



CESAB

CENTRE FOR THE SYNTHESIS AND ANALYSIS OF BIODIVERSITY

FOOD-WEBS

Food-webs in the Anthropocene: a stable isotope synthesis to understand the global response of freshwater ecosystems

PRINCIPAL INVESTIGATORS:

Julien CUCHEROUSSET - CNRS (FR) / **Michelle JACKSON** - University of Oxford (UK)

POST-DOC:

Chloé VAGNON

START AND FINISH:

2023-2026



PARTICIPANTS :

Stéphanie BOULETREAU - Université Paul Sabatier - Toulouse III (FR) / **Rosalie BRUEL** - OFB (FR) / **Simone DES ROCHES** - University of Washington (US) / **Chris HARROD** - Universidad de Antofagasta (CL) / **Brian HAYDEN** - University of New Brunswick (CA) / **David HOEINGHAUS** - University of North Texas (US) / **Tim JARDINE** - University of Saskatchewan (CA) / **Angus MCINTOSH** - University of Canterbury (NZ) / **Julian OLDEN** - University of Washington (US) / **Marie-Elodie PERGA** - University of Lausanne (CH) / **Elisa THEBAULT** - CNRS (FR) / **Eugenia ZANDONÀ** - Rio de Janeiro State University (BR)

Global environmental change is fundamentally reshaping biological diversity, impacting the functioning of ecosystems and disrupting key ecosystem services provided to humans. Food-web ecology provides a unique opportunity to better understand the effects of global change on ecosystems. **To this day, studies comparing foodwebs at large spatial and temporal scales are limited by the fact they rely on estimates of trophic links arising from models.**

The project will study foodwebs by bringing together numerous data from isotope analyses at the global scale. **This approach will shed light on how biodiversity and ecosystems respond to global changes.** Isotope data will be used to i) investigate the patterns and drivers of food-web structures at broader spatial scales, ii) determine the importance of intraspecific variability in food-webs and iii) understand how energy transfer efficiency is affected by global changes.

To this end, several aspects of biodiversity will be studied (taxonomic, functional and phylogenetic) to **develop metrics assessing ecosystem health** that will be based on isotope properties in the food-webs.

CESAB
CESAB (CEntre for the Synthesis and Analysis of Biodiversity) is FRB's flagship program and an internationally renowned research center whose objective is to implement innovative work to synthesize and analyze existing data sets in biodiversity research.

