Identifying nests and wallows based on spatiotemporal wild boar data

Patterns & Trends in Environmental Data

MSc ENR ZHAW FS21

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Context

Understanding the selection of resting places like nests and wallows build the basis for effective management measures to prevent wildboar damages in agriculutre.
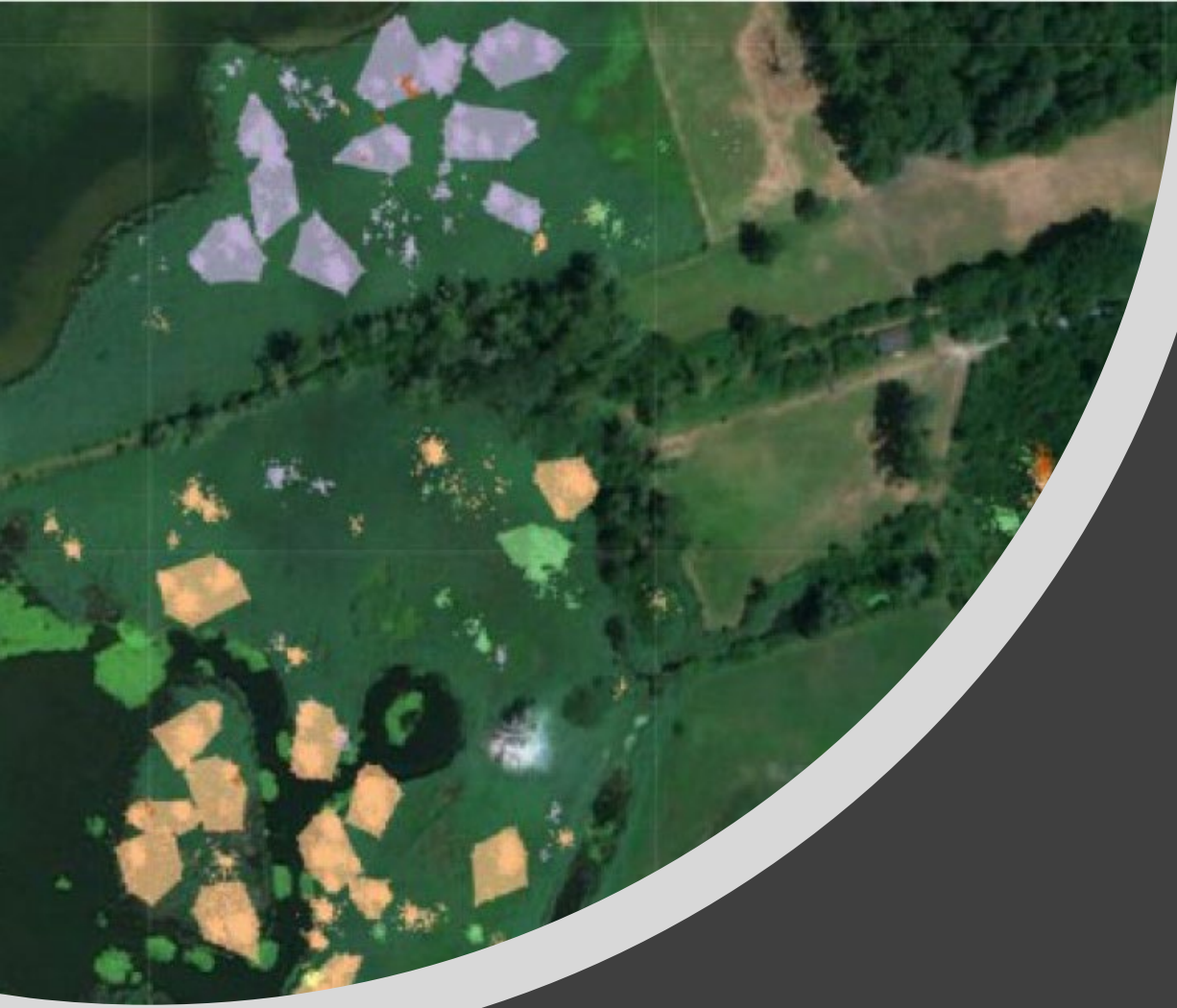
Used data

- Wild boar movement data and metadata[1]

- Field and vegetation type of surroundings[1]

- Area statistics and vegetation height[2]

[1]Retrieved from ZHAW research project "Prevention of Wild Boar Damage in Agriculture"

[2]Retrieved from swisstopo

Research questions

- How can resting sites be modelled based on spatiotemporal movement data?

