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Online modelling of thermal comfort conditions in campus of Moscow State University (Moscow, Russian Federation)

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Due to the heterogeneity of urban development in the Moscow region, thermal comfort conditions at different points in the same territory will differ noticeably with the same meteorological parameters. Thus, it is necessary to study the parameters of comfort at the microscale. Therefore, within the framework of this study, in order to inform the public about the negative impact of the weather, and further to minimize the consequences on the human body, an attempt was made to develop an operational system for predicting dangerous conditions of thermal comfort.
In order to collect climate statistics, climate data were calculated for comfort conditions for the MSU campus using the RayMan model (Matzarakis, Rutz; 2005) Therefore, it is possible to analyze the changes in biometric conditions in recent years and track trends in various locations.
Since the input parameters for the RayMan diagnostic model, which processes only text documents, serve as predictive data for the Canadian GEM global meteorological parameters in grib2 format, a program for converting files using Command.exe and Fortran-90 language alllowed us to create an online module for predicting biometric indices (UTCI, PET and mPET).
For the convenience of perception of information, the results of calculations are visualized on the basis of Yandex maps.
Online forecasting is a new direction in biometeorology and, quite possibly, will continue to be of particular importance for the functioning of urban infrastructure.

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References:
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