

Portland State University

PDXScholar

Environmental Science and Management
Faculty Publications and Presentations

Environmental Science and Management

3-2024

Editorial: Innovating a new knowledge base for water justice studies: hydrosocial, sociohydrology, and beyond

Melissa Haeffner

Portland State University, melissahaeffner@pdx.edu

Jenia Mukherjee

Indian Institute of Technology Kharagpur

Rebecca Lave

Indiana University, Bloomington

Jamie Linton

University of Limoges, Limoges

John Ndiritu

University of the Witwatersrand, Johannesburg

Follow this and additional works at: https://pdxscholar.library.pdx.edu/esm_fac



Part of the [Environmental Sciences Commons](#)

Let us know how access to this document benefits you.

Citation Details

Haeffner, M., Lave, R., Linton, J., Mukherjee, J., Ndiritu, J., Pacheco-Vega, R., ... & Zwarteveen, M. (2024). Innovating a new knowledge base for water justice studies: hydrosocial, sociohydrology, and beyond. *Frontiers in Water*, 6, 1389030.

This Article is brought to you for free and open access. It has been accepted for inclusion in Environmental Science and Management Faculty Publications and Presentations by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.

Authors

Melissa Haeffner, Jenia Mukherjee, Rebecca Lave, Jamie Linton, John Ndiritu, Raul Pacheco-Vega, Maria Ruska, and Margreet Zwarteveen



OPEN ACCESS

EDITED AND REVIEWED BY
Saket Pande,
Delft University of Technology, Netherlands

*CORRESPONDENCE
Melissa Haeffner
✉ melh32@pdx.edu

RECEIVED 20 February 2024
ACCEPTED 22 February 2024
PUBLISHED 05 March 2024

CITATION
Haeffner M, Lave R, Linton J, Mukherjee J,
Ndiritu J, Pacheco-Vega R, Rusca M and
Zwarteveen M (2024) Editorial: Innovating a
new knowledge base for water justice studies:
hydrosocial, sociohydrology, and beyond.
Front. Water 6:1389030.
doi: 10.3389/frwa.2024.1389030

COPYRIGHT
© 2024 Haeffner, Lave, Linton, Mukherjee,
Ndiritu, Pacheco-Vega, Rusca and
Zwarteveen. This is an open-access article
distributed under the terms of the [Creative
Commons Attribution License \(CC BY\)](#). The
use, distribution or reproduction in other
forums is permitted, provided the original
author(s) and the copyright owner(s) are
credited and that the original publication in
this journal is cited, in accordance with
accepted academic practice. No use,
distribution or reproduction is permitted
which does not comply with these terms.

Editorial: Innovating a new knowledge base for water justice studies: hydrosocial, sociohydrology, and beyond

Melissa Haeffner^{1*}, Rebecca Lave², Jamie Linton³,
Jenia Mukherjee⁴, John Ndiritu⁵, Raul Pacheco-Vega⁶,
Maria Rusca⁷ and Margreet Zwarteveen⁸

¹Department of Environmental Science and Management, Portland State University, Portland, OR, United States, ²Social Sciences and History, Indiana University, Bloomington, IN, United States, ³Géolab, University of Limoges, Limoges, France, ⁴Department of Humanities and Social Sciences, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India, ⁵School of Civil and Environmental Engineering, University of the Witwatersrand, Johannesburg, South Africa, ⁶Methods Lab, Facultad Latinoamericana de Ciencias Sociales (FLACSO) Sede, Ciudad de México, Mexico, ⁷Global Development Institute, University of Manchester, Manchester, United Kingdom, ⁸Department of Water Governance, Institute of Higher Education (IHE) Delft Institute for Water Education, Delft, Netherlands

KEYWORDS

water justice, hydrosocial, sociohydrology, care, naturecultures, research praxis

Editorial on the Research Topic

[Innovating a new knowledge base for water justice studies: hydrosocial, sociohydrology, and beyond](#)

Introduction

Creating a new knowledge base that centers water justice (Zwarteveen and Boelens, 2014; Sultana, 2018; Wölflé-Hazard, 2022) in hydrosocial and sociohydrology studies involves a broader discussion about why justice matters, how to work toward this goal, and what the implications for research praxis are. The articles in this Research Topic approach different angles of water justice: as law (Fernández and Alba), a social movement (Dame et al.), practice (Pool et al.; Reeves and Bonney), cases of injustice (Caretta et al.), and theory (Krueger and Alba). From this Research Topic, we find that the interrelated concepts of *naturecultures* and *care* can be mobilized to create fruitful collaborations between critical social scientists and sociohydrologists.

