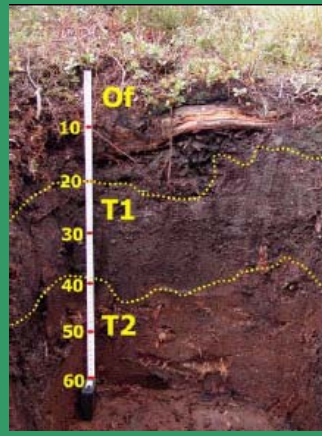


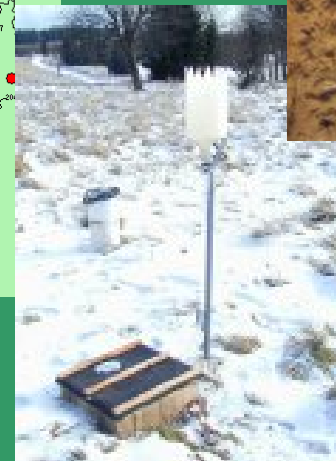
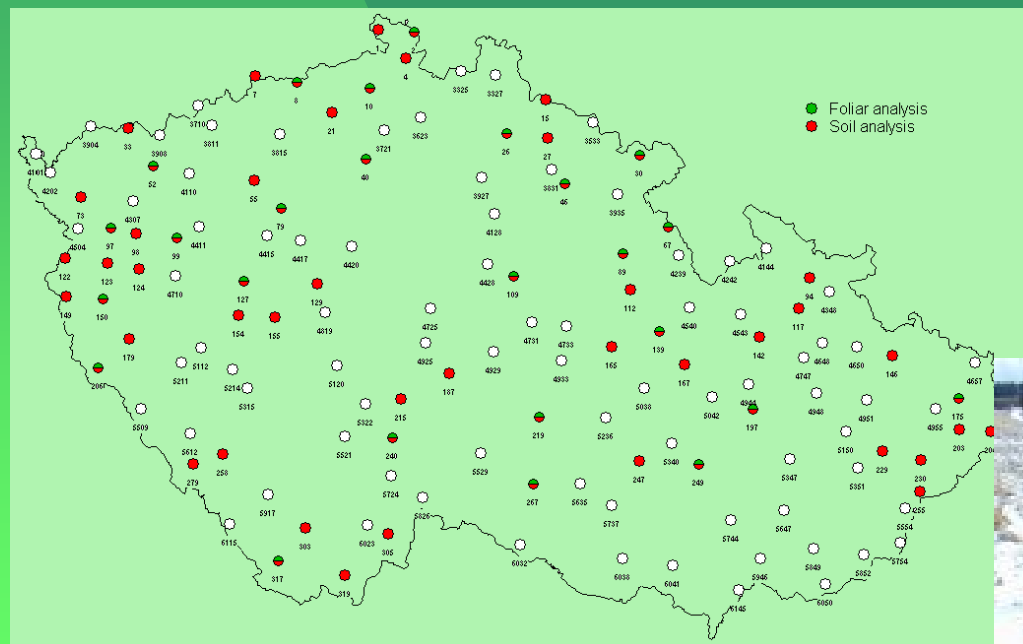
Chemistry of Forest Soils and the deposition load in the Czech Republic within the last two decades

R. Novotný, V. Šrámek, I. Hůnová, M. Zapletal, I. Skořepová



Project based on:

- BioSoil data: (2005 – 2008) 146 plots,
- Forest Survey: (1995-1996) 89 plots overlap of surveys at 65 plots (coniferous)
- Repeated ground vegetation surveys
- Deposition and soil survey on level II plots,
- National air pollution database (CHMI)



