



Mercury Mobility and Speciation in Chinese and Swiss Forest Soils

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Forest ecosystems in China and Switzerland exhibit distinct Hg deposition trends. While there is continuously increased Hg deposition in China, the deposition rate of Hg has been decreased since 1960s in Switzerland. We sampled and characterised soils down to 70 cm depth at the Swiss Davos-Seehornwald and the Chinese Changbai Mt. sites with the objective to elucidate the speciation and mobility of soil Hg at both sites. The soil pH_{H₂O} of the predominant Podzols (FAO) at Davos-Seehornwald site in Switzerland ranges from 3.7 to 5.5. In comparison, the soils in Changbai Mt. in NE-China are slightly basic and classified as Chernozem according to FAO. We will determine the soil profile distribution of Hg at the Swiss Davos-Seehornwald and the Chinese Changbai Mt. sites to reveal at which horizons the recently and historically deposited Hg tends to accumulate and to which extent the recently and historically deposited Hg is/has been transported vertically. Further investigation with sequential extraction will enable us to understand how Hg in Chinese and Swiss soils distributes in operationally-defined organic and mineral components in soils and to estimate their potential of mobilisation via e.g. mineralisation and reductive dissolution.