Biotic and Human Spheres Conference, 27-30 Jul 2009, Marburg (Germany)

Identifying the agricultural yield gap and modeling agricultural land use systems. Colloquium at the Institute of Crop Science and Resource Conservation (INRES), Bonn University, 21-22 Jul 2009, Bonn (Germany)

Presentations at international conferences and workshops

Climate change and its unequal migration responses in the Ethiopian highlands. Conference on Migration, Environment and Climate: What risk inequalities? 22-23 Oktober 2018, Paris, Frankreich.

Why do forest products become less available? IUFRO Landscape Ecology Working Party Conference, 24-29 September 2017, Halle an der Saale.

Exploring the role of droughts in human migration in Ethiopia. A case study in South Wollo, northern Ethiopia. Development Research Conference, 22-24 August 2016, Stockholm, Schweden.

The spatial dimension in socio-ecological research: A regional to global scale perspective. BACI Workshop Remote sensing applications related to land use/-change, 9-11 November 2015, Wien, Österreich.

Environmental drivers of human migration in drylands – A spatial picture. International Geoscience and Remote Sensing Symposium 2015 (IGARSS 2015), 26-31 Juli 2015, Mailand, Italien.

What drives human migration in the Sahelian countries? A meta-analysis. COST Workshop Empirical evidence and policy responses regarding climate change and migration – What role for migration in local adaptation?, 13-14 März 2014, Bonn.

A spatial picture of environmental drivers of human migration in drylands. ESF Research Conference on Tracing Social Inequalities in Environmentally-Induced Migration, 9-13 Dezember 2012, Bielefeld.

MEDIA COVERAGE

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|------|--|
| 2019 | TV MDR Aktuell about the release of the IPCC Special Report SRCCL |
| 2019 | NDR Info Radiointerview about the release of the IPCC Special Report SRCCL |
| 2019 | Zeit.de article about the key messages of the IPCC Special Report SRCCL |
| 2017 | NDR Info Podcast ‚So funktioniert gutes Landschaftsmanagement‘ |

2017 UFZ Press release ‚Forest degradation in the tropics‘

SUPERVISION OF STUDENTS

Master theses

- Hanna Friedrich (2021), Martin-Luther University Halle-Wittenberg (Germany)
- Lena Hubertus (2020), Martin-Luther University Halle-Wittenberg (Germany)
- Lisa Garbe (2016), Leipzig University, Centre for Area Studies (Germany)
- Samantha Martin del Campo Munoz (2016), Wageningen University (Netherlands)
- Tei Overgoor (2015), Wageningen University (Netherlands)

PhD theses

- Charlotte Wiederkehr (submitted 04/2021), Martin-Luther University Halle (Germany)
Title: The environment-migration nexus: Transferring knowledge from local to global scale
- Juliane Groth (since 2017), Martin-Luther University Halle (Germany)
Topic: Environmental change and rural migration in Ethiopia

MEMBERSHIP OF RESEARCH NETWORKS

- Global Land Programme (GLP)
- Program on Ecosystem Change and Society (PECS)

LANGUAGES

German (native), English (full proficiency), Dutch (full proficiency)

May 2021