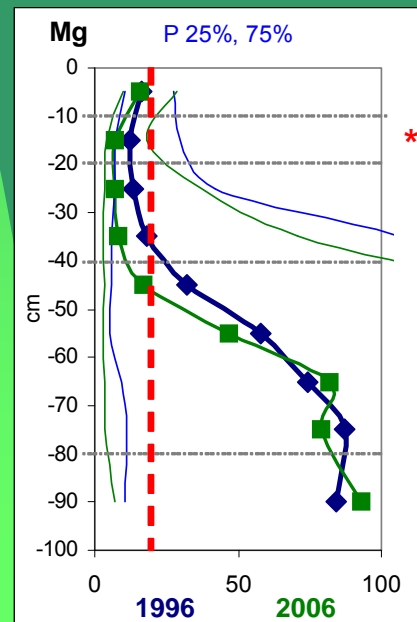
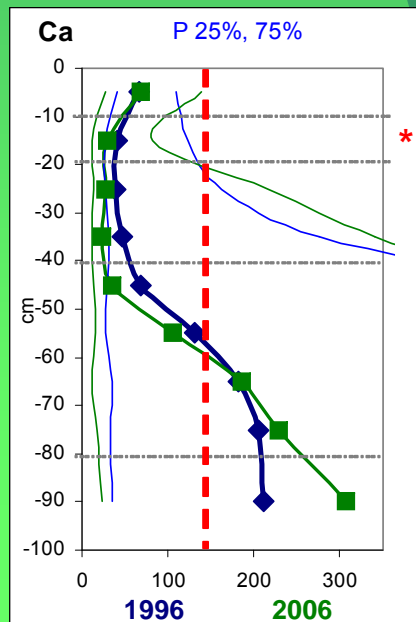
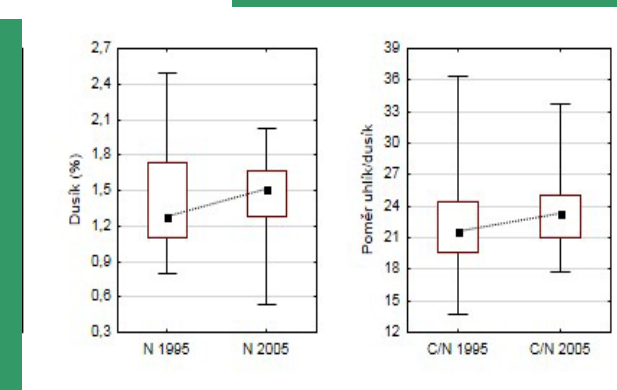
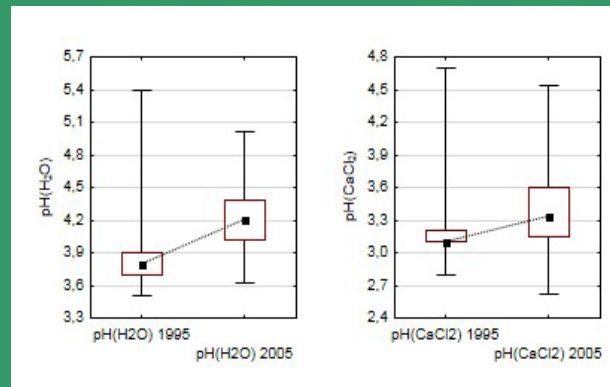
Repeated soil survey (ca 1995- 2005):

Organic layer:

- Increase of pH
- Increase of C/N
- Increase of N (not significant)

Mineral layer:

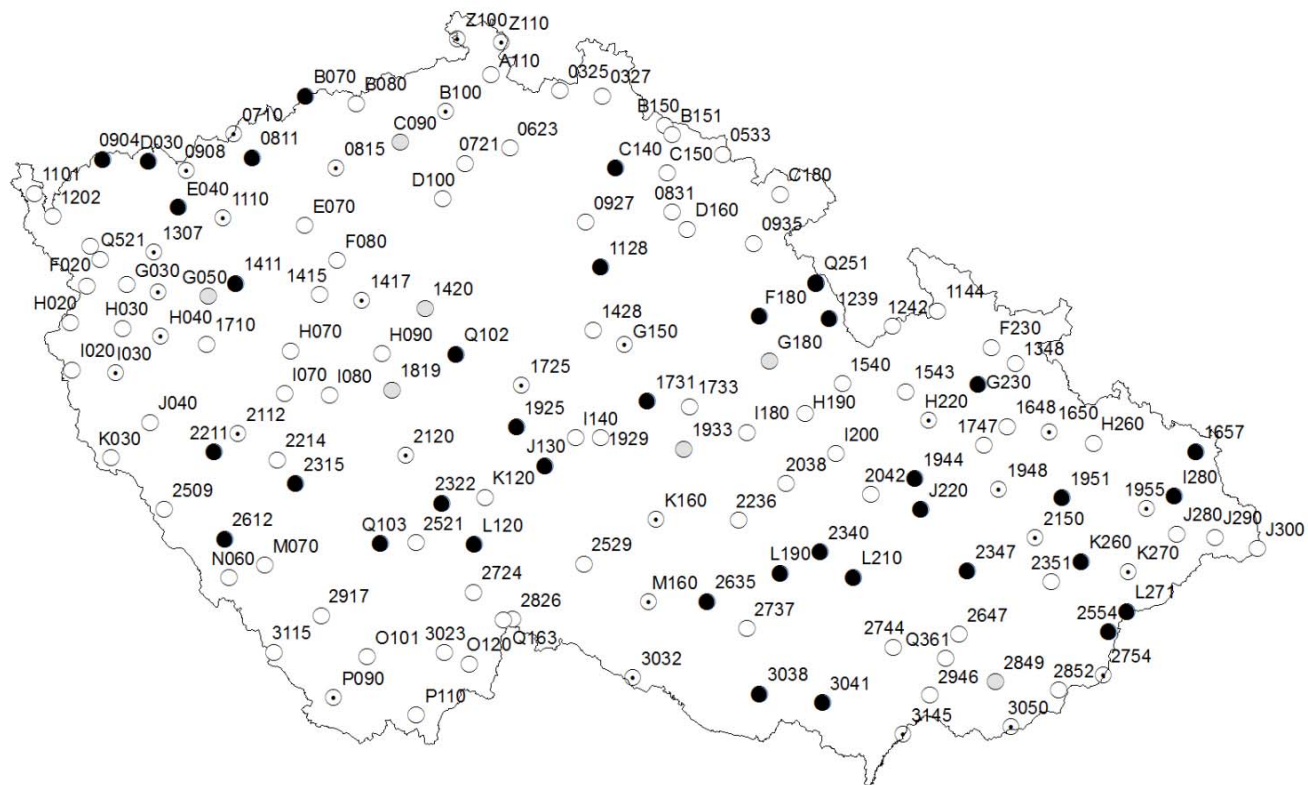
- Increase of pH
- Significant decrease of Mg and Ca in 10-20 cm



