

URCLIM NEWSLETTER

Towards European Climate Services

EDITORIAL

The URCLIM project entered in third year. The first phase of the project focused on development of innovative methodologies to evaluate impacts of climate change in cities and their uncertainties. Time is now on the co-construction of urban climate services with the evaluation of adaptation strategies with the urban planners of the various cities involved in the project. Smart visualization development for these urban climate services is also under way. The project will be extended by 6 Months, allowing further interaction with the stakeholders.

BREAKING NEWS

The project duration is about to be extended for six months. This shall help the URCLIM team to better disseminate its results.

Agenda

13/01/2020

American Meteorological Society (AMS) General Assembly

On behalf of our team, Valery MASSON as coordinator, will present URCLIM goals, methodology and latest activities.

26-27/02/2020

URCLIM General Assembly in France.

And more to come! Stay tuned!

Publications

Le Roy B., A. Lemonsu, R. Jounkou-Arnaud, D. Brion, V. Masson (2019): Potential of spatialized data for urban climatological studies on long time series: case study of Paris' city, France, *International Journal of Climatology* <https://doi.org/10.1002/joc.6414>

Masson V., W. Heldens, E. Bocher, M. Bonhomme, B. Bucher, C. Burmeister, C. de Munck, T. Esch, J. Hidalgo, F. Kanani-Sühring, Y-T Kwok, A. Lemonsu, J.-P. Lévy, B. Maronga, D. Pavlik, G. Petit, L. See, R. Schoetter, N. Tornay, A. Votsis, J. Zeidler, 2019: City-descriptive input data for urban climate models: Model requirements, data sources and challenges, *Urban Climate*, 31 <https://doi.org/10.1016/j.uclim.2019.100536>

URCLIM honoured to feature in the brand new [E-magazine of the JPI-Climate](#)



A new study by URCLIM partner' RMI:

Earlier studies show that **extreme hourly precipitation increases with daily mean temperature**, consistent with the Clausius-Clapeyron (CC) relation. Recent studies at specific locations found that for temperatures higher than around 12 °C, hourly precipitation extremes scale at rates higher than the CC-scaling, a phenomenon which is often referred to as "super-CC scaling". In this study, a statistical model is presented for a robust estimation of the increase of extreme precipitation with temperature.

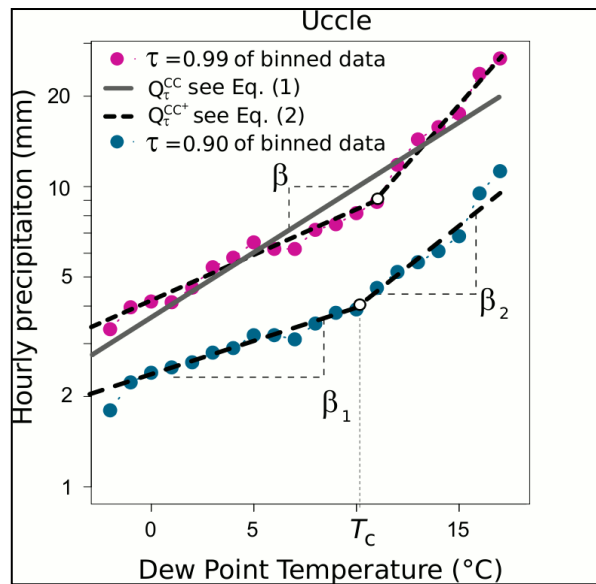
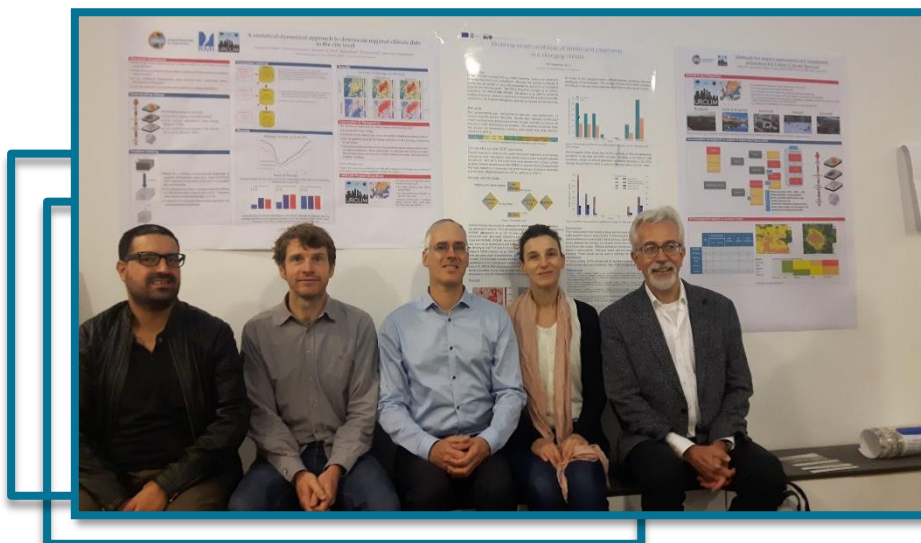


