

Wintersemester / Winter Term 2013/14

## BayCEER Kolloquium

 Vortragsreihe Ökologie und Umweltforschung  
Lecture series in Ecology and Environmental Research

Donnerstag 30.01.2014, 17:00 Uhr, H6

Anschließend Postkolloquium mit Bier und Brezen im Foyer H6

### Prof. Jiří Kopáček

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Republic

# Anthropogenic acidification, recovery, and nutrient cycling in terrestrial and aquatic ecosystems

Since the 1970s, when anthropogenic acidification was recognized as a wide spread phenomenon in many European and North American areas, tremendous progress has occurred in the documentation, understanding, and predictions of acid rain effects on element cycling in waters and soils and whole ecosystem functioning. In parallel with significantly reduced emissions of S (and also N in some regions), numerous terrestrial and aquatic ecosystems have been significantly recovering from acidic stress since the late 1980s.

While the chemical recovery, manifested by decreasing terrestrial export of  $H^+$ , strong acid anions, base cations, and ionic Al, had been expected, the rapid increase in DOC leaching was a surprise, not predicted by available models and previous experience. Nitrate has become the dominant strong acid anion in terrestrial export in some areas, which increased scientific interest in N-saturation. The increased DOC leaching, N-saturation, combined effects of climate change and atmospheric pollution on nutrient cycling in terrestrial ecosystems, and possible trajectories of their recovery have become new targets of the present environmental research in the acidified areas. The new environmental models combine more individual cycles, like gears in an "ecosystem clock" and use them to explain observed changes in ecosystem functioning. The future research should focus on deeper understanding of relative roles of these cycles in ecosystems.

 Do. / Thu. 17 st  
Gebäude/Building  
GEO  
Hörsaal/Lecture hall  
H6

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