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Bachelor thesis project at FiBL & University of Basel

Title	**Quantification of landscape change in agriculture over 30 last years**

Background

Insects, and arthropods in general, play a key role in the food chain and are consequently essential for agriculture as providing ecosystem services such as biocontrol or pollination. Disturbingly, recent reports highlight long-term insects decline in abundance and diversity. Management and intensification of agriculture is asserted to be one of its main drivers, along with habitat loss (e.g., urbanization) and more generally land use change, or climate change. However, the current situation has been proven complex to quantify and generalize as results seem context-dependent, underlying that we do not fully understand which drivers interplay and how. In particular, landscape scale has been proven crucial to explain and mitigate biodiversity loss. Both composition and configuration of elements such as semi-natural habitats, forest, grassland, crop mosaic may interplay with agricultural intensification.

The goals of this BSc thesis project are (1) to quantify the landscape change around selected differently managed (Bio, IP, conventional) fields in one or two Swiss regions between 1990's and 2020's, (2) to assess the influence of these changes on insect communities between these two periods.

Approach

You will work mostly on computer on GIS but you will also visit fields when necessary to record landscape features around specific fields. You would need a drive license and should have affinity and knowledge on GIS. Knowledge on statistics would be a plus.

Contact

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Starting date

Summer - Autumn 2024

Note

It is possible to continue with a master thesis also including faunistic data on ground beetles and spiders.

FiBL offers free accommodation in one of our guest houses - if needed and available during the period and a student discount on the organic mensa.