

# Improving the evidence: Scientists review quantitative climate migration literature

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Quantitative empirical studies exploring how climatic and other environmental drivers influence migration are increasing year by year. PIK scientists have now reviewed methodological approaches used in the

quantitative climate migration literature. Their review plays an important role when it comes to assessing how climatic factors influence human migration, and provides guidance to researchers studying climate migration.

"Research methods shape our understanding of climate migration. We reviewed almost 130 [empirical studies](#) on climate migration from a methodological perspective, identified challenges and finally provided methodological recommendations based on the state-of-the-art approaches on how to study the climate migration association," explains PIK scientist Barbora Sedova, who conducted the study together with Kira Vinke and Roman Hoffmann.

While the majority of studies agree that [climatic conditions](#) are important for migration, their results vary substantially. This makes it challenging to establish when and under which conditions climate migration occurs. One reason for the heterogeneity of the findings is, according to the study authors, differences in the empirical approaches employed in the analyses.

The scientists provide an overview of common methodological approaches and present evidence on their potential implications for the estimation of climatic impacts. They also identify five key challenges, which relate to the measurement of migration and climatic events, the integration and aggregation of data, the identification of causal relationships, and the exploration of contextual influences and mechanisms.

Finally, the review has also important implications for policymakers and practitioners working on climate migration. Barbora Sedova underlines, "By highlighting the manifold challenges that exist, we want to make users aware of too simplistic interpretations of findings as well as conclusions. The relationships underlying climate-migration are

complex, and—as our meta-analyses show—driven by a range of factors. As the threats of climate change to local livelihoods are getting increasingly severe, more solution- and policy-oriented research is needed, involving different stakeholders, including researchers from the Global South and representatives of communities directly affected by climate change."

**More information:** Roman Hoffmann et al, Improving the evidence base: A methodological review of the quantitative climate migration literature, *Global Environmental Change* (2021). [DOI: 10.1016/j.gloenvcha.2021.102367](https://doi.org/10.1016/j.gloenvcha.2021.102367)

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