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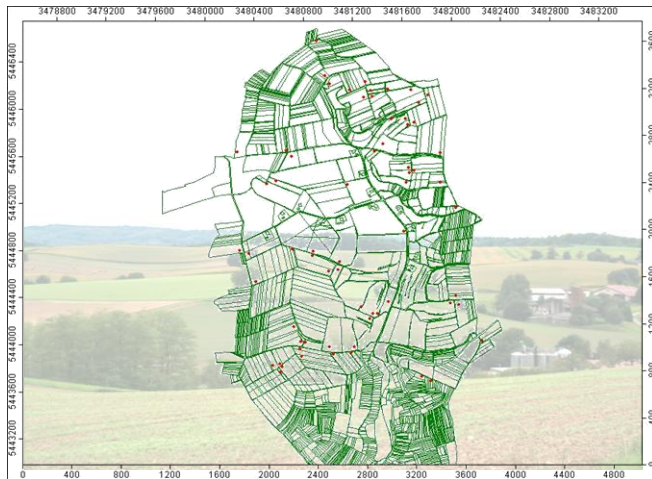


- PhD student at the University of Potsdam within the BIOPORE project
 - „Modelling spatial distribution of earthworms in agricultural fields“
 - Field observations and modelling
- Diploma thesis at the Free University of Berlin
 - „Effects of heavy metals on collembola in abandoned sewage field soils“
 - Ecotoxicological field and laboratory studies

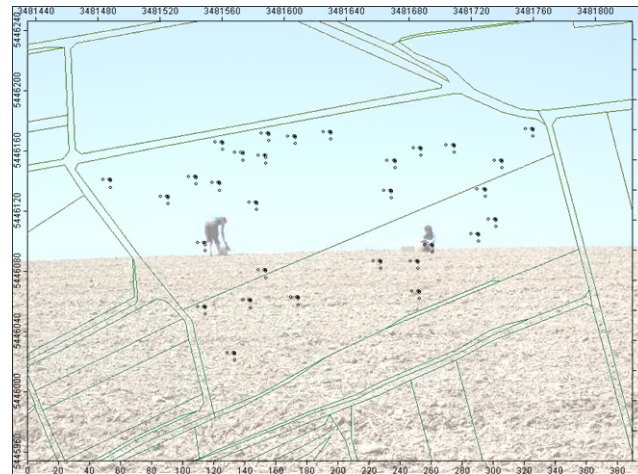
1. Used methods and problems in field work

- Earthworm sampling at different scales

Catchment

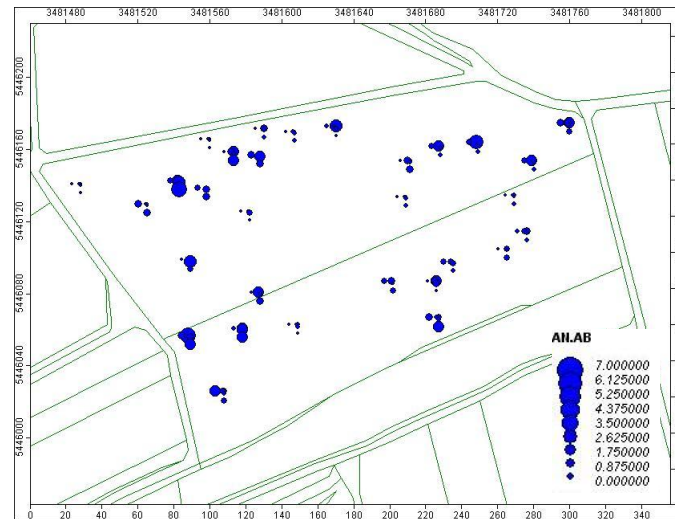


Field

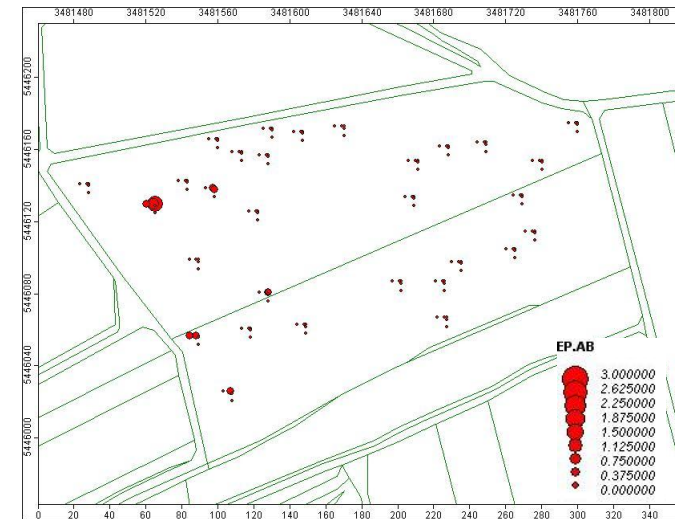


- Low vs. high resolution
- Do catchment observations reflect the mean density?

Distribution maps: anecic^{blue} and epigeic^{red} abundances

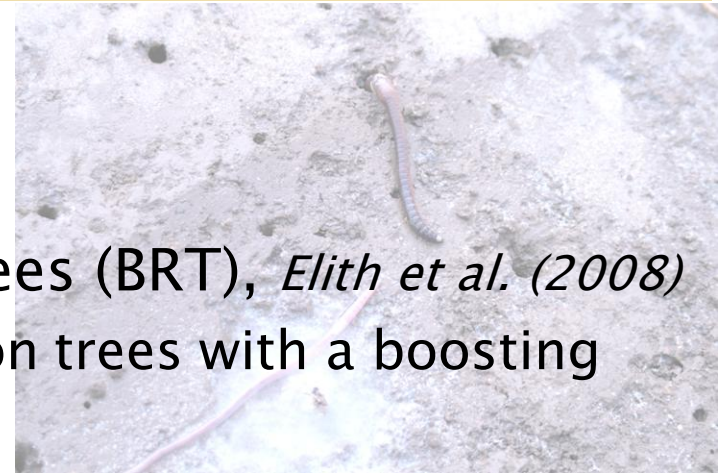


4 vs. 4 (28)



0 vs. 0 (12)

2. Used methods in modelling



- Method: Boosted Regression Trees (BRT), *Elith et al. (2008)*
 - Combination of simple regression trees with a boosting algorithm
- Aims:
 - Find the most important environmental predictors (management factors, topographical indices, soil parameters) describing observed distribution patterns
 - Predict the occurrence probabilities and densities of the three ecological earthworm types on catchment scale

Anecic: SOM (+)

Distance meadow (+)

Soil moisture (-)

Ploughing (-)

Epigeics (-)

Epigeic: Elevation (-)

Distance meadow (-)

Meadow as percentage of area (+)

Anecics (-)

Endogeics (+)

Endogeic: Slope (optimum)

Distance meadow (-)

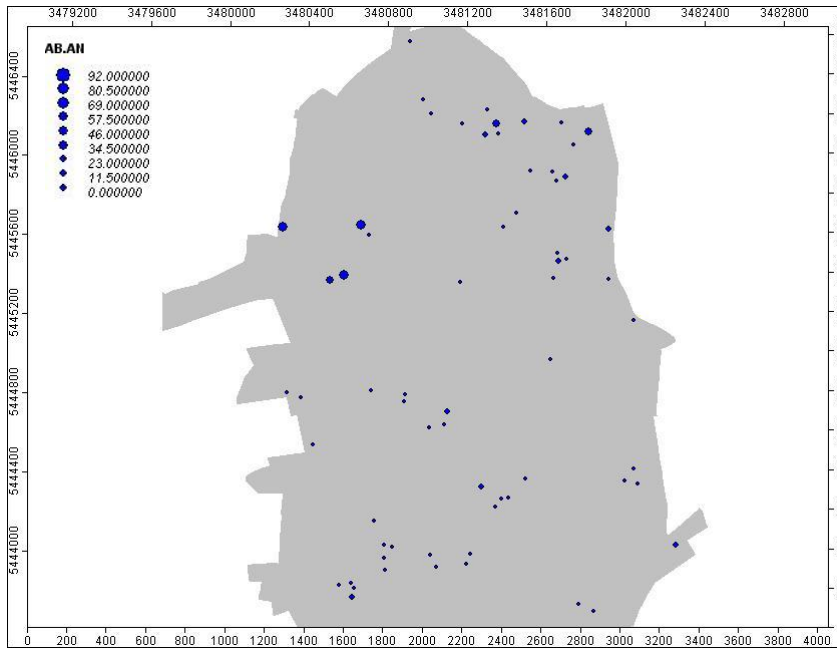
Clay (-)

Elevation (-)

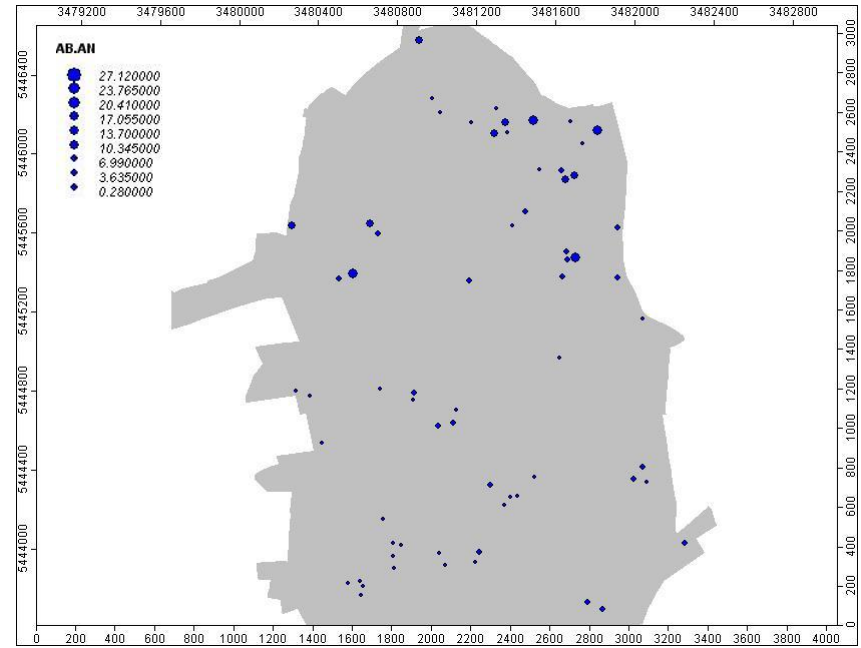
Insolation (-)

Distribution maps of anecic^{blue} abundances

Observation (range: 0 – 92)



Prediction (range: 0 – 27)



Nearly the same patterns of high and low anecic density but with underestimations in prediction values