

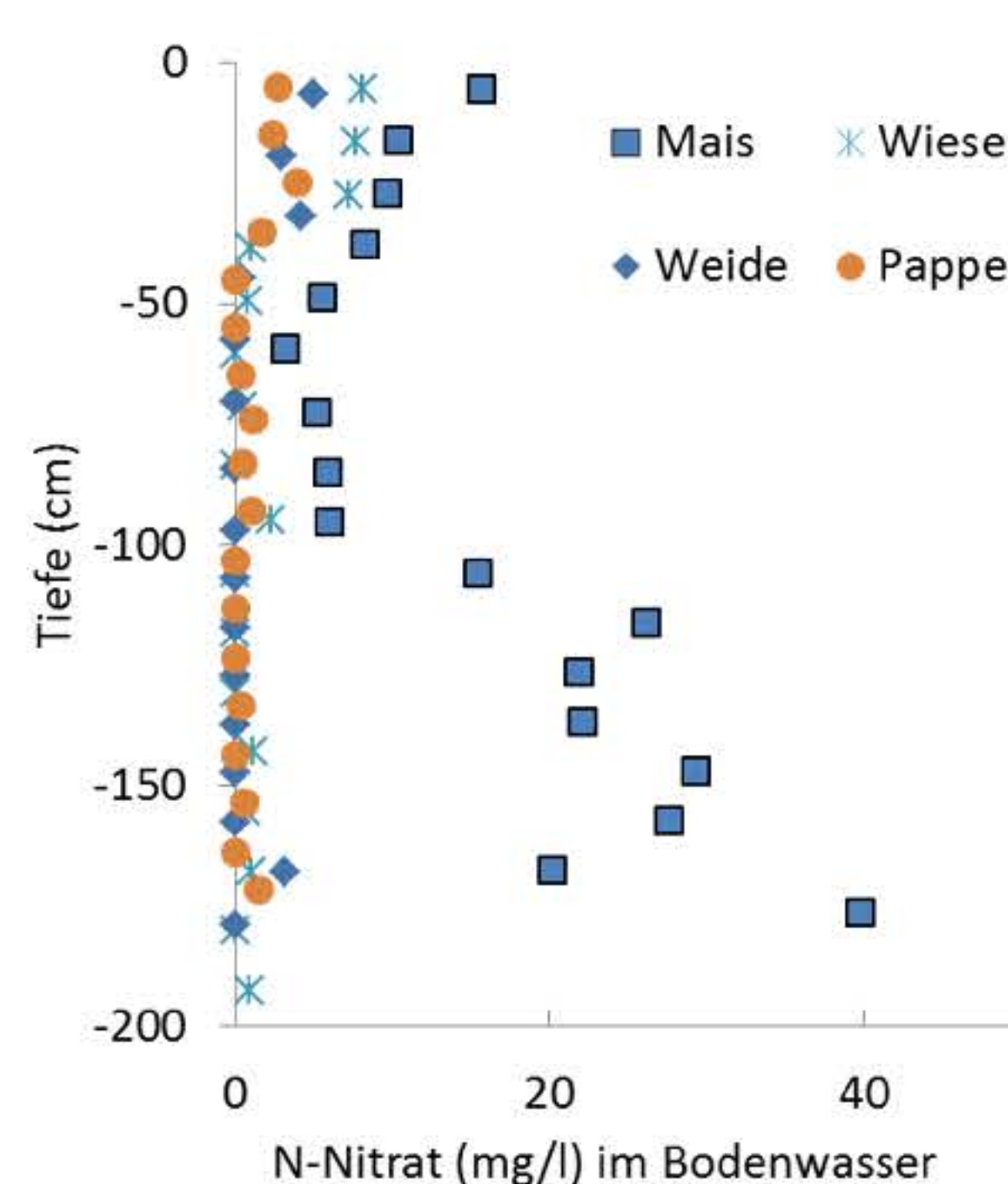
