

Breathing Nature – Connecting biodiversity, climate and human behaviour

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Project title: Breathing Nature – Connecting biodiversity, climate and human behaviour

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Project overview

The research program "Breathing Nature" (<https://www.uni-leipzig.de/forschung/exzellenz-in-der-forschung/breathing-nature>) aims to explore the intricate links between biodiversity, climate change, and human behavior. It addresses the urgent global challenges of biodiversity loss and climate change, which are often studied separately, thus limiting effective political response and integrated solutions. The term "Breathing Nature" symbolizes the dynamic exchanges of energy and materials between the Earth's biosphere and atmosphere, highlighting how these natural processes are affected by human actions. The program is structured into three interconnected parts:

Connectivity: This area focuses on identifying and understanding the mechanisms that link biodiversity and climate change with human behavior. It involves developing models to measure these interactions.

Agency and Responsibility: This research area examines the influence humans have on biodiversity and climate change and explores their capacity to enact changes at individual, group, and market levels.

Alternative Futures: This final research area is dedicated to envisioning and modeling different future scenarios that integrate atmospheric, ecological, and socioeconomic factors to create sustainable pathways for both humanity and the planet.

Overall, "Breathing Nature" seeks to bridge the gaps in our understanding of these global issues and foster solutions that integrate ecological, atmospheric, and human factors.

The Breathing Nature consortium consists of in total 25 PIs from Leipzig University, Jena University and its non-university partners (Max Planck Institute for Biogeochemistry (MPI-BGC), Helmholtz Center of Environmental Research (UFZ), Leibniz Institute for Tropospheric Research (TROPOS), and the Halle Institute for Economics (IWH)). The consortium was successful in the pre-proposal phase for a DFG Cluster of Excellence (<https://www.dfg.de/en/research-funding/funding-initiative/excellence-strategy/programme-exc-exu#exc>), and a full proposal is currently prepared. Moreover, we have also received funding from the Saxonian Ministry for Science, Culture and Tourism (SMWK) to kickstart several Breathing Nature projects, and within this context we are requesting resources from DKRZ for targeted climate model simulations that are specified below.