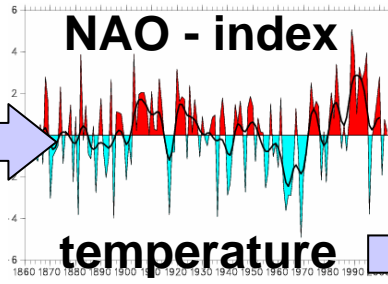
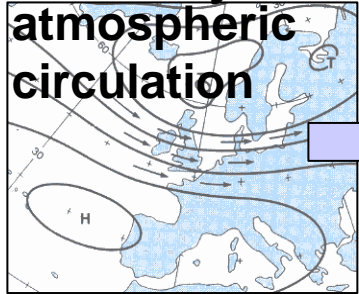


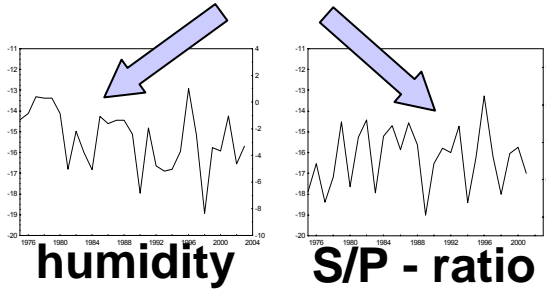
Footprints of Climate in Groundwater and Precipitation

A. Liebminger, G. Haberhauer, W. Papesch & G. Heiss

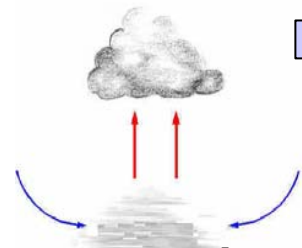
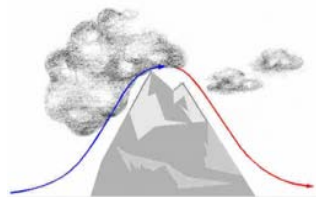
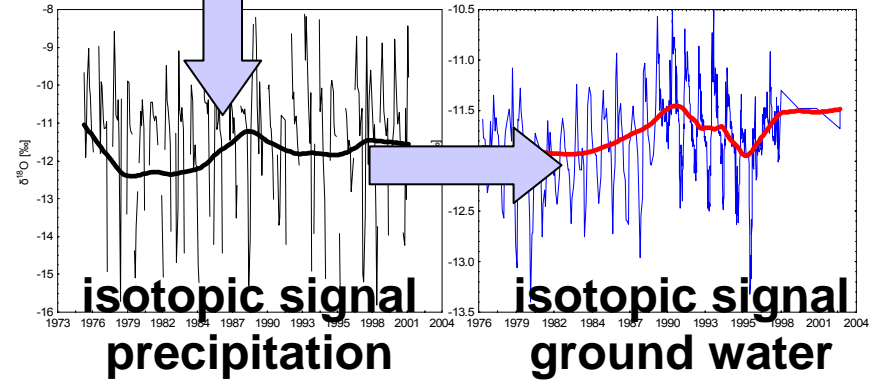
variability in the
atmospheric
circulation



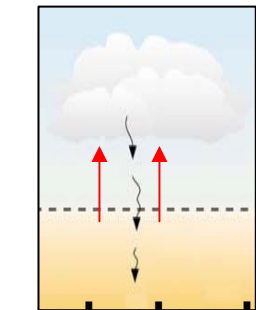
temperature
moisture



isotopic
variability



topography



sub cloud
evaporation

isotopic
shift

Sup. Fig. 1. The variability in the atmospheric circulation leads to the records of the NAO-index representing mainly differences in temperature and moisture. The well known correlation of temperature with the isotopic signal in precipitation is reflected as the main root cause for isotopic variability in the scheme (arrow for isotopic variability). As described in the manuscript there are other impacts although temperature driven also dependent on local geographical parameters (like sub cloud evaporation) which are able to create significant shifts within the isotopic composition in precipitation (arrow for isotopic shift). Finally this isotopic signal is preserved in groundwater of shorter mean residence times.