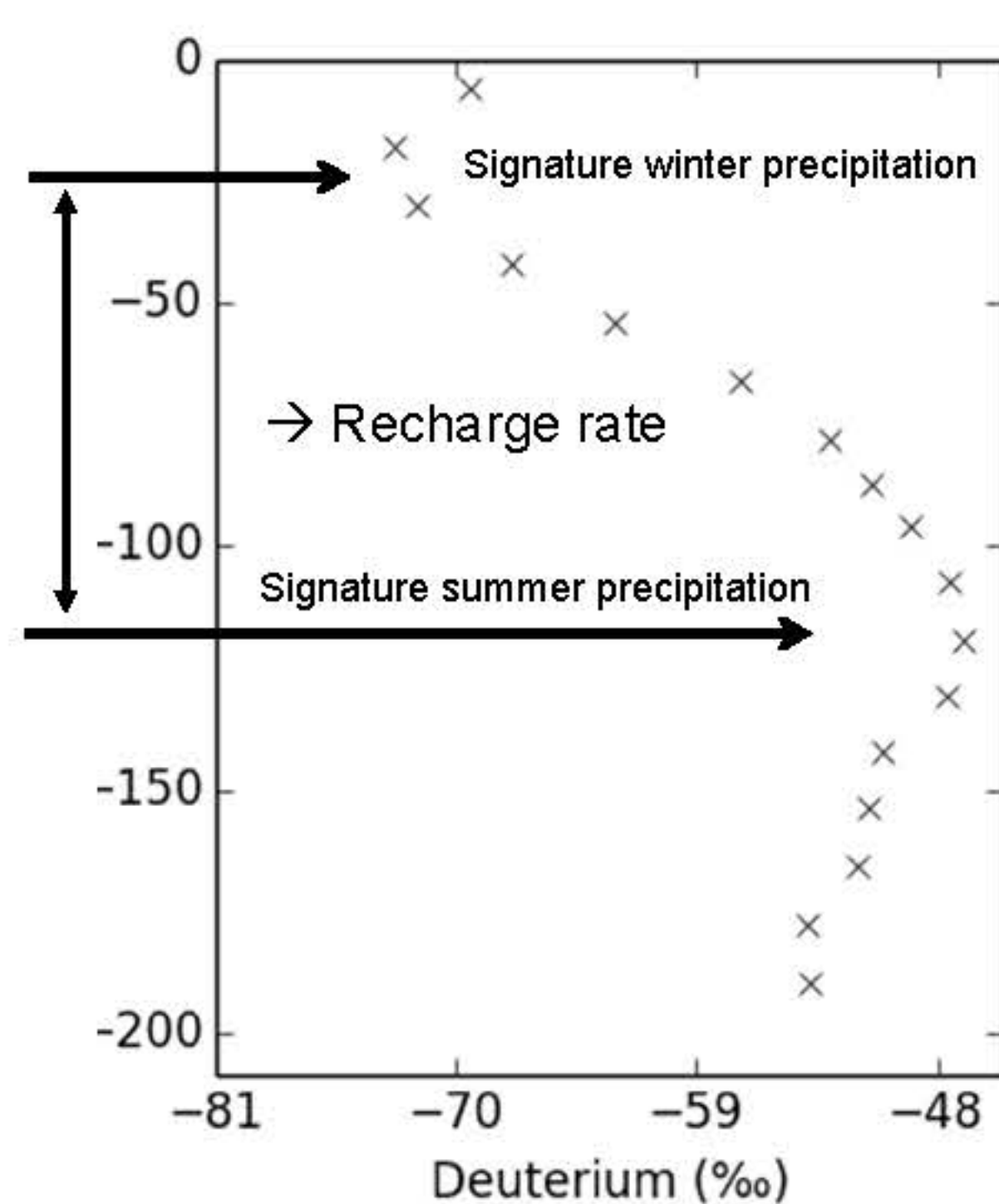
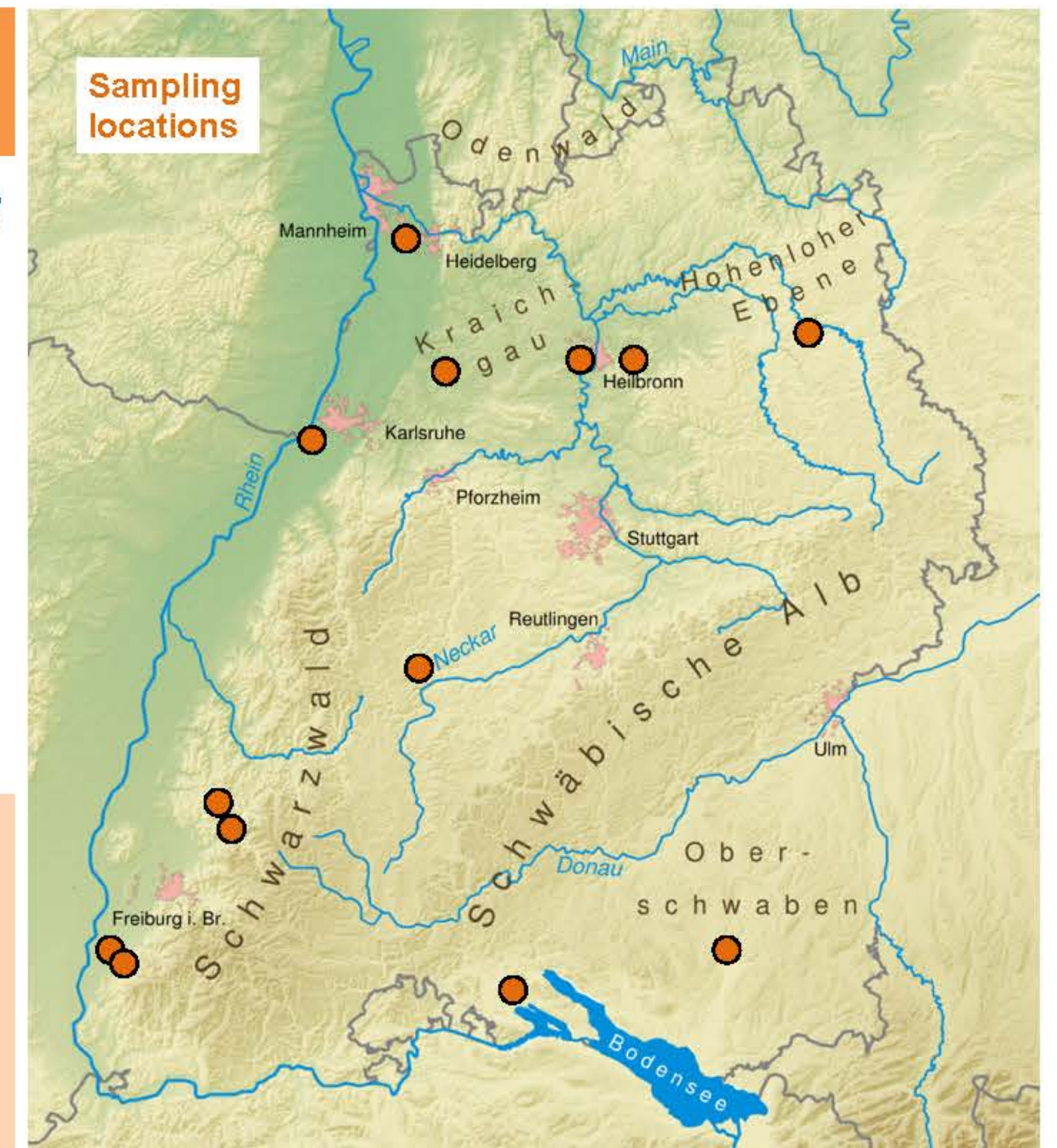
BioChance TP65

