

The leak in the phosphorus cycle – leaching of dissolved (organic) phosphorus from forest soils

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Depletion of soils in phosphorus (P) is controlled by leaching within and from the soil. Previous results obtained at a smaller number of sites showed decreasing concentrations of dissolved inorganic phosphorus (DIP) and constant concentrations of dissolved organic phosphorus (DOP) with soil depth, which lead to the hypothesis that the steady leaching of DOP is the major contributor to losses of P from temperate forest soils, and thus, drives the long-term depletion in P of terrestrial ecosystems. To estimate the extent of P leaching from temperate forest soils, we measured concentrations of DIP and DOP in 0.45 μm -filtered soil solutions sampled at 20 different monitoring sites in Germany and Switzerland over one year. We are currently analyzing and summarizing the obtained data. The results are to be presented for the first time.