

Interactive comment on “Regional climate model assessment of the urban land-surface forcing over central Europe” by P. Huszar et al.

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Dear authors,

I have 3 questions/comments to your paper:

1) Comment: for the analysis of the statistical significance of the effects from the urban parameterization to the temperature, precipitation and wind you use the significance test T-test. However, the applicability of this test poses one very important criterium to the analysed data: the data MUST BE NORMALLY distributed. For the temperature data this might be fulfilled in some cases, but not for the precipitation and not for the wind. The distribution of precipitation usually has a shape of a Gamma-distribution and the distribution of the wind has the shape of a Weibull-distribution. This means the

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t-test IS NOT APPLICABLE to the data. That is why, for example, we see such little signal of the precipitation changes in the Figure 8.

The analysis you try to do may be very similar to the analysis done by Trusilova et al (2008) who used non-parametric tests (Sign test and Manns-Whitney Test) for on the statistical significance of precipitation and temperature changes.

The analysis of the statistical significance must be re-done, I am afraid.

2) Comment: please discuss how your findings differ to those of Trusilova et al (2008).

3) Question: how many wall/roof/road layers were used for the simulations? how thick were these layers? How the inner building temperature is treated in the simulations? This information may be useful for explaining the daytime urban cooling if, for example, the building walls are set too thick and the model does not "warm" it enough quickly during the day producing the phase-offset in the diurnal temperature curve.

Mentioned reference: TRUSILOVA, K., JUNG, M., CHURKINA, G., KARSTENS, U., HEIMANN, M., and CLAUSSEN, M. (2008) Urbanization Impacts on the Climate in Europe: Numerical Experiments by the PSU–NCAR Mesoscale Model (MM5) - Journal of Applied Meteorology and Climatology, 47, 1442-1455.

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