Why water justice matters: recognizing many naturecultures

Interests in water justice are emerging from hydrologists attentive to better including the social in their work (Sivapalan et al., 2012) and social scientists who conceptualize water as both social and natural (Swyngedouw, 1999; Baviskar, 2007; Bakker, 2010; Linton and Budds, 2014; Boelens et al., 2016). Grappling with ways to recognize that nature and culture are always entangled, Haraway's term *naturecultures* (Haraway, 2008) is useful. Rather than stemming from distinct cultural beliefs or valuations attaching themselves

to a same natural “out-there,” naturecultures recognize that differences between places stem from specific and local ways of doing, practicing, and knowing (Haraway, 2008; Linton, 2019, 2022). Without one same nature, there also is no longer one true water. More waters are possible, and the question of which one is best or truest is always social.

In this Research Topic, Fernández and Alba show with the example of lithium mining in the Andean salt flats of Chile how capitalistic corporations foreground an analysis that differs from that of Indigenous peoples. Corporations argue that residual brine from mining should be considered a mineral since brine is not potable for human consumption (i.e., brine does not benefit culture). Some Indigenous groups instead argue that the brine can seep into aquifers and affect their communities (i.e., brine cannot be separated from nature or culture). Brine as mineral—as it is currently defined—provides corporations with legal backing and de-legitimizes Indigenous claims on water and land. Which worldview(s) is/are adopted has real implications for people and the environment.

In the Upper Huasco Valley of Chile, Dame et al. explore how water justice activists mobilize another definition of water than corporations. Their accusations that corporations “killed” glaciers enact water as more-than-hydrological, and, indeed, as mortal. Responses to water contaminated by mining underscore how different ways of defining and knowing water are entangled with different ways in which people relate to water. Both corporations’ and Indigenous peoples’ definitions of water foreground their specific relations with it: as a source of profitmaking, or as a neighbor to be respected. A new knowledge base for water justice needs to embrace the existence of different knowledges while recognizing where they originate and which/whose interests and worldviews they endorse.

Working toward water justice by mobilizing care

Engaging with water justice not only entails exposing injustices, but also creating the conceptual and political space for solidarity, compassion, concern, and the desire to share and live well together with human and more-than-human others. Mobilizing languages of care provides positive inspiration for ways of using, managing, and governing nature/the environment in more relational, connected, intimate, and grounded/terrestrial (Latour, 2018) ways.

Pool et al. use care in a research collaboration with the Akiak Native Community (ANC) in Alaska, USA, to center Tribal sovereignty and self-determination in developing a rainwater harvesting system. Care was taken to ensure the cultural appropriateness of the solution—for example, reconnecting with intergenerational ways of gathering water and safeguarding individual access from physical or political barriers. ANC directed the project while non-ANC researchers adjusted to *their* culture and norms. After all, caring requires more than well-wishing; it requires getting involved in some concrete way (van Dooren, 2014; Puig de la Bellacasa, 2017).

Reeves and Bonney embed water justice into the research process through their work with rural coastal communities in East

Gippsland, Australia. Their project, Living Bung Yarnda, engaged scientists, environmentalists, government agencies, and Traditional Owners Groups around a shared justice vision of personhood to advocate on behalf of the waterway and those who live there. Participants offered deep knowledge that might not be recognized in traditional academic science—lake measurements, fire response, archives, plant species, and more. Water justice, in this instance, goes beyond materialities to a practice of care and stewardship.

Water justice implications for research praxis

Caretta et al. established a new research praxis between human geographers and hydrologists observing flood impacts in West Virginia, USA. Hydrologists analyzed weather, terrain, and land cover data, while human geographers collected interview data. Integrating the datasets, they found that infrastructure and disaster response resources were prioritized for economically rich communities while neglecting underinvested communities. The model they developed together integrates social and hydrological variables to explore both generalizable and expansionist approaches to floods that can reveal injustice in water systems.

The above shows how collaborations between natural and social scientists can contribute to developing hydrological models that are more attuned to questions of power and justice (Rusca et al., 2023). Moreover, addressing questions of justice in models is not only an ethical matter but also one that determines a model’s reliability and explanatory power. For Krueger and Alba in this Research Topic, recognizing that modelers’ decisions are not neutral, are situated in a specific moment in history, and are shaped by the modelers’ positionality can allow hydrologists and social scientists to collaborate more meaningfully. Without *a priori* judgments about which knowledges or technologies are best, differences between them can be celebrated to enrich thinking, improving the ability to face new problems and adapt to new situations. The implication is that different worlds or realities can co-exist without the need to map them onto familiar and often hierarchical binaries—such as those between margin or center, or indeed nature and culture.

