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Hörsaal Fahnenbergplatz, Friedrichstr. 39

Dr. Benjamin Kraemer

Universität Freiburg, Professur für Umwelthydrosysteme



Warming waters, shifting life: how climate change reshapes lake dynamics

Climate change is driving significant and complex transformations in lakes. These include the loss of ice cover, changing water storage, warmer surface temperatures, and disrupted mixing patterns. However, these physical changes do not occur in isolation - they interact in intricate ways, making it difficult to predict how lake ecosystems will respond. My research focuses on understanding these interconnected impacts on lakes and the communities they sustain. By combining diverse data sources and modeling techniques, I aim to capture the full extent of lake responses over time and space. This work has revealed global shifts in lake habitats, water quality, and dissolved oxygen levels due to climate change. Moving forward, my research prioritizes two key areas: (1) capturing the three-dimensional hydrodynamic responses of lakes, and (2) linking these physical changes with other environmental factors, such as landscape alterations and introduced species. Addressing these priorities will improve our understanding of lake ecosystems and enhance our ability to predict their future in a warming world.