

Soil solution (Susanne lost)

Extensive data work,

For BC/Al ratio 2054 samplers on 263 plots,

Complete sets over four years from 396 samplers on 160 plots

Complete sets over seven years from 111 samplers on 58 plots

For pH

Complete sets over seven years from 166 samplers on 66 plots,

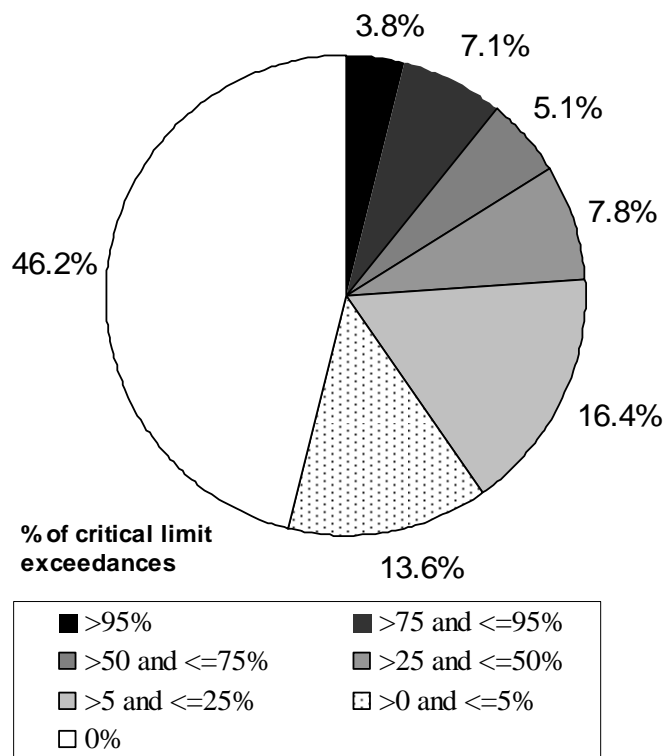
Critical limits:

Sverdrup and Warfvinge 1993, tree species specific, based on experiments

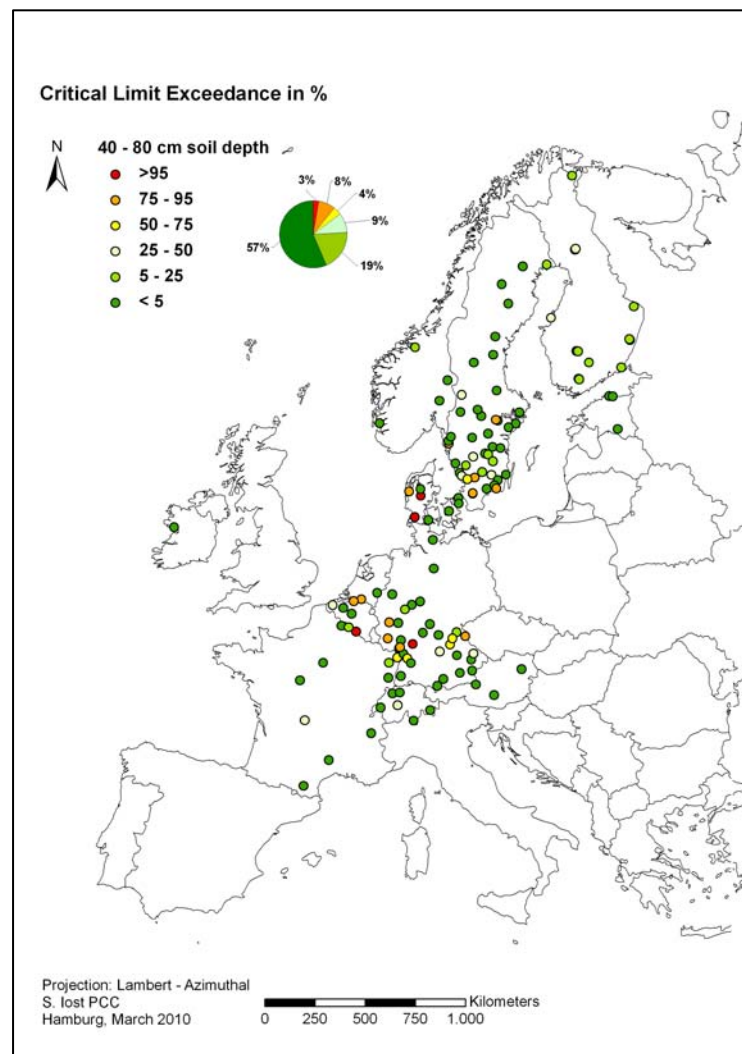
But following ICP Modelling and Mapping

Limitations:

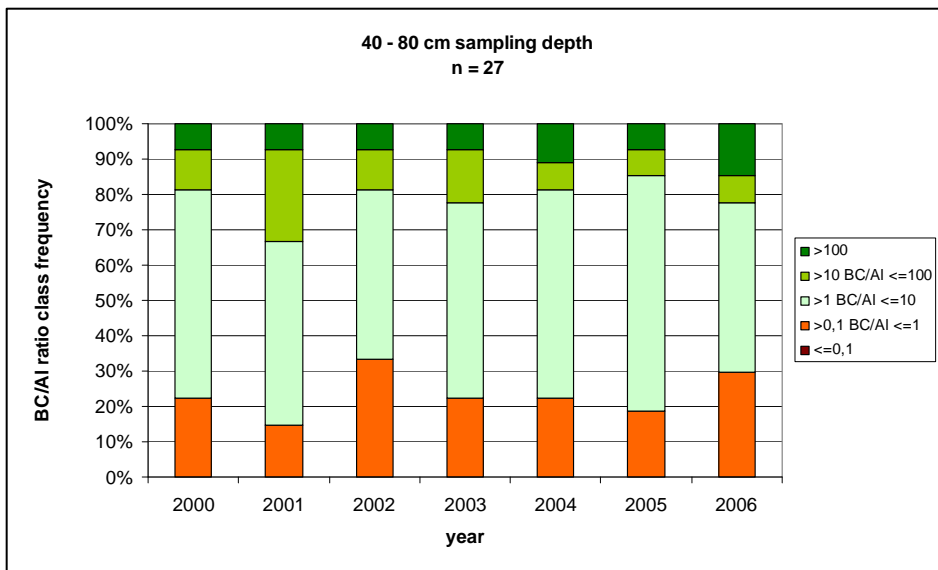
total Al, thus overestimation of exceedances



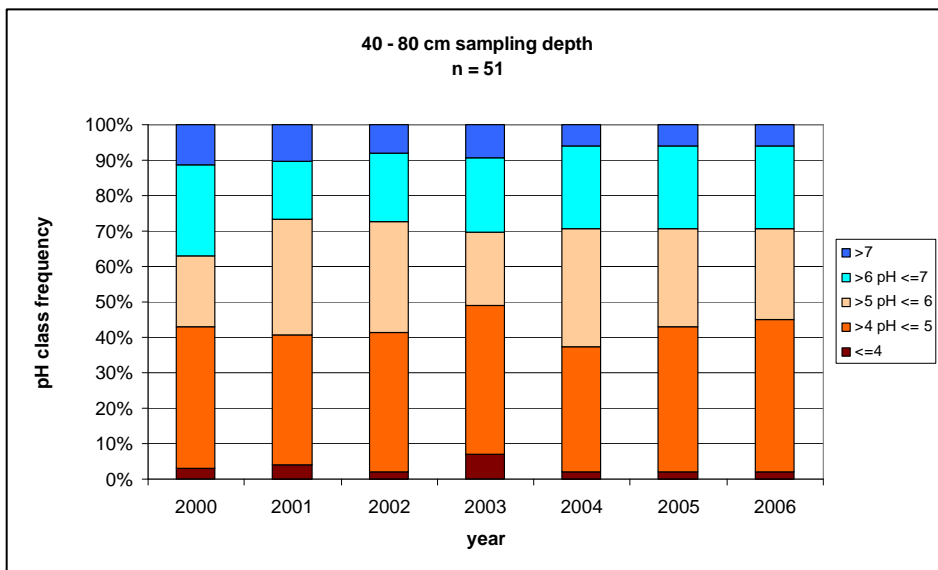
Percentage of critical BC/Al limit exceedance. N=396 samplers in different soil depths, N=160 plots.



Plotwise critical BC/Al limit exceedance



BC/Al ratio classes in soil solution for 27 plots from 2000 to 2006.



pH in soil solution for 51 plots from 2000 to 2006.

Soil acidification remains a threat to forest vegetation across Europe

- At around half of the samplers critical limits for threats to forest vegetation caused by soil acidification were exceeded. At a quarter of the samplers, critical limits were substantially exceeded.
- Over the years 2000 to 2006 soil acidification did hardly change on 111 evaluated plots. The chemistry of soil water was analysed with respect to nutritional status (base cation to aluminium ratio) and pH.
- Atmospheric deposition contributes to changes in soil chemistry and in soil water chemistry. Soil acidification and nutrient imbalances result in stress reactions and can destabilize forest ecosystems.