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HESS Opinions "Urgent water challenges are not sufficiently researched"

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Abstract. In this opinion paper we submit that water experts conduct comparatively little research on the more urgent challenges facing the global community. Five specific biases are identified. First, research in the field of water and sanitation is heavily biased against sanitation. Second, research on food security is biased in favour of conventional irrigation and fails to address the problems and opportunities of rainfed agriculture. Third, insufficient water research is dedicated to developmental compared to environmental issues. Fourth, too little research is conducted on adaptation to climate change by developing countries. And finally, research on water governance has a fascination for conflict but too little eye for cooperation and meeting basic needs. This paper illustrates these biases with bibliometric indicators extracted from the ISI Web of Science. There is a stark mismatch between the global demand for knowledge and the supply of it. This mismatch is identified here as a problem that water scientists must confront and resolve. We still lack a full understanding why this divergence between demand and supply occurs and persists; an understanding that is required to guide us towards aligning our research priorities to societal demands. The paper, however, makes some inferences. On the one hand, we should promote the global South to create its own research biases and allow it to develop alternative solutions. Simultaneously we would benefit from critical examination of our own research practice. Although this paper addresses a critical challenge it does not aim to be exhaustive or definitive. We merely identify the persistence of intransigent water problems as a valid research object in itself.

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