

EGU22-7916

<https://doi.org/10.5194/egusphere-egu22-7916>

EGU General Assembly 2022

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



Citizen science - an invaluable tool for obtaining high-resolution spatial and temporal meteorological data

Jadranka Sepic¹, Jure Vranic¹, Ivica Aviani¹, Drago Milanovic², and Miro Burazer³

¹University of Split, Faculty of Science, Split, Croatia

²Golar LNG, Split, Croatia

³Crumb, Split, Croatia

Available quality-checked institutional meteorological data is often not measured at locations of particular interest for observing specific small-scale and meso-scale atmospheric processes. Similarly, institutional data can be hard to obtain due to data policy restrictions. On the other hand, a lot of people are highly interested in meteorology, and they frequently deploy meteorological instruments at locations where they live. Such citizen data are often shared through public data repositories and websites with sophisticated visualization routines. As a result, the networks of citizen meteorological stations are, in numerous areas, denser and more easily accessible than are the institutional meteorological networks.

Several examples of publicly available citizen meteorological networks, including school networks, are explored – and their application to published high-quality scientific papers is discussed. It is shown that for the data-based analysis of specific atmospheric processes of interest, such as mesoscale convective disturbances and mesoscale atmospheric gravity waves, the best qualitative and quantitative results are often obtained using densely populated citizen networks.

Finally, a “cheap and easy to do” project of constructing a meteorological station with a variable number of atmospheric sensors is presented. Suggestions on how to use such stations in educational and citizen science activities, and even in real-time warning systems, are given.