Figure 1 - Van de Vyver, H., Van Schaeybroeck, B., De Troch, R., Hamdi, R., Termonia, P.. Modeling the scaling of short-duration precipitation extremes with temperature. Earth and Space Science. 2019. <https://doi.org/10.1029/2019EA000665>

Special Focus – The ERA4CS Mid-Term review

The ERA4CS mid-term review occurred on the 17th and 18th of October 2019. ERA4CS sub-projects have been presented. As ERA4CS also aims at **stimulating synergies** with other European programmes such as Copernicus, a representative of the Copernicus Climate Change Service (C3S) was invited. **It was the opportunity for the URCLIM team to illustrate the way data generated by and within URCLIM could be used/transferred by C3S.** Six team members were present, namely: Valéry MASSON (Coordinator, Météo France), Bénédicte BUCHER (IGN), Rafiq HAMDI and Bert VAN SCHAEYBROECK (RMI) as well as Adriaan PERRELS and Athanasios VOTSIS (FMI). During the meeting, the question of mutual learning on cross cutting issues between ERA4CS sub-projects. Indeed, no common approach has emerged so far between all ERA4CS funded projects. Hence, the idea of elaborating a joint key message by all the projects on the value of climate services in addressing the societal challenge of climate change. URCLIM will go further into this direction.



URCLIM represented by Météo France, FMI, RMI, IGN.



METEO ROMANIA DECYPHERS FOR YOU THERMAL DISCOMFORT

Have a look in fig. 2 and 3 below, these are samples of the results regarding the thermal discomfort in cities, selected from MeteoRo work for the deliverable D3.1.

The figures are based on ERA5 data for the period June-July-August 2009-2018. They were produced by computing UTCI (Universal Thermal Climate Index), which 'measures' thermal discomfort by using 10 classes for both cold and heat stress. Those for the heat stress are listed in Fig.3 below.

The figures (both for Bucharest) represent the following:

- ❖ Figure 2 represents monthly mean number of days with certain comfort conditions, computed in the grid point closest to city centre (and thus representative for the entire city, in the limits allowed by the data spatial resolution and the method applied).
- ❖ Figure 3 highlights the spatial distribution of seasonal mean number of days with pronounced thermal discomfort (i.e. strong heat stress, very strong heat stress and extremely strong heat stress).

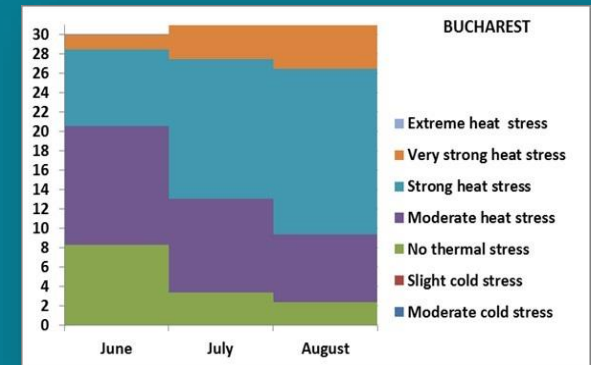


Figure 2 - Monthly mean number of days with certain comfort conditions

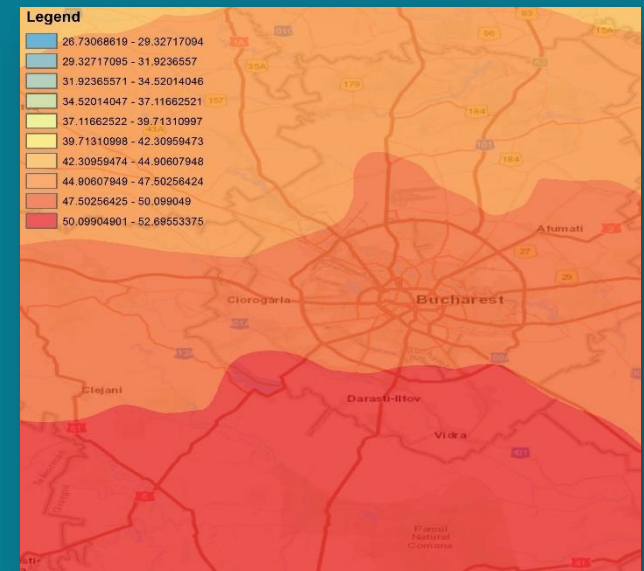


Figure 3 - Spatial distribution of seasonal mean number of days with pronounced thermal discomfort



Blogosphere

On the 13th and 14th of November 2019, the Making Climate Services a Reality in Europe conference was held in Brussels. URCLIM was represented. Here is a meeting summary by Adriaan Perrels from the Finnish Meteorological Institute (FMI).

THE CITY AS VERSATILE COMPENDIUM OF CLIMATE SERVICES' APPLICATION OPTIONS

VITO, together with the other partners of the [Climate-fit.city](#) project, organised a two-day event on climate services and their development in Tervuren (near Brussels) on the 13th and 14th of November 2019. On behalf of URCLIM, Adriaan Perrels attended the event and got the chance to give a short presentation about URCLIM.

The conference aimed at connecting better with (potential) users and user groups. There were sessions about urban adaptation and environmental management applications, tourism, water management, transport, energy, public health, and agriculture. **In many of these thematic sessions, the urban use context functioned as a backdrop for thematic applications,** such as urban heat stress (health) and enhancement of urban bicycle use (low emission mode & health).

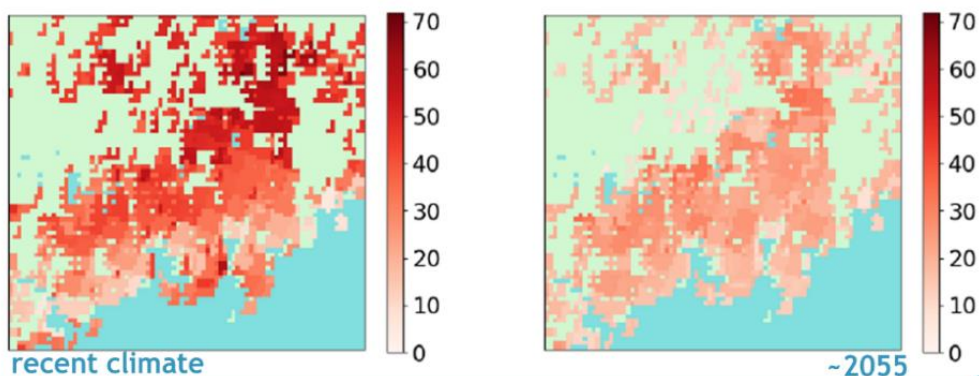
The opening session's key note speakers (from Copernicus, Flemish Environment Agency, and TIC (global council of testing & certification organisations)) represented a fitting diversity of user angles which can also be associated with different positions in the value chain of climate services. **Copernicus** deals with the upstream supply of quality assured of basic climate data. The **Flemish Environment Agency**

emphasized the importance of downstream products, so as to open up climate services use for all kinds of actors in cities. Finally, **TIC** indicated interest in collections of indicators as building blocks of climate change aware certification and verification services, being midstream to downstream climate service.

For URCLIM, this is useful to check how GERICS and the Climate-fit.city community are building up portfolios of climate services, in which cities can play a part as companions or 'ambassadors'. **In the URCLIM presentation the most enticing were the graphs on slipperiness in Helsinki.**

In the urban transport session was demonstrated that the benefits of exercise through biking (private and public health, cheap) far outweigh the private risks of accidents and breathing mediocre air. The public health session was highly interesting. Next to heat stress modelling and monitoring in Antwerp, the striking accuracy of projections on the northward extension of some Tropical vector borne diseases into Europe was worth noting, as well as the mortality monitoring data analysis services ([Sciensano](#)) needed for proper attribution of climate change effects to public health effects.

Figure 4 - Number of days with slippery conditions for pedestrians (O. Saranko FMI)



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A.Perrels, Finnish Meteorological Institute

