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**Stable isotopes as tool to study water cycling under a changing climate**

Many ecosystems are under increasing pressure from anthropogenic activities including intensified water resource use and climate change. As a result, the interactions between humans, water, and the environment are now more significant and understanding them is vital. This talk highlights how isotope techniques can help investigate feedback processes between water, its age and origin, soil and vegetation from soil pore to ecosystem scales. It includes examples of novel isotope applications from forestry to agriculture in the light of environmental change.