

## PIK's TeSS Working Group publications 2020

1. Beringer, T., Kulak, M., Müller, C., **Schaphoff, S., Jans, Y.** 2020: First process-based simulations of climate change impacts on global tea production indicate large effects in the World's major producer countries. *Environ. Res. Lett.* 15, 034023.
2. Do, H.X., Zhao, F., Westra, S., ..., **Gerten, D.** et al. 2020: Historical and future changes in global flood magnitude – evidence from a model–observation investigation. *Hydrol. Earth Syst. Sci.* 24, 1543–1564.
3. Folke, C., Polasky, S., Rockström J., ..., **Hoff, H.** et al. 2020: *Our future in the Anthropocene Biosphere: Global Sustainability and Resilient Societies.* Beijer Discussion Paper Series No 272.
4. Gädeke, A., Krysanova, V., Aryal, A., ..., **Schaphoff, S.** et al. 2020: Performance evaluation of global hydrological models in six large Pan-Arctic watersheds. *Clim. Change* 163, 1329–1351
5. **Gerten, D.** 2020 (2<sup>nd</sup> ed.): *Wasser – Knappheit, Klimawandel, Welternährung.* C.H.Beck.
6. **Gerten, D.** 2020: What is the anthropogenic contribution to climate change and to transgressing other planetary boundaries? In: Lumberras, J. (Ed.), *Climate Change – Scientific Bases and Questions for Debate.* Naturgy Foundation, 44–51.
7. **Gerten, D.** 2020: Planetare Umweltgrenzen: naturwissenschaftliche Grundprinzipien. In: Panschar, M. et al. (Eds.): *Zukunftsmodell: Nachhaltiges Wirtschaften*, 63–78. wbv Media.
8. **Gerten, D., Heck, V., Jägermeyr, J.** et al. 2020: Feeding ten billion people is possible within four terrestrial planetary boundaries. *Nature Sust.* 3, 200–208.
9. Gleeson, T., Wang-Erlandsson, L., Zipper, S.C., ..., **Gerten, D.** et al. 2020: The water planetary boundary: evaluation and revision. *One Earth* 2, 223–234.
10. Gleeson, T., Erlandsson, L.W., Porkka, M., ..., **Gerten, D.** et al. 2020: Illuminating water cycle modifications and Earth System resilience in the Anthropocene. *Water Resour. Res.* 56, e2019WR024957.
11. Guillaume, J.H.A., Sojamo, S., Porkka, M., **Gerten, D.** et al. 2020: Giving legs to handprint thinking: foundations for evaluating the good we do. *Earth's Fut.* 8, e2019EF001422.
12. Heinke, J., Lannerstad, M., **Gerten, D.** , ..., **Hoff, H.**, Müller, C. 2020: Water use in global livestock production – opportunities and constraints for increasing water productivity. *Water Resour. Res.* 56, e2019WR026995.
13. Keppner, B., Kahlenborn, W., **Hoff, H., Lucht, W., Gerten D.** 2020: Planetary Boundaries: Challenges for Science, Civil Society and Politics. Umweltbundesamt, Texte 183/2020.
14. Krysanova, V., Zaherpour, J., Didovets, I., Gosling, S., **Gerten, D.** et al. 2020: How evaluation of global hydrological models can help to obtain more credible projections of river discharge under climate change. *Clim. Change* 163, 1353–1377.
15. Lade, S., Steffen, W., de Vries, W., ..., **Gerten, D., Hoff, H.** et al. 2020: Human impacts on planetary boundaries amplified by Earth system interactions. *Nature Sust.* 3, 119–128.
16. Lange, S., Volkholz, J., Geiger, T., ..., **Gerten, D.** et al. 2020: Projecting exposure to extreme climate impact events across six event categories and three spatial scales. *Earth's Fut.* 8, e2020EF001616.
17. Pan, S., Yang, J., Tian, H., ..., **Schaphoff, S.** et al. 2020: Climate extreme versus carbon extreme: Responses of terrestrial carbon fluxes to temperature and precipitation. *J. Geophys. Res. Biogeosci.* 125, e2019JG005252.
18. **Andersen, L.S.,** Gaffney O., Lamb W., **Hoff H.,** Wood A. 2020: *A Safe Operating Space for New Zealand/Aotearoa – Translating the Planetary Boundaries Framework.* Report to the NZ Ministry of Environment.

19. **Stenzel, F., Gerten, D.**, Hanasaki, N. 2020: Global scenarios of irrigation water use for bioenergy production: a systematic review. *Hydrol. Earth Syst. Sci. Discuss.*
20. Telteu, C.-E., Müller Schmied, H., Thiery, W., ..., **Seaby Andersen, L.** et al. 2020: Understanding each other's models: a standard representation of global water models to support improvement, intercomparison, and communication. *Geosci. Model Dev. Discuss.*, preprint.
21. Vidal, A., **Hoff H.**, Lade S., Rockström J. 2020: *COVID-19: A dashboard to rebuild with nature*. World Business Council on Sustainable Development, Geneva.
22. Xu, W., Chang, J., Ciais, P., ..., **Schaphoff, S.**, Hickler T. 2020: Reducing uncertainties of future global soil carbon responses to climate and land use change with emergent constraints. *Global Biogeochem. Cy.*, 34, e2020GB006589.
23. Zipper, S., Jaramillo, F., Wang-Erlandsson, L., ..., **Gerten, D., Hoff, H.** et al. 2020: Integrating the water planetary boundary with water management from local to global scales. *Earth's Fut.* 8, e2019EF001377.