Stable Water Isotope Simulation with $COSMO_{iso}$

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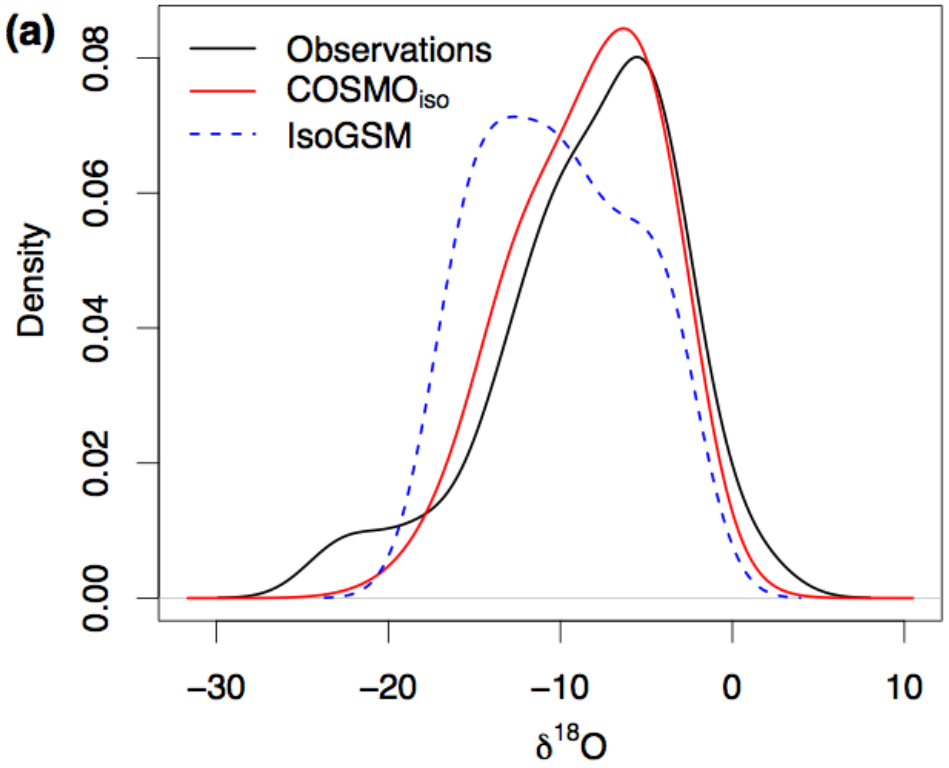
$H_2{}^{16}O$, $H_2{}^{18}O$, HDO

SWI are useful because

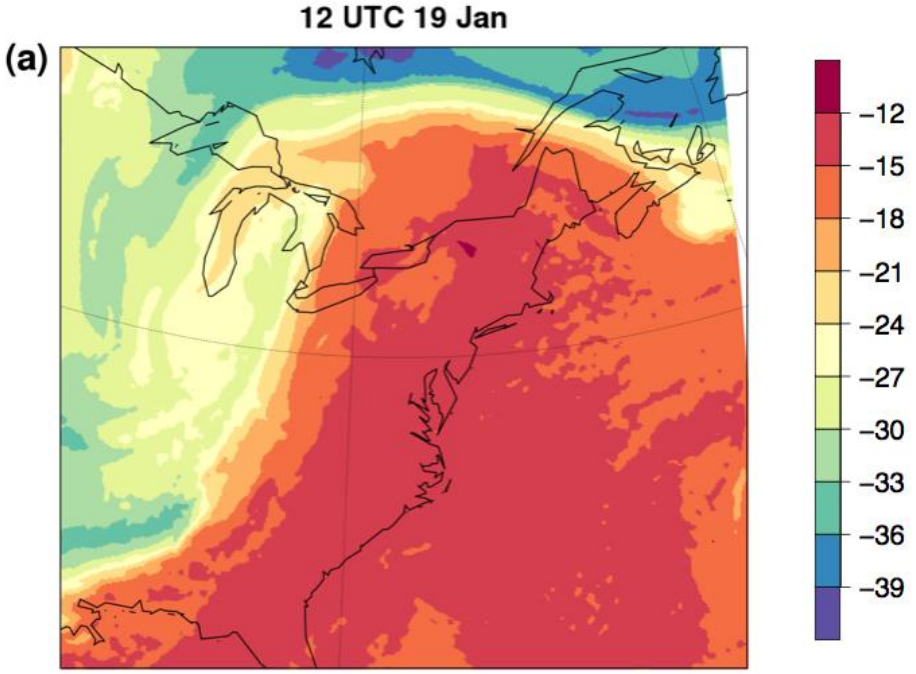
- They fractionate during phase changes
- They are natural tracers in the global water cycle
- They can be used as climate proxies for reconstructing long-term (temperature) changes

