

## SUMMARY

Human activities affect fluxes of mercury into the atmosphere and modify its biogeochemical cycle. Current emissions, concentrations and deposition rates of mercury are measured by a series of monitoring networks. For the estimation of historical deposition rates of mercury, we use numerous geochemical archives, which represent long-term records of atmospheric pollutants. Trends in concentrations and accumulation of mercury well correspond to trends in burning of fossil fuels, industrialization and use of mercury during the 19<sup>th</sup> and 20<sup>th</sup> century. Peat bogs as geochemical archives are suitable for studying these trends. Further research will be devoted to deciphering the processes of sequestration and cycling of mercury in peatlands, especially the role of vegetation in these systems.