

**ORL-C&E-07****Assessing Climate Impacts and Adaptations in Inland Aquatic Food Systems: A Systematic Review**

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Climate change presents a serious global emergency that endangers human life, wellbeing, and global food systems. There is a growing body of research that shows the magnitude of climate change impacts on fisheries and aquaculture. Beyond these direct effects, climate change also interacts with multiple other drivers, which are complex and multifaceted. This study reviews literature on climate change in inland fisheries and aquaculture, focusing on the core relationships between hazards, impacts, and adaptations. We used a systematic approach to search and select peer-reviewed articles in English language on climate change in inland fisheries and aquaculture. From an initial pool of 3,206 papers identified through keyword searches, we narrowed it down to 425 for full-text review after exclusions. We then developed a tagging system and codebook through an iterative process. Zotero was used for tagging and STATA for exporting and counting the tags. We also did a qualitative analysis of text within those tags to identify causal scenarios between climate hazards, impacts, and adaptations in these systems. The analysis was done with particular attention to the differences between the Global North and Global South.

The reviewed literature identified 19 climate hazards, categorized broadly into trends (changing air temperature, changing variability in precipitation, etc.) and events (flood, drought, etc.), 19 impacts (low catch, yield, changing species abundance etc.), and 25 adaptation measures (government support, modifying fisheries management, etc.). Overall, our findings indicate that the literature on the Global South documents more climate hazards than the literature on Global North. Research from the Global North often focuses on ecological impacts, while research from the Global South emphasizes social impacts. The difference in response to climate change is perhaps the most extreme, as the types of adaptations discussed in the literature are more diverse in the Global South than the Global North. Studies of different waterbodies, species, and fisheries varied by region, reflecting the unique geographic, social, political, and economic contexts of each region. For instance, lacustrine systems (lakes, reservoirs, and ponds) were more frequently found in papers about the Global South (112) while fluvial systems (rivers, streams, and estuaries) were somewhat more common in papers about the Global North (120). Similarly, capture fisheries were more commonly discussed in literature in the Global South compared to the Global North (111 articles compared to 63 articles, respectively).

Thus, this study proposes a framework for understanding the interaction between climate change and aquatic food systems that is designed to align future research with contemporary climate change scholarship rooted in socio-ecological systems thinking.