Simulation of a winter storm

Probability density function

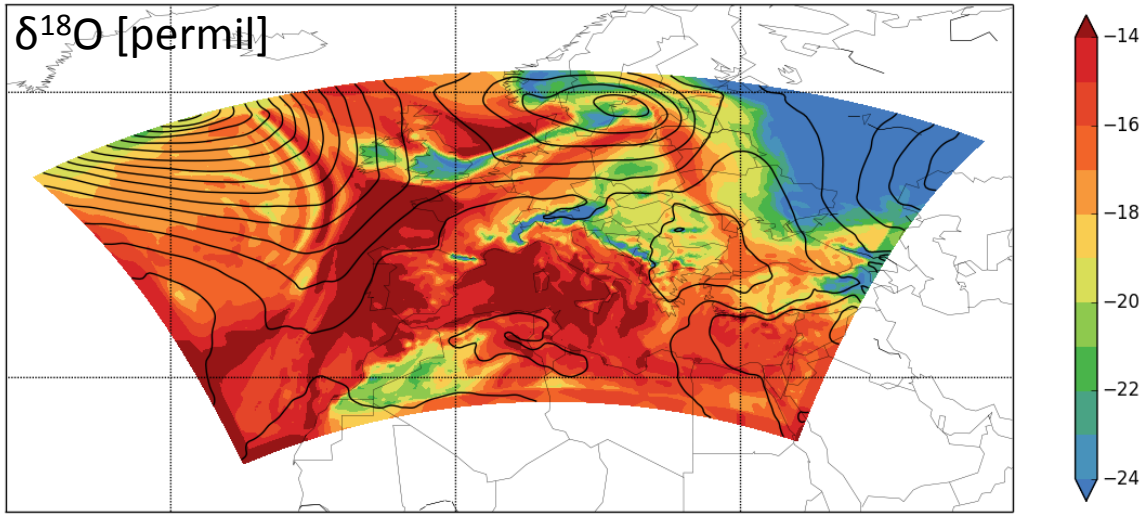


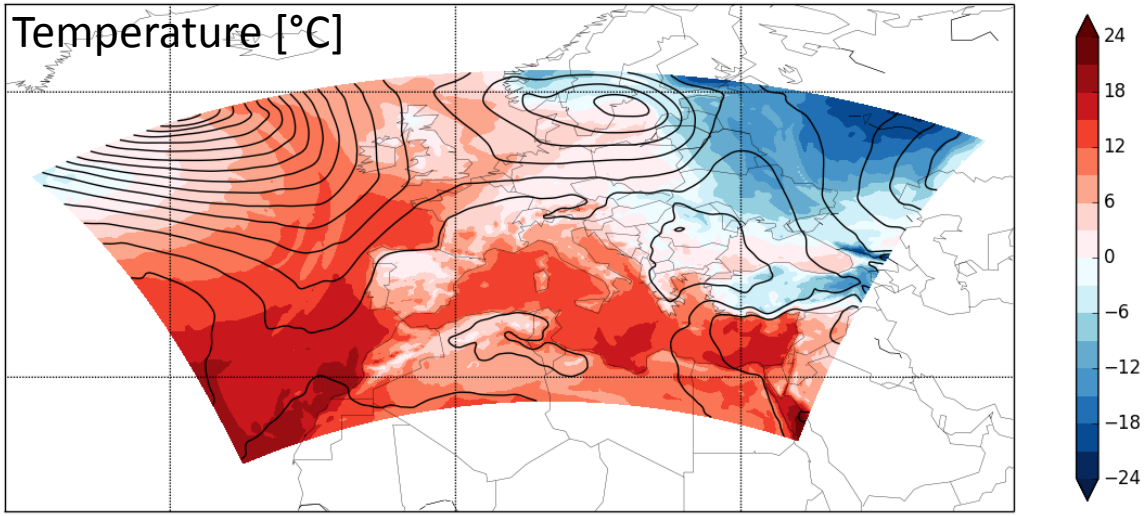
δ^{18}O in water vapour at 850hPa



Pfahl, S., Wernli, H., Yoshimura, K. (2012): The isotopic composition of precipitation from a winter storm – a case study with the limited-area model COSMOiso

My project





- Climatological studies (30 or more years)
- SWI in weather systems
- SWI as proxies for meteorological parameters