

AgriWeedClim: Identifying Emerging Weeds

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Emergence of New Weed Species

CLIMATE

- warming
- change in water regime
- extreme weather events

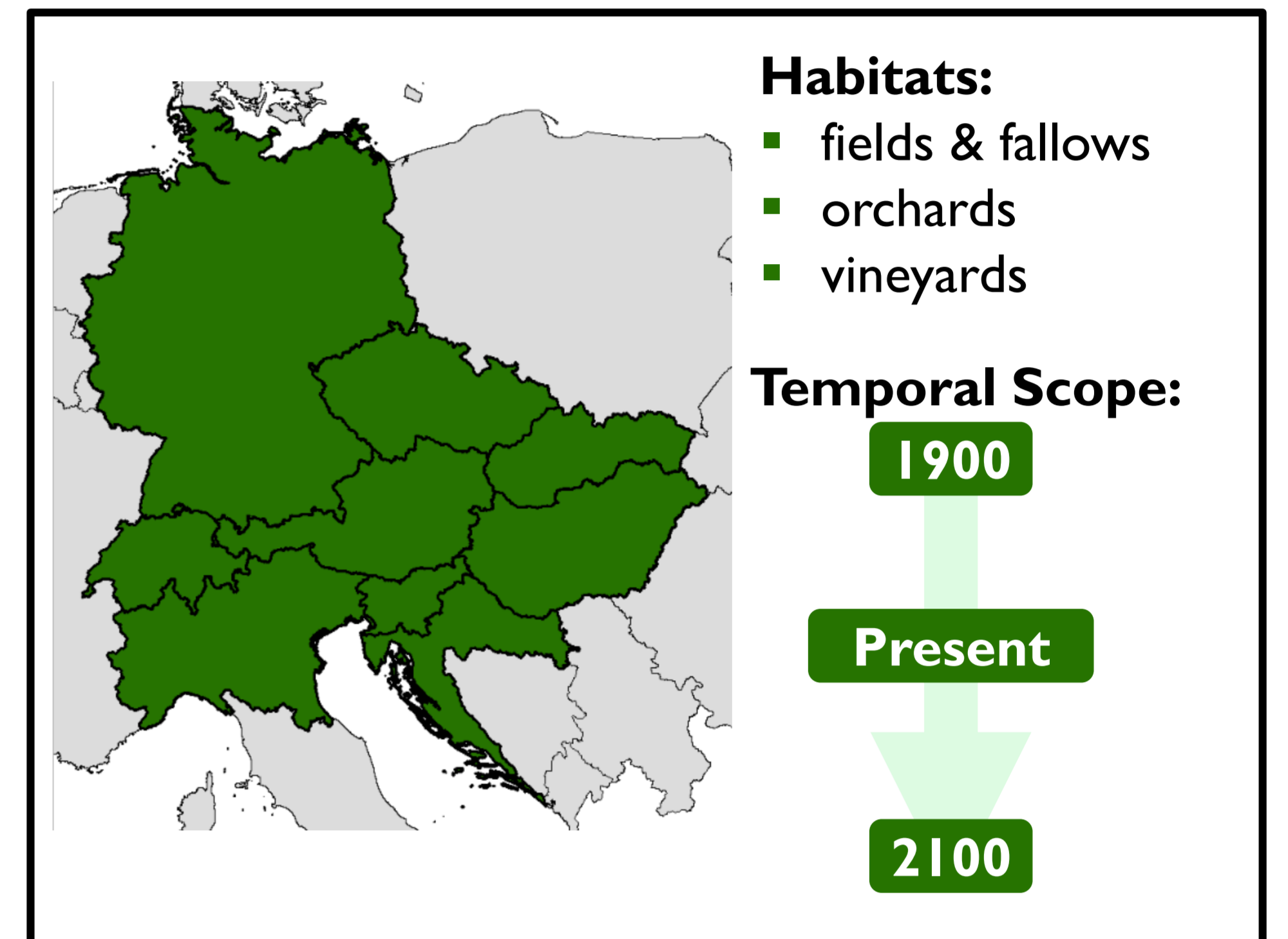
BIODIVERSITY

- biological invasions
- EX** extinctions

LAND USE

- mechanization
- agrochemicals
- new varieties
- new crops

Scope



Objectives

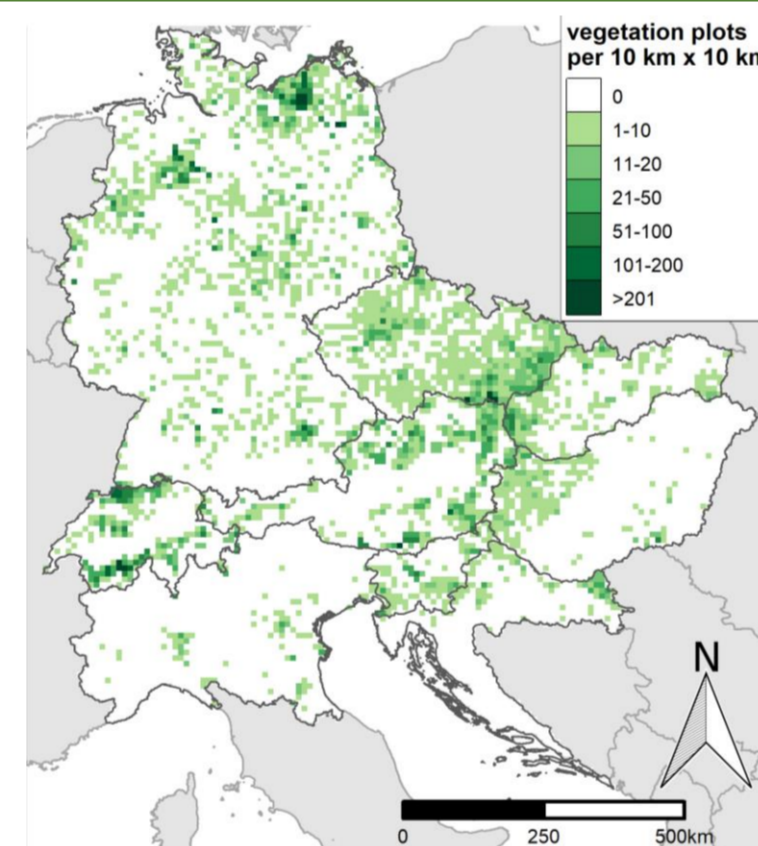
- I. Analyse changes in Central European Weed flora and their drivers.
- II. Identify Top 20 emerging weed species.
- III. Predict future range and impact.
- IV. Derive methods for management.
- V. Combine information in "Emerging Weeds Management Toolkit".

Definitions

- **weeds** = vascular plant species that cause „substantial“ damage to crops, livestock or humans (i.e. enough to warrant intervention)
- **emerging weeds** = (new) weed species increasingly spreading and/or increasing impact due to changes in land use, climate etc.
- **arable flora** = segetal flora = flora of agricultural habitats

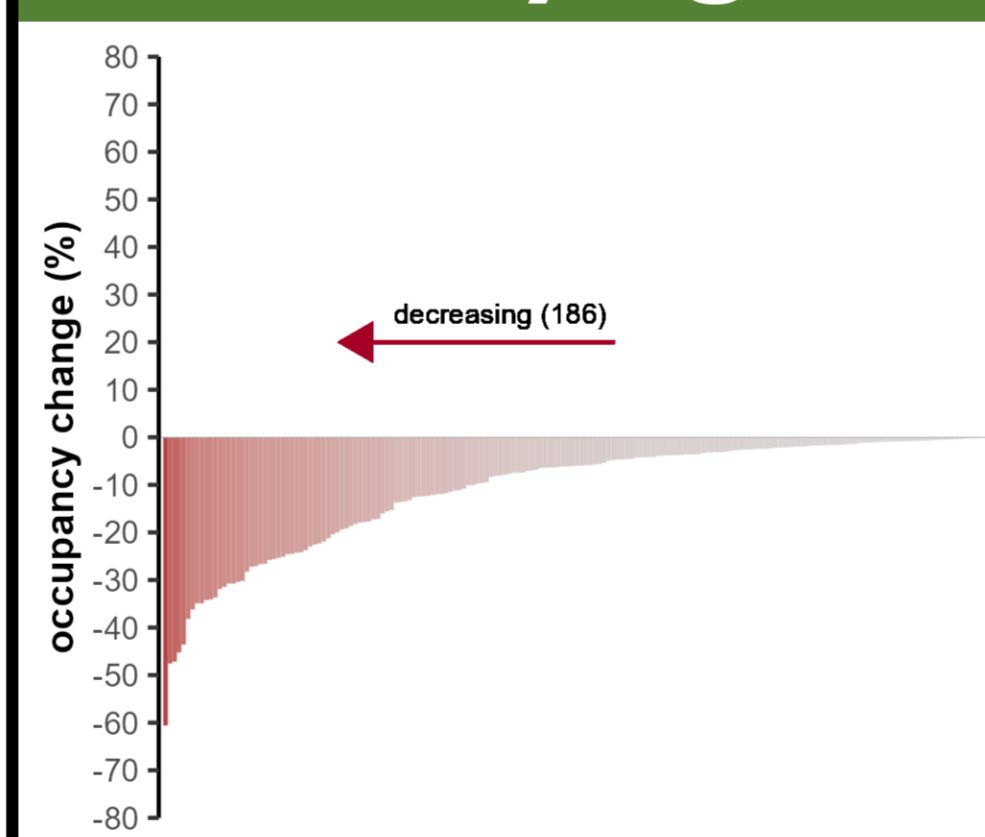
Project Steps

I. Data Collection



Almost 60,000 relevés were collected from databases, individual data holders and digitization efforts. These were screened, processed and standardized, resulting in a collection of **32,889 vegetation plots**.

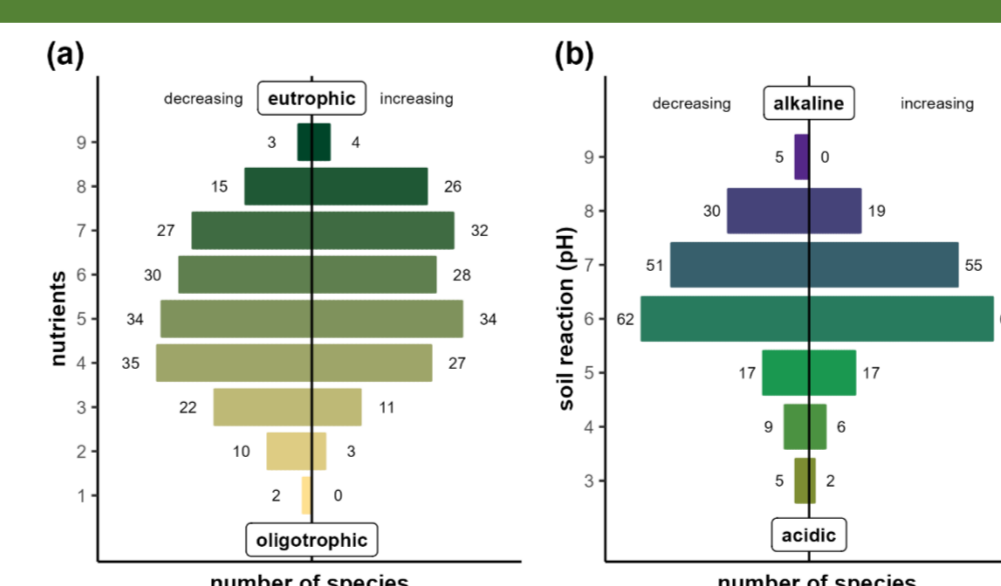
II. Identifying Emerging Weeds



Species classified according to their past success in Central Europe into 3 categories:

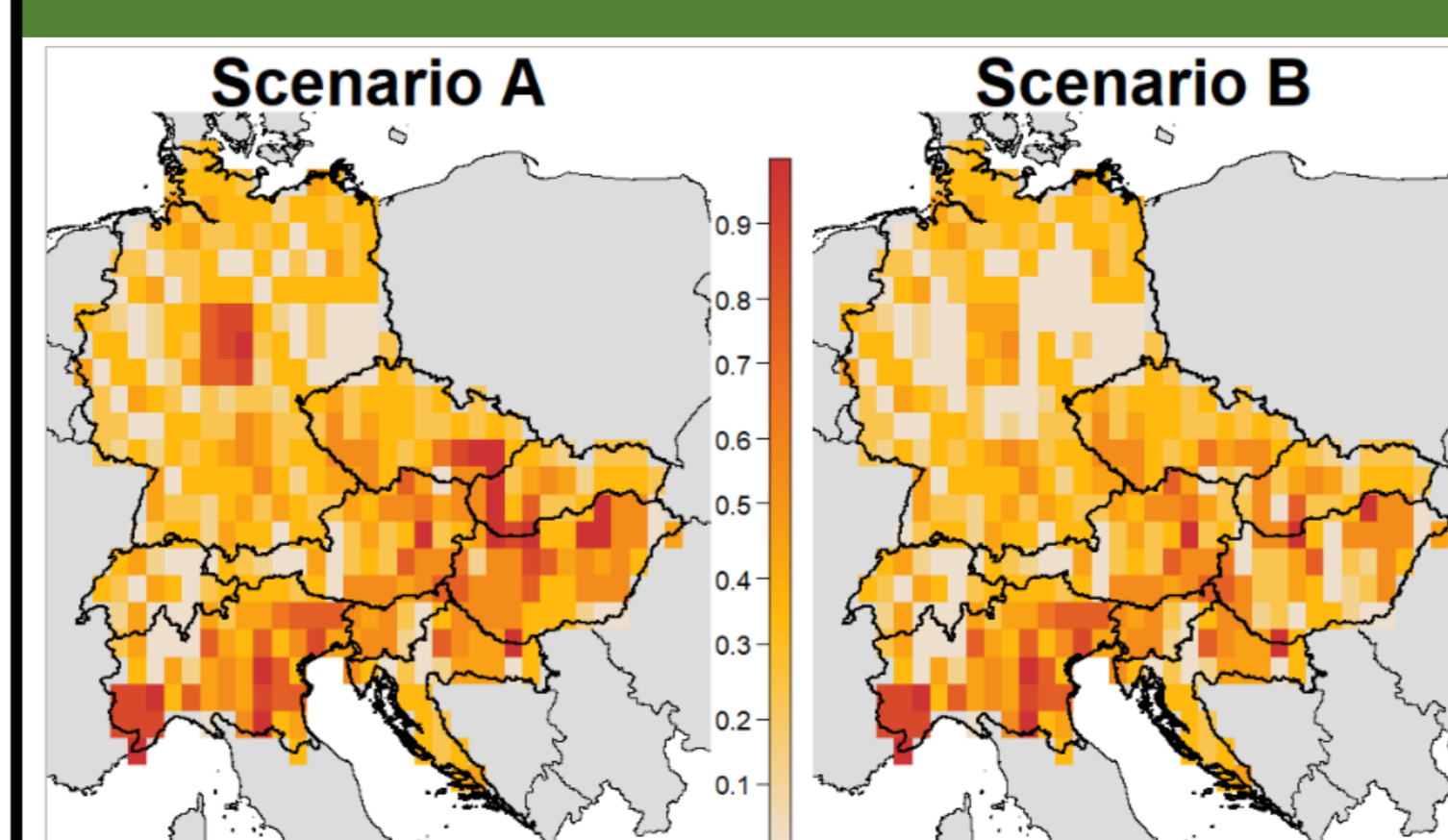
1. increasing/emerging
2. decreasing
3. intermediate

III. Environmental Preferences



Environmental preferences predicting success provide insight into the differences of groups 1-3 as well as changes in the selection pressures of arable habitats.

IV. Future Risk



Combining predictions of species distributions under different scenarios of climate and land use change combined with mitigation measures will reveal areas of overall high risk for emerging weed species.