- Can locations frequently visited by wild boar be determined efficiently and effectively in the provided research data?

- Can these regular resting places be clearly defined as kettles or wallows?

→ **Best possible outcome:** distinction between nests and wallows
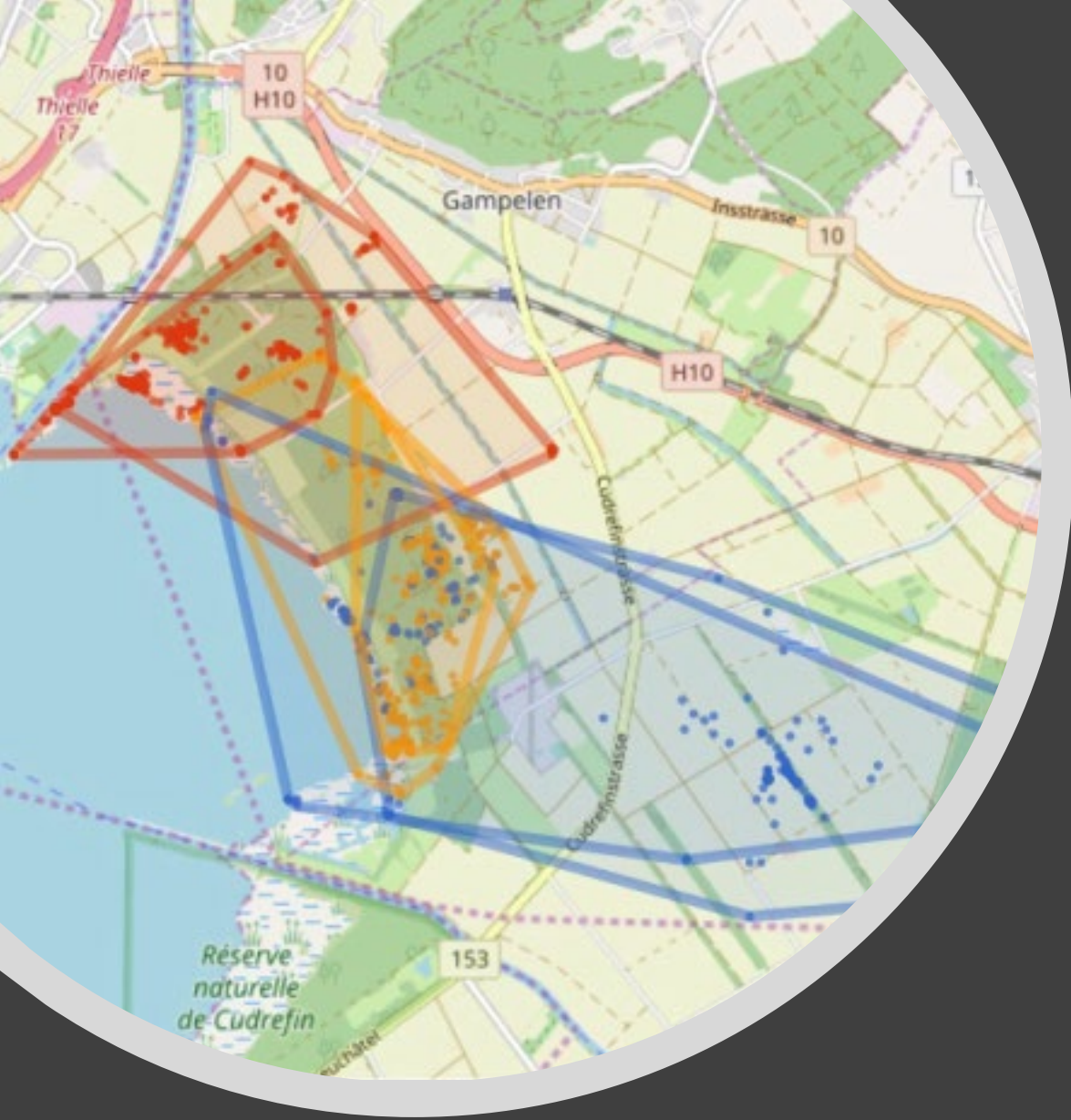
Research plan

- Segmentation of movement data (criteria like speed, step length)
- Annotation of status:
  - Resting
  - Moving
  - Feeding
  - Unclear
- Spatial join (land use and vegetation type) for context
- Identifying frequently visited areas
- Allocation of wallows and nests
- Visualisation of results as convex hull

Risk analysis and ideas for plan B

- Finding clear criterias for the distinction between nests and wallows

- Plan B: Best educated assumption based on literature or no differentiation between the two