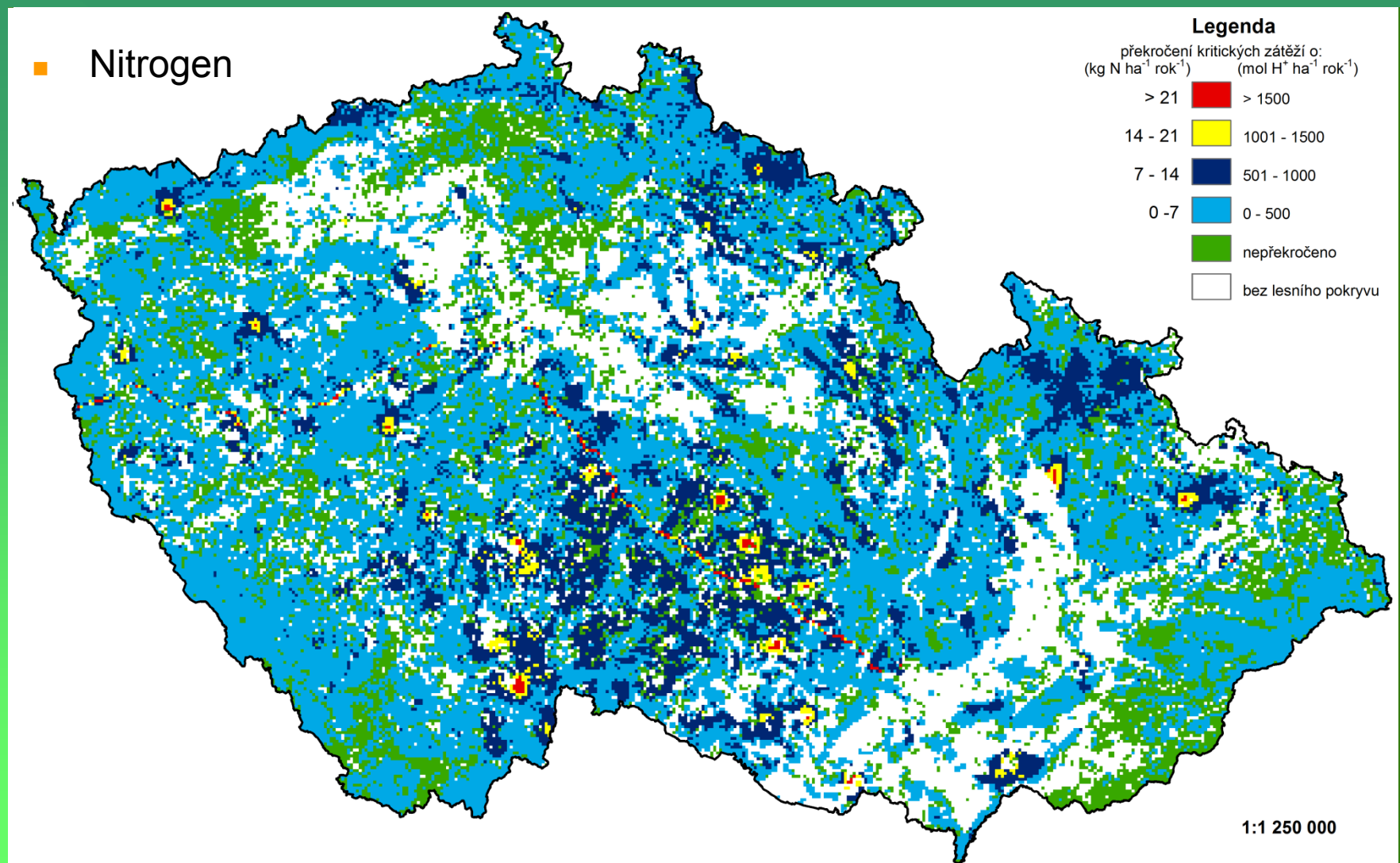
Repeated vegetation survey

- Increased number of nitrophilous species at many plots
- Significant increase for *Impatiens parviflora*, *Geranium robertianum*, *Urtica dioica*

- Plots without occurrence of nitrophilous species
- ◐ Plots with decreasing proportion of nitrophilous species
- ◑ Plots with unchanged proportion of nitrophilous species
- Plots with increasing proportion of nitrophilous species



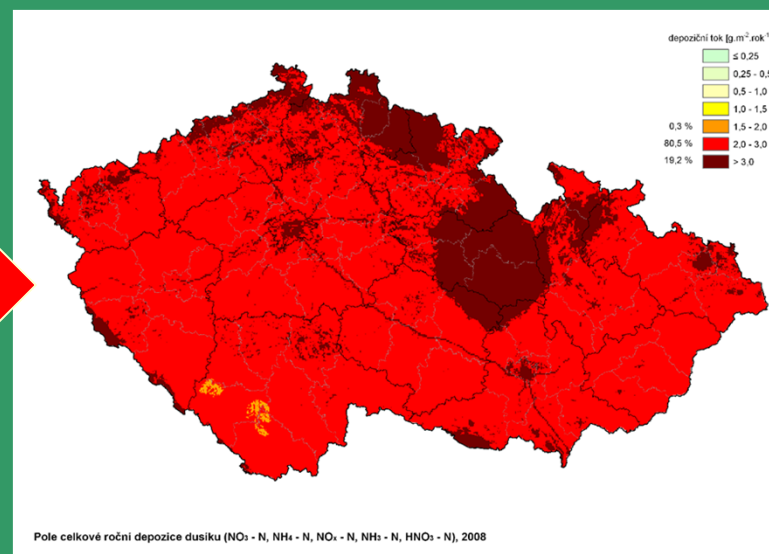
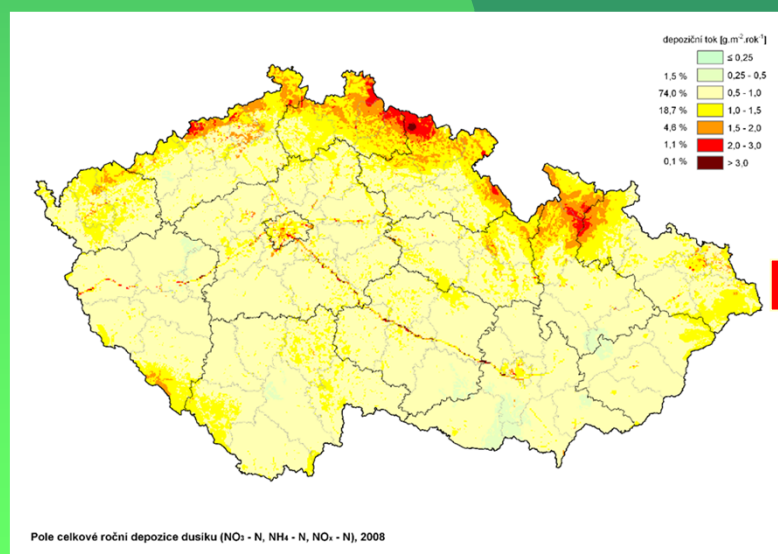
Critical loads of acidity and nitrogen



Underestimation of N deposition?

DEPOZICE 2008 [t]			
NO ₃	25068	součet	69179
NH ₄	28297		
NO _x	15815		
NH ₃	70370	součet	222347
HNO ₃	82798		

- Including dry deposition of ammonia and nitric acid significantly influence the calculation of total N deposition



Results

- Nitrogen deposition is (still) important risk for forest ecosystems
- Dry deposition of N compounds has to be studied
- The ratio of N and base cations in forest soils/ecosystem is the potential risk for sustainable forestry



Thank you for your attention!