Water vapor isotope experiment was conducted during JARE 55 cruise (Ship name: *Icebreaker Shirase*) between Nov 2013 and Mar 2015 over Australia and Syowa base.

1. Time stamps

Data files are stored in hourly resolutions using 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	Latitude	degree (°C)	–	–	–
Column 3	Longitude	degree (°C)	–	–	–
Column 4	Water mixing ratio	ppmv	LGR DLT-100	30	–
Column 5	Water vapour isotopic ratio (18O)	per mil	LGR DLT-100	30	Normalized to V-SMOW; Humidity dependence correlation: Non-linear regression
Column 6	Standard deviation of 18O	per mil	LGR DLT-100	30	Hourly
Column 7	Water vapour isotopic ratio (D)	per mil	LGR DLT-100	30	Normalized to V-SMOW; Humidity dependence correlation: Non-linear regression

Column 8	Standard deviation of D	per mil	LGR DLT-100	30	Hourly
Column 9	Air temperature	Celsius (°C)	–	–	–
Column 10	Relative humidity	<=1	–	–	–
Column 11	Air pressure	kPa	–	–	–
Column 12	Precipitation	mm	–	–	–
Column 13	Net radiation	W/m2	–	–	–
Column 14	Wind speed	m/s	–	–	–
Column 15	Wind direction	degree (°C)	–	–	–

6. Reference papers

Kurita, N., N. Hirasawa, S. Koga, J. Matsushita, H.-C. Steen-Larsen, V. Masson-Delmotte, and Y. Fujiyoshi (2016), Influence of large-scale atmospheric circulation on marine air intrusion toward the East Antarctic coast, Geophys. Res. Lett., 43, 9298-9305, do:10.1002/2016GL070246.

Kurita, N., N. Hirasawa, S. Koga, J. Matsushita, H.-C. Steen-Larsen, V. Masson-Delmotte, and Y. Fujiyoshi (2016), Identification of air masses responsible for warm events on the East Antarctic coast, SOLA, 12, 307-313, doi:10.2151/sola.2016-060.

7. Site contact

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