Bioökonomie für Umwelt und Wasserkreislauf – Chancen und Risikominimierung

Goals

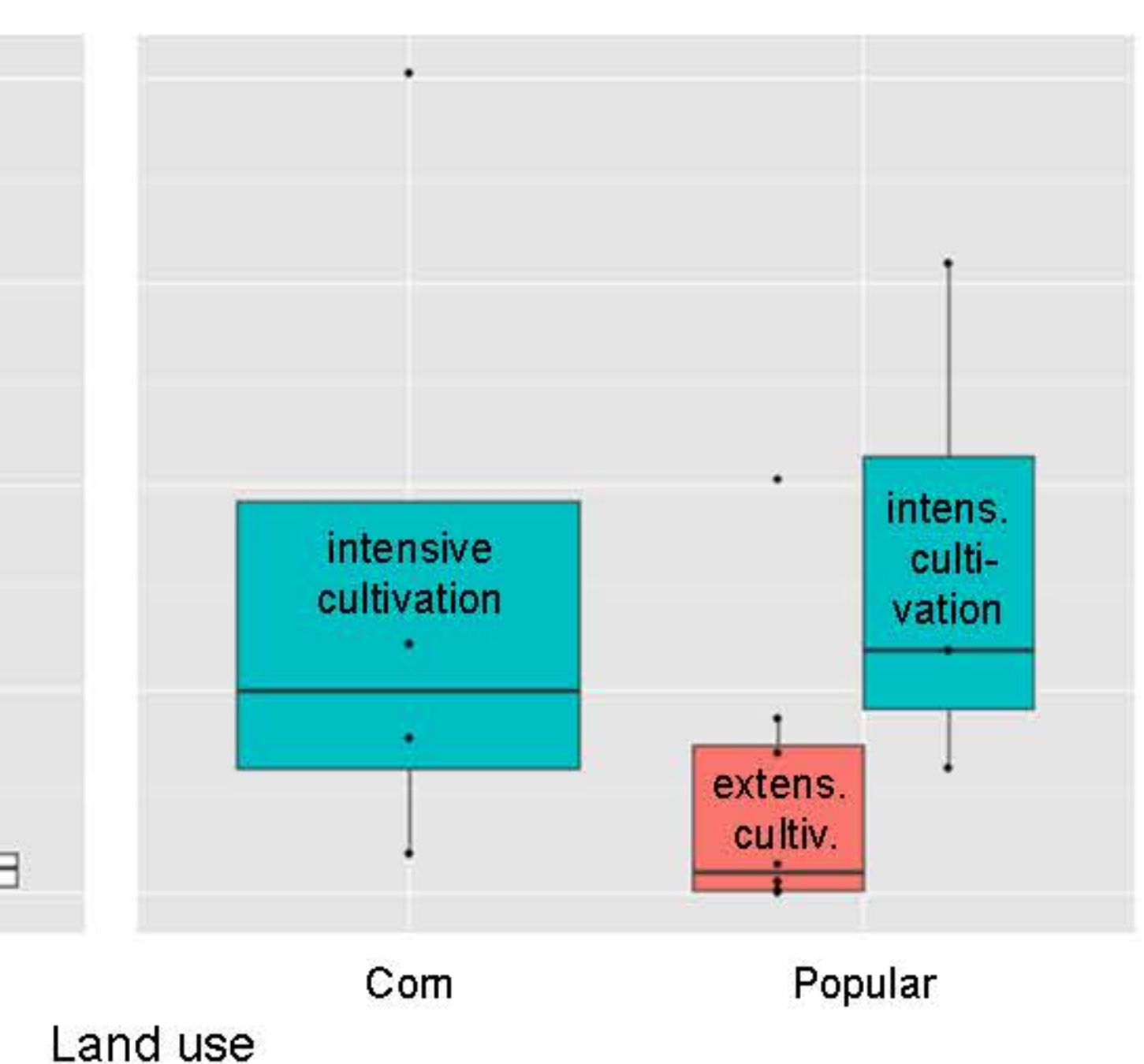
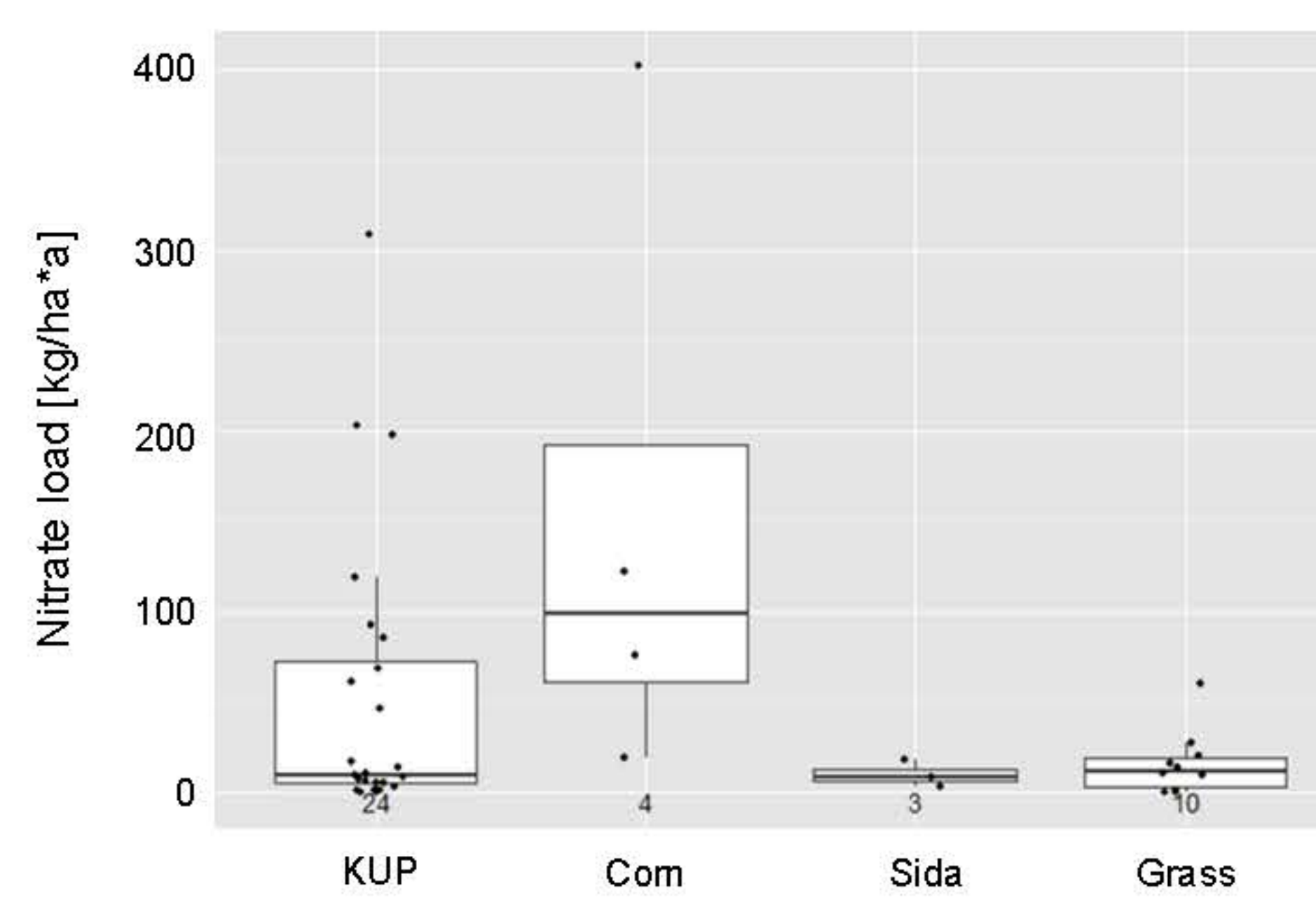
- To develop a new, rapid measurement approach to detect the influence of energy plants on the water cycle
- To establish a database for Baden-Württemberg to be used by the energy sector and for water management
- To provide data for environmental assessment focusing on water use, groundwater recharge and nutrient export from the different energy plants.
- To suggest a new land use planning finding optimum between water protection and bioenergy use

- Environmental friendly use of bioenergy related to its implication on water use and water quality
- Targeted use of energy plants to improve water quality
- Targeted use of energy plants to reduce flooding



Current reseach progress

- Sampling at 13 locations in Baden Württemberg covering the main soil types and geology for a variety of different energy plants previous and after the vegetation period
- Analysis of soil cores (1.5-2.5 m deep) in the lab for each 10 cm for:
 - Soil water stable isotopes (^{18}O und Deuterium)
 - Nitrogen (N-Nitrate) in the soil water
- Soil hydrological models calculate water consumption of plants and nitrate loads
- Statistical analysis to detect the difference among energy plants and grassland



Spring 2015



Future research

- Continuous sampling and data analysis
 - Extending the database
 - Relate effects with vulnerabilities
- Planning landuse for energy plants
 - Strategic cultivation of energy plants

Fall 2015

