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PROJECT DESCRIPTION

PROJECT INFORMATION

Project title:	**Recovery from acidification and excess nitrogen in Swedish forests - Trend analysis of deposition and soil solution chemistry 1992-2022**
Project ID:	269
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PROJECT DESCRIPTION

The project is a follow-up project of the former study on Reduced European emissions of S and N - Effects on air concentrations, deposition and soil water chemistry in Swedish forests. (Pihl Karlsson et al., 2011)

Changes in sulphur and nitrogen pollution in Swedish forests have been assessed in relation to European emission reductions, based on measurements in the Swedish Throughfall Monitoring Network. Measurements were analysed over 20 years with a focus on the 12-year period 1996 to 2008. Air concentrations of SO2 and NO2, have decreased. The SO4-deposition has decreased in parallel with the European emission reductions. Soil water SO4-concentrations have decreased at most sites but the pH, ANC and inorganic Al-concentrations indicated acidification recovery only at some of the sites. No changes in the bulk deposition of inorganic nitrogen could be demonstrated. Elevated NO3-concentrations in the soil water occurred at irregular occasions at some southern sites. Despite considerable air pollution emission reductions in Europe, acidification recovery in Swedish forests soils is slow. Nitrogen deposition to Swedish forests continues at elevated levels that may lead to leaching of nitrate to surface waters.

In this new project, the authors like to set Swedish data in an European perspective.

G. Pihl Karlsson, C. Akselsson, S. Hellsten, P. E. Karlsson (2011) Reduced European emissions of S and N – Effects on air concentrations, deposition and soil water chemistry in Swedish forests. Environmental Pollution, Volume 159, Issue 12, pages 3571-3582 (https://doi.org/10.1016/j.envpol.2011.08.007)

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