This importantly entails challenging the hegemony and universality of “modern” water—the “natural” water that forms the basis of hydrology that tends to serve dominant interests. Recognizing that modern water is just one possible version paves the way for acknowledging and legitimizing other waters, including those based on subaltern experiences or anchored in Indigenous wisdoms (Linton, 2010; Yates et al., 2017; Zwartveen et al., 2017). Actively making space for the pluralization of waters, and of water knowledges, is, therefore, an essential pathway to water justice. It comes with the *careful* crafting of new relations of accountability between hydrologists, social scientists, and those whose realities they intervene in.

Author contributions

MH: Writing—original draft, Writing—review & editing. RL: Writing—original draft, Writing—review & editing. JL:

Writing—original draft, Writing—review & editing. JM: Writing—original draft, Writing—review & editing. JN: Writing—original draft, Writing—review & editing. RP-V: Writing—original draft, Writing—review & editing. MR: Writing—original draft, Writing—review & editing. MZ: Writing—original draft, Writing—review & editing.

Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

Acknowledgments

We would like to thank the authors of the Research Topic articles and the peer reviewers. We are deeply grateful to the 1st Sociohydrology Conference Delft 2021 for organizing this Research Topic.

References

- Bakker, K. (2010). The limits of “neoliberal natures”: Debating green neoliberalism. *Progr. Hum. Geogr.* 34, 715–735. doi: 10.1177/0309132510376849
- Baviskar, A. (2007). *Waterscapes: The Cultural Politics of a Natural Resource*. Delhi: Permanent Black.
- Boelens, R., Hoogesteger, J., Swyngedouw, E., Vos, J., and Wester, P. (2016). Hydrosocial territories: a political ecology perspective. *Water Int.* 41, 1–14. doi: 10.1080/02508060.2016.1134898
- Haraway, D. (2008). *Companion Species, Mis-recognition, and Queer Worlding. Queering the Non/human*, xxiii–xxxvi. Chicago, IL: Prickly Paradigm Press.
- Latour, B. (2018). *Down to Earth: Politics in the New Climatic Regime*. Hoboken, NJ: John Wiley & Sons.
- Linton, J. (2010). *What Is Water? The History of a Modern Abstraction*. Vancouver, BC: UBC Press.
- Linton, J. (2019). “The right to bring waters into being,” in *Water Politics Governance, Justice and the Right to Water*, eds. F. Sultana and A. Loftus (London: Routledge), 54–67.
- Linton, J. (2022). Waters in the plural: approaches and opportunities for more grounded research and management. *Geocarrefour* 96:19295. doi: 10.4000/geocarrefour.19295
- Linton, J., and Budds, J. (2014). The hydrosocial cycle: defining and mobilizing a relational-dialectical approach to water. *Geoforum* 57, 170–180. doi: 10.1016/j.geoforum.2013.10.008
- Puig de la Bellacasa, M. P. (2017). *Matters of Care: Speculative Ethics in More Than Human Worlds, Vol. 41*. Minneapolis, MN: U of Minnesota Press.
- Rusca, M., Mazzoleni, M., Barcena, A., Savelli, E., and Messori, G. (2023). Speculative political ecologies:(re) imagining urban futures of climate extremes. *J. Polit. Ecol.* 30.
- Sivapalan, M., Savenije, H. H., and Blöschl, G. (2012). Socio-hydrology: a new science of people and water. *Hydrol. Process.* 26, 1270–1276. doi: 10.1002/hyp.8426
- Sultana, F. (2018). Water justice: why it matters and how to achieve it. *Water Int.* 43, 1–11. doi: 10.1080/02508060.2018.1458272
- Swyngedouw, E. (1999). Modernity and hybridity: nature, regeneracionismo, and the production of the Spanish waterscape, 1890–1930. *Ann. Assoc. Am. Geogr.* 89, 443–465. doi: 10.1111/0004-5608.00157
- van Dooren, T. (2014). Care. *Environ. Human.* 5, 291–294. doi: 10.1215/22011919-3615541
- Wölfe-Hazard, C. (2022). *Underflows: Queer Trans Ecologies and River Justice*. Seattle, WA: University of Washington Press.
- Yates, J. S., Harris, L. M., and Wilson, N. J. (2017). Multiple ontologies of water: politics, conflict and implications for governance. *Environ. Plan. D Soc. Space* 35, 797–815. doi: 10.1177/0263775817700395
- Zwarteveen, M., Kemerink-Seyoum, J. S., Kooy, M., Evers, J., Guerrero, T. A., Batubara, B., et al. (2017). Engaging with the politics of water governance. *Wiley Interdiscipl. Rev.* 4:e1245. doi: 10.1002/wat2.1245
- Zwarteveen, M. Z., and Boelens, R. (2014). Defining, researching and struggling for water justice: some conceptual building blocks for research and action. *Water Int.* 39, 143–158. doi: 10.1080/02508060.2014.891168

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher’s note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.