FAIRNESS

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EDITOR'S ADDRESS

Dear readers,
We are delighted to present to you the fourth issue of the newsletter devoted to the FAIRNESS COST Action.

Newsletters have the role of showing and spreading the Action's features and deliverables.

In this fourth issue, we are pleased to give insight in urban and rural networks and micrometeorological data in Europe, and to introduce you with our colleagues Stevan Savić and Veronika Kvetonova.

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FAIRNESS

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NEWSLETTER

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ABOUT FAIRNESS

The FAIRNESS action intends to improve standardization and integration between databases/sets of micrometeorological measurements that are part of research projects or local/regional observational networks established for special purposes (agrometeorology, urban microclimate monitoring).

Addressing identified challenges requires an effective transboundary network of researchers, stakeholders (extension services and environmental agencies, local authorities and ministries, SME) and civil society (specialized and general public) from Europe and beyond to identify and fill knowledge gaps, standardize, optimize and promote new environmental-tailored measurement and control procedures, enhance research effectiveness and improve dissemination.

Inventory of urban and rural networks and availability of micrometeorological data in Europe

Through the FAIRNESS project the inventory of existing and functional micrometeorological networks across Europe has been started. We are focused on networks that are not part of official national networks, but deployed by institutions who work on monitoring of climate and environmental issues. The main goal is to put in one place all basic information about meteorological networks and contact persons in order to provide better connections between institutions and support those datasets be more available.

The process of creating the meteorological network inventory started in 2021 and will be active until the end of the project for sure (end of 2025). Up to now we have created a list of dozens of urban and rural networks across Europe. The last version of the inventory list has been found on the FAIRNESS project`s website (link: https://www.fairness-ca20108.eu/working-group-1/) and this list has been updated every few months.

Up to now, we gathered 72 urban and rural meteorological networks from 23 different countries such as: Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Estonia, Finland, France, Germany, Greece, Hungary, Israel, Italy, The Netherlands, Portugal, Romania, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Turkey and UK. In total, we presented 29 urban meteorological networks, eight networks are both urban and rural, and others are rural meteorological networks, only. For each meteorological network we gathered general information related to the 'network name', 'city/region name', 'Lat/Long', 'elevation', 'station/sensor type', 'number of stations', 'measurement period', 'measurement interval/s', 'measured parameters', 'data format', 'open access status', 'web address to data', 'contact person', and more. Based on the list of available networks, it must be pointed out that there is a large discrepancy between the networks in terms of number of stations/sensors, measurement process, data availability, time of operation, etc.

Based on this action we obtained free way to networks and to contact persons for everyone who is interested in collaboration or to use datasets form some city or rural region. Finally, the general goal of this action is to provide datasets to be more available, to intensify collaboration and to contribute that these datasets being more use in scientific and practical manners.

In case that someone is interested to share network information or interested to use datasets all necessary guides are visible on this link: https://www.fairness-ca20108.eu/working-group-1/ .

Prepared by prof. dr. Stevan Savić

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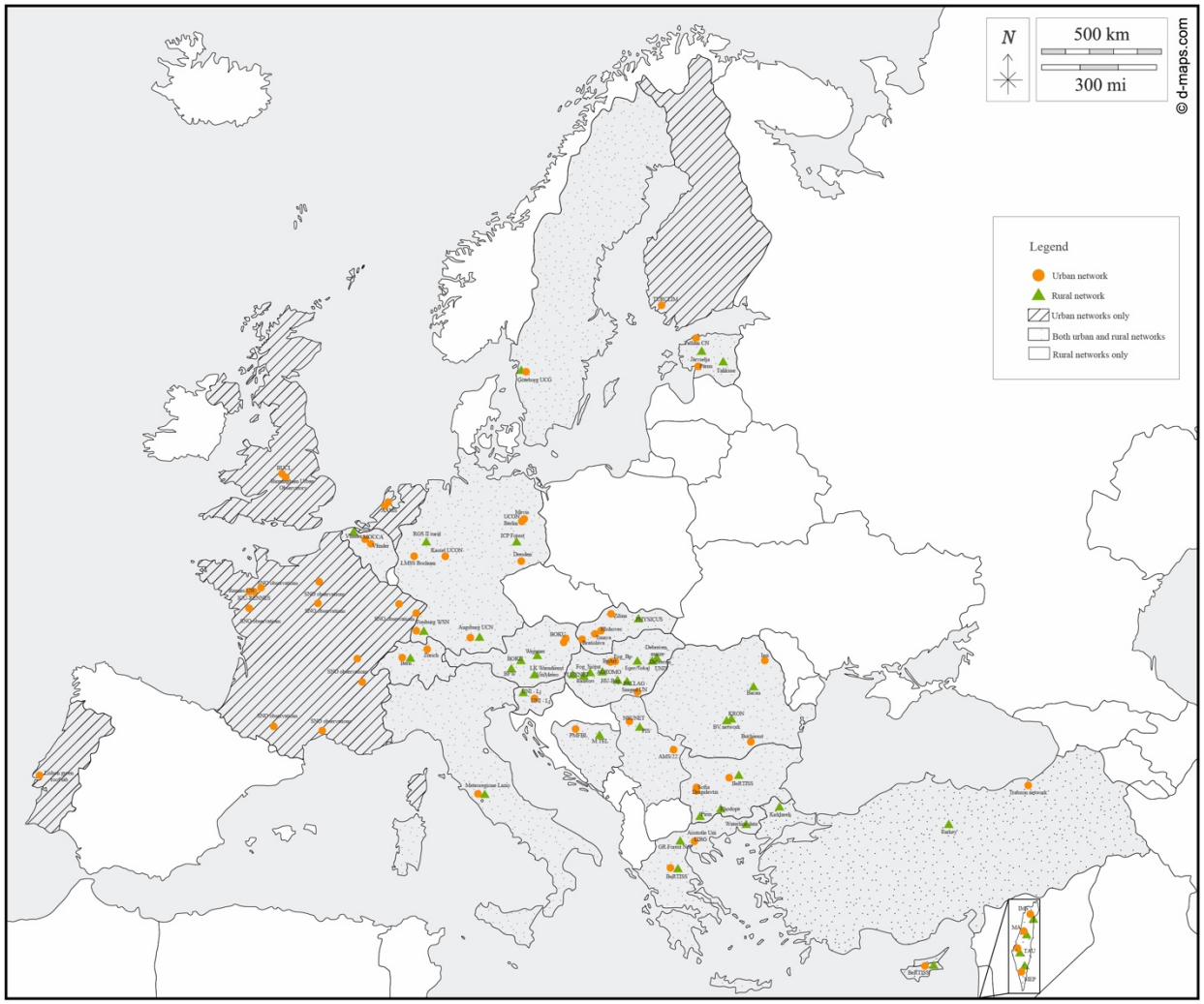
Map: SPATIAL DISTRIBUTION OF URBAN AND RURAL NETWORKS BASED ON INVENTORY LIST.



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BIOGRAPHY

Stevan Savić, University of Novi Sad, Faculty of Sciences, Novi Sad Urban Climate Lab.

Professor Stevan Savić have more than 18 years of experience in UNI education and sciences related with climate change. In the last 14 years the research focus is on urban climate issues, particularly urban thermal conditions, outdoor thermal comfort, thermal risk assessments and urban environment.
Experienced in common research works, such as the communication and creation of institution/researcher networks, writing scientific papers and project applications. Experienced in leading and realization of research projects (with focus on urban climate and urban environment). The biggest projects were funded by the EU, with budgets from 0.2 to 1.4 mil. Euros.

What was your motivation to be a part of FAIRNES COST action?

There are two motivating reasons why I am part of the FAIRNES project. The first is an excellent scientific collaboration with prof. Branislav Lalić (project leader), which has been going on since before the application of this project.

Another reason is the topic of the project itself, that is, the focus on monitoring meteorological elements at the micro-scale and work on data availability.

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What are your expectations from FAIRNESS?

During the realization of the FAIRNES project, and in the later period, I expect intensive networking of institutions and experts whose work is focused on the development of urban meteorological networks and urban climate monitoring, because this is an element that is still missing in comprehensive scientific work. Some steps have already been achieved with the creation of a list of urban and rural networks in Europe, but we need to go further...I believe that this project can contribute to that in the long term.

According to you, what are the main challenges and issues of urban climate in relation to climate change?

The main problem is still the standardization of methodology and monitoring. There is still a lack of a sufficiently high-quality global classification of urban areas, then there is an even bigger problem with global thermal comfort indices, and when we talk about urban meteorological networks... literally everyone is unique in its own way in the technical sense and work process. It's a big problem in regional and global research, and that's why we're still focused on the local level.

How do you see opportunities in your field of sciences?

The greatest importance of urban climate research is its practicality and importance for the community. This should be used to the maximum by obtaining financial resources from various sources, and on the other hand, thanks to these resources, new solutions that will benefit everyone should be provided.

Veronika Kvetonova
Department of Geography, Faculty of Science, Palacky University Olomouc

BIOGRAPHY

Veronika is a PhD candidate and a member of an Urban Climate research group at the Department of Geography, Palacký University Olomouc, Czechia. Her research focuses on outdoor thermal comfort, in particular on participatory mapping and thermal sensation in the human thermal environment, and a comparison of these methods with the real thermal environment – data from micrometeorological measurements and simulations.

What was your motivation to be a part of FAIRNES COST action?

For me, as an early career researcher, this is a unique opportunity to learn new skills from professionals in our field from all over Europe. At the same time, I can meet other young researchers working in urban biometeorology so it is a great platform for networking. Also, I would like to contribute to the FAIR database with data obtained from our micrometeorological measurements. From my point of view, this COST action is a great intention which I hope will be more extended.

What are your expectation from FAIRNESS?

Unfortunately, most of the micrometeorological studies are solved only on a local or regional level. Creating a FAIR database could enhance these studies on a larger spatial scale. In addition, this could also improve the quality of obtained data, avoid errors, and prolong data collection which is sometimes done only for the duration of the project. Moreover, I believe in better

interconnection of micrometeorological researchers, especially early career researchers, through this network and I expect more tailor-made high-quality workshops and discussions about the current problems in urban biometeorology.

Did you take a part in some activities and events organized by FAIRNESS?

Yes, I took part in the first Summer School organized by FAIRNESS entitled "Filling common gaps in measured data" which was held in Volos, Greece in the summer of 2022. It was an amazing and enriching experience full of theoretical lectures but more importantly number of application-oriented trainings, all led by professional lectures from a wide international micrometeorological community. In 2023 I attended the FAIR network of micrometeorological measurements conference hosted in Rome. I highly recommend every activity and event organized by FAIRNESS.

How do you see opportunities in your field of sciences?

In light of ongoing climate change urban biometeorology is a rapidly developing field of research and I think that specialists in this field will be needed at academic institutions as well as in municipalities or the private sector. Nevertheless, for me as a young woman, it will not be easy to get a full-time academic position after my Ph.D. I believe that international relevance and experiences from actions like FAIRNESS could help me. I admit, that actions like COST where I can meet excellent researchers from our scope motivate me to work harder.

FAIR Network of micrometeorological measurements

The FAIRNESS Action intends to improve standardization and integration between databases / sets of micrometeorological measurements that are part of research projects or local / regional observational networks established for special purposes (agrometeorology, urban microclimate monitoring).

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- **Areas of Expertise Relevant for the Action**
- Earth and related Environmental sciences: Meteorology, atmospheric physics and dynamics
- Earth and related Environmental sciences: Climatology and climate change

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Keywords

rural micrometeorology, urban micrometeorology, climate change, measurement network, knowledge share platform

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