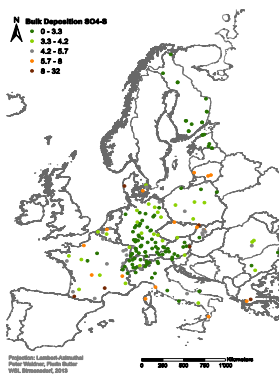


Deposition

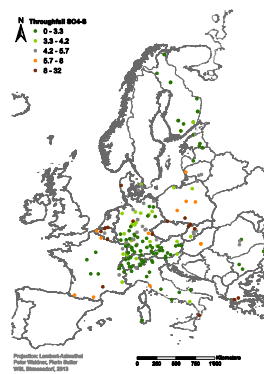
Deposition is monitored on [Level II](#) plots in the open field ("bulk deposition") and under canopy ("throughfall"). Whereas bulk deposition is a basis for estimates of total atmospheric deposition rates in open fields, throughfall deposition typically differs from bulk deposition due to a) wash off of dry deposition from the forest canopy, b) element "leaching" from the tree crowns, and c) absorption of elements by the foliage, so called "canopy uptake". The first two effects lead to increased throughfall rates, the latter one, canopy uptake of elements by the crown foliage, reduces throughfall deposition compared to bulk deposition. Thus, throughfall deposition does not reflect total deposition but the result of total deposition plus net canopy exchange. In addition, throughfall deposition may have been underestimated especially in beech stands because stem flow was not taken into account in the present study as it had not been measured continuously from 1998 to 2007 on most plots. The observed annual mean throughfall deposition is interpreted always together with the respective bulk deposition in order to allow for an estimation of effective enriching and reducing canopy effects. The plot specific annual sums of bulk and throughfall deposition of nitrate, ammonium, sulphate, calcium, sodium, and chlorine were basis for the evaluations. Bulk and throughfall depositions expressed in kg per ha and year refer to the chemical element considered, e.g. to sulphate-sulphur instead of sulphate.

Further information and discussion of results are available in [ICP Forests' Technical Reports](#)

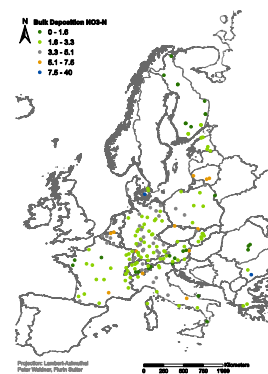
Mean Deposition 2008-2011



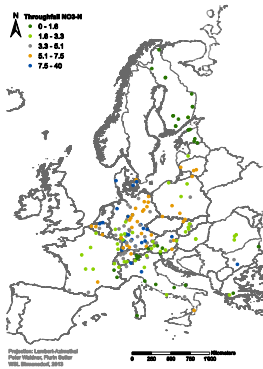
Sulphate in bulk deposition



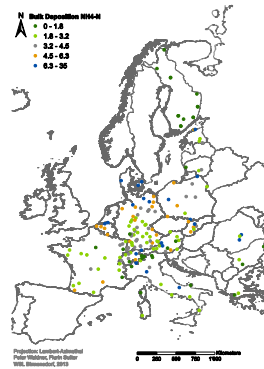
Sulphate in throughfall deposition



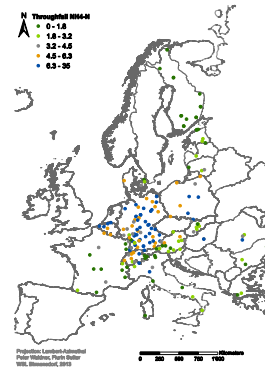
Nitrate in bulk deposition



Nitrate in throughfall deposition

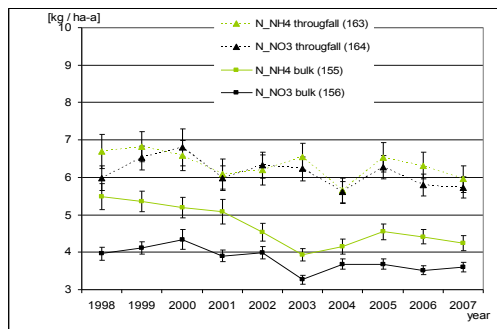
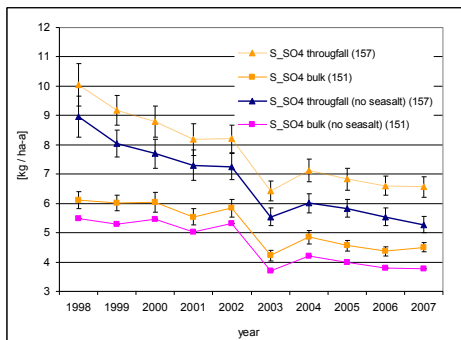


Ammonium in bulk deposition

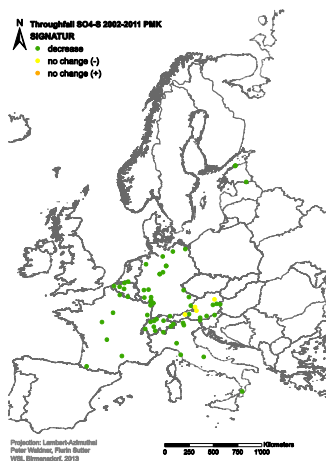


Ammonium in throughfall deposition

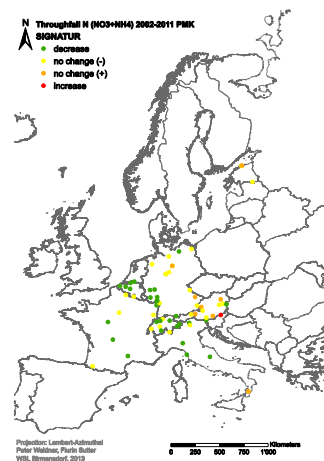
Deposition Trends 1998 – 2007



Deposition Trends 2002 - 2011



Sulphate throughfall deposition 2002-2011



Nitrate throughfall deposition 2002-2011