

## **FAIRness wizard: FAIR Micromet Portal FMP2.0**



What we see is a perspective (...), what we hear is an interpretation (...)" (Marcus Aurelius) the truth is hidden somewhere in the data.

The current state of weather-induced agricultural losses, water use for irrigation, the appearance of new invasive species and disease vectors (strongly depending on micrometeorological conditions), new environmental zoning of plant diseases and pests, deforestation, increased urbanization, rural-to-urban migration and increased urban energy consumption for cooling and heating impose scientific and societal demands for FAIR micrometeorological data.



## Are your µmet\* data FAIR?















Our adherence to the FAIR principles is documented below:

**Findable**. Machine-readable metadata is required for automatic discovery of datasets and services. A metadata description is supplied by the data owners for all micro-meteorological data shared on the system which subsequently drives the search engine, using keywords or network, site and sensor search terms.

**Accessible**. When suitable datasets have been identified, access details should be provided. Assuming data is freely accessible, Zenodo DOIs and links are provided for direct data access.

**Interoperable**. Data interoperability means the ability to share and integrate data from different users and sources. This can only happen if a standard (meta)data model is employed to describe data, an important concept that generally requires data engineering skills to deliver. In the knowledge portal presented here, the WMO guide provides the design and structure for metadata.

**Reusable**. To truly deliver reusability, metadata should be expressed in as detailed a manner as possible. In this way, data can be replicated and integrated according to different scientific requirements. While the Knowledge Portal facilitates very detailed metadata descriptions, not all metadata is compulsory as it was accepted that in some cases, the overhead in providing this information can be very costly.

## Do you want to make your µmet data FAIR?





# FAIR Micromet Portal FMP2.0

- Data are stored on **ZENOODO** 

**Subscribe and watch!** 

Metadata and DOI are Findable,
Accessible, Interoperable and
Reusable through FAIRNESS FMP

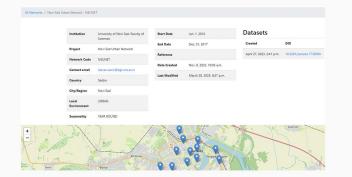




### Even I know that it will make it:

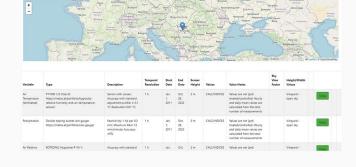
- More Visible
- As open as I want
- Improve data discovery, and access
- Enable re-use
- Enhance (interdisciplinary understanding)

NO



Name	Latitude	Longitude	Altitude (M)	Time Zone	Macroscale Environment	
12-2	45.249166	19.837222	79.00000	utc	Urban Street Canyon	1
12-3	45.261388	19.040000	78.00000	utc	Residential Area (Multi-Story Buildings)	1
s3-2	45.233333	19.809722	79.00000	utc	Residential Area (Houses)	1
15-2	45.25	19.816111	75.00000	utc	Boulevard	1
s5-3	45.2625	19.826388	78.00000	utc	Residential Area (Multi-Story Buildings)	1
s5-4	45.238055	19.832777	81,00000	utc	Residential Area (Multi-Story Buildings)	
s5-5	45.253055	19.8475	80.00000	UTC	Residential Area (Multi-Story Buildings)	1
s5-6	45.2425	19.847222	78.00000	utc	Residential Area (Multi-Story Buildings)	1
16-4	45.233611	19.791944	76.00000	utc	Residential Area (Houses)	
s6-8	45.251388	19.875555	76.00000	UTC	Residential Area (Houses)	
16-9	45.240555	19.881111	92.00000	utc	Residential Area (Houses)	1
s0-1	45.272369	19.020033	77.00000	utc	Industrial Area	- 1





To support owners of micrometeorological data to make their data FAIR, the FAIR Micromet Portal (FMP2.0) was developed within the CA20108 COST Action. FMP2.0 is designed and built to guide owners through FAIR principles, in a step-by-step manner, to make large volumes of data FAIR compliant. More details about FMP2.0 and its functionalities can be found in Roantree et al. (2023).

### **AUTHORS**



Mark Roantree: mark.roantree@dcu.ie Insight Centre for Data Analytics, Dublin City University, Dublin, Ireland



**Stevan Savić:** stevan.savic@dgt.uns.ac.rs Faculty of Sciences, University of Novi Sad, Faculty of Sciences, Serbia



Michael Scriney: michael.scriney@dcu.ie School of Computing, Dublin City University, Dublin, Ireland



**Branislava Lalic**: branislava.lalic@polj.edu.rs Faculty of Agriculture, University of Novi Sad, Serbia



**Dragan Milošević**: dragan.milosevic@dgt.uns.ac.rs Climatology and Hydrology Research Centre, University of Novi Sad, Serbia

### **REREFENCES**

Intergovernmental Panel on Climate Change. Global Warming of 1.5°C, 2019. World Economic Forum. The Global Risks Report (14th Ed), 2019

PwC EU Services, 2018: The cost of not having FAIR research data. DOI 10.2777/02999

Roantree, M., Lalic, B., Savic, S., Milosevic, D., and Scriney, M., 2023: Constructing a Searchable Knowledge Repository for FAIR Climate Data, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-7786. https://doi.org/10.5194/egusphere-egu23-7786, 2023.

\* µmet = micrometeorological

