

The **Environment Modeling Group** is seeking a motivated master student (m/f/d) with a flexible starting date from 01.06.2024 for a master thesis focusing on water reservoir greenhouse gas fluxes.

Project description:

Lentic ecosystems, such as water reservoirs, are significant contributors to atmospheric methane (CH₄), a potent greenhouse gas with a warming potential much higher than that of carbon dioxide (CO₂). However, the spatial and temporal variability in CH₄ and CO₂ emissions, along with the limited understanding of the underlying mechanisms driving water fluxes, and the scarcity of field-based observational data, make it challenging to accurately estimate regional and global CH₄ and CO₂ budgets. Given the rapidly increasing number of global dammed reservoirs due to rising energy and water demands, it is imperative to improve our understanding of the mechanisms driving reservoir CH₄ and CO₂ emissions and the contribution of reservoir fluxes to the global GHG budget. The project is jointly performed with the **Climate Monitoring Group** of the Faculty of Mathematics and Natural Sciences and therefore the thesis will also be supervised by Prof. Leonie Esters.



[Rur Dam - en.wikipedia.org/wiki/Rur_Dam](https://en.wikipedia.org/wiki/Rur_Dam)



[Katrin Premke: Methods - flux chambers](#)



[Licor Li7810: licor.com](https://licor.com)

Your tasks and responsibilities for this project include:

- Conduct field measurements of CH₄ and CO₂ on the Rur reservoir using floating chambers
- Collect water samples in the field and perform laboratory analysis on the collected samples
- Analyze the collected data and write your thesis based on the findings

Your Profile:

- Master's student at the Faculty of Agriculture
- Enjoy field and laboratory work, and capable of organizing yourself independently
- Willingness to regularly go on a boat and to row in the Rur reservoir
- Motivated and curious to learn new techniques and contribute to greenhouse gas research
- Basic knowledge in R is strongly recommended.

Interested candidates should contact **Dr. Najeeb Iddris** at niddris@uni-bonn.de for further information