

**Water vapor isotope experiment was conducted at Teide Observatory, Canary Islands, Spain (28.3N, 16.5W) from June 2013 to May 2015.**

The in-situ data measured during MUSICA are freely available at:

<http://share.lsfdf.kit.edu/imk/asf/musica/INSITU/>

The users should also have a look on the webpage for updates:

<http://www.imk-asf.kit.edu/english/2746.php>

The data have been measured in the framework of the MUSICA project and the users should add a respective acknowledgement and respect the general data policy as attached in dataset file.

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### 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 L2120-i	10	-
Column 4	Water vapour isotopic ratio (18O)	per mil	Picarro L2120-i	10	Normalized to V-SMOW; Humidity dependence correlation: No
Column 5	Standard deviation of 18O	per mil	Picarro L2120-i	10	Hourly

Column 6	Water vapour isotopic ratio (D)	per mil	Picarro L2120-i	10	Normalized to V-SMOW; Humidity dependence correlation: No
Column 7	Standard deviation of D	per mil	Picarro L2120-i	10	Hourly
Column 8	Air temperature	Celsius (°C)	Rotronic	10	-
Column 9	Relative humidity	<=1	Rotronic	10	-
Column 10	Air pressure	kPa	Setra 470	10	-
Column 11	Precipitation	mm	-	-	-
Column 12	Net radiation	W/m2	Kipp & Zonen CM-5 and CM-11	-	-
Column 13	Wind speed	m/s	Thies Sonic anemometer	10	-
Column 14	Wind direction	degree (°C)	Thies Sonic anemometer	10	-
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

González, Y., Schneider, M., Dyroff, C., Rodríguez, S., Christner, E., García, O. E., Cuevas, E., Bustos, J. J., Ramos, R., Guirado-Fuentes, C., Barthlott, S., Wiegele, A., and Sepúlveda, E.: Detecting moisture transport pathways to the subtropical North Atlantic free troposphere using paired H<sub>2</sub>O- $\delta$ D in situ measurements, *Atmos. Chem. Phys.*, 16, 4251-4269, <https://doi.org/10.5194/acp-16-4251-2016>, 2016.

## **7. Site contact**

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