

**Water vapor isotope experiment was conducted at Rietholzbach site, Northeastern Swiss Prealps, CH (47.38N, 8.99E) from Aug 2011 to DEC 2011.**

### **1. Time stamps**

Data files are stored in hourly resolutions using start and end time stamps (YYYYMMDDHHmm).

### **2. Data format**

Data files are CSV formatted.

### **3. Time zone convention**

Time is reported in UTC.

### **4. Missing data**

Missing data is replaced with -9999.

### **5. Variable definitions**

Column	Description	Unit	Equipment	Height (m)	Additional description
Column 1	Start time	–	–	–	UTC
Column 2	End time	–	–	–	UTC
Column 3	Water mixing ratio	ppmv	Picarro L1115-i	1.5	–
Column 4	Water vapour isotopic ratio (18O)	per mil	Picarro L1115-i	1.5	Normalized to V-SMOW; Humidity dependence correlation: Non-linear regression
Column 5	Standard deviation of 18O	per mil	Picarro L1115-i	1.5	Hourly
Column 6	Water vapour isotopic ratio (D)	per mil	Picarro L1115-i	1.5	Normalized to V-SMOW; Humidity dependence correlation: Non-linear regression
Column 7	Standard deviation of D	per mil	Picarro L1115-i	1.5	Hourly
Column 8	Air temperature	Celsius (°C)	–	–	–

Column 9	Relative humidity	<=1	-	-	-
Column 10	Air pressure	kPa	-	-	-
Column 11	Precipitation	mm	-	-	-
Column 12	Net radiation	W/m2	-	-	-
Column 13	Wind speed	m/s	-	-	-
Column 14	Wind direction	degree (°C)	-	-	-
Column 15	Air temperature	Celsius (°C)	-	2	ERA5
Column 16	Relative humidity	<=1	-	2	ERA5
Column 17	Air pressure	kPa	-	2	ERA5
Column 18	Precipitation	mm	-	-	ERA5
Column 19	Net radiation	W/m2	-	-	ERA5
Column 20	Wind speed	m/s	-	-	ERA5
Column 21	Wind direction	°C	-	10	ERA5

## 6. Reference papers

Aemisegger, F., Pfahl, S., Sodemann, H., Lehner, I., Seneviratne, S. I., & Wernli, H. (2014). Deuterium excess as a proxy for continental moisture recycling and plant transpiration. *Atmos. Chem. Phys*, 14, 4029-4054.

## 7. Site contact

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