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## Application of the stable isotope compositions of water for quantifying evaporative losses

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Comprehension of the hydrological process and accurate estimation of major water balance components are substantial for a prosperous hydrologic model application. Analyses of changes in the stable hydrogen and oxygen isotope composition of surface water and groundwater can be employed to estimate evaporation losses and to define the origin of water and the way it moves in a specific region. This study aims at a better understanding of the water cycle of lowland lakes (Groß Glienicker See, Sacrower See) in Berlin-Brandenburg state, Germany, using stable water isotopes (oxygen-18, deuterium). To get that done, an isotopic mass balance model (HydroCalculator) was applied to compute the evaporative losses over inflow from the lakes' water bodies under a steady-state hydrologic regime condition. The isotopic signatures of precipitation, water samples from eight observation wells, and from different depths of the lakes' water within the time period of September 2022 to Jan 2023 classify the lakes into flow-through types which are fed by shallow groundwater. The estimated fractional water loss by evaporation is slightly higher in Groß Glienicker See (35%) in comparison to Sacrower See (33%). This is due to the different depths and areas of their water bodies.