Water vapor isotope experiment was conducted at Borden site (forest), ON, Canada (44 °19'N, 79°56'W) from May 2009 to Aug 2009.

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	Campbell TGA-100A	37	–
Column 4	Water vapour isotopic ratio (18O)	per mil	Campbell TGA-100A	37	Normalized to V-SMOW; Humidity dependence correlation: Dripper system
Column 5	Standard deviation of 18O	per mil	Campbell TGA-100A	37	Hourly
Column 6	Water vapour isotopic ratio (D)	per mil	Campbell TGA-100A	37	Normalized to V-SMOW; Humidity dependence correlation: Dripper system
Column 7	Standard deviation of D	per mil	Campbell TGA-100A	37	Hourly
Column 8	Air temperature	Celsius (°C)	HMP45A	33	–

Column 9	Relative humidity	<=1, dimensionless	HMP45A	33	–
Column 10	Air pressure	kPa	HMP45A	33	–
Column 11	Precipitation	mm	Tipping bucket rain gauge (Belfort, Baltimore, MD)	-	–
Column 12	Net radiation	W/m2	CNR-1	-	–
Column 13	Wind speed	m/s	CSAT3	33	–
Column 14	Wind direction	degree (°C)	CSAT3	33	–
Column 15	Air temperature	Celsius (°C)	–	2	ERA5
Column 16	Relative humidity	<=1	–	2	ERA5
Column 17	Air pressure	kPa	–	–	ERA5
Column 18	Precipitation	mm	–	–	ERA5
Column 19	Net radiation	W/m2	–	–	ERA5
Column 20	Wind speed	m/s	–	10	ERA5
Column 21	Wind direction	˚C	–	10	ERA5

6. Reference papers

Santos, E., Wagner-Riddle, C., Lee, X., Warland, J., Brown, S., Staebler, R., Bartlett, P. and Kim, K., 2012. Use of the isotope flux ratio approach to investigate the C18O16O and 13CO2 exchange near the floor of a temperate deciduous forest. Biogeosciences, 9(7), pp.2385-2399.

7. Site contact

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