Project: 1443

Project title: CoSynHealth - Conflicts and Synergies between carbon-neutral and healthy City Scenarios

Principal investigator: Peter Hoffmann

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Despite a delay due to unexpected staff changes, the team successfully defined the simulation domain with stakeholders, set up the PALM-4U static driver for Altona at 8-meter, 4-meter, and 2-meter resolutions, and prepared forcing data for a heat wave in August 2020 using data from the Wettermast in Billwerder. Evaluation runs at 8-meter and 4-meter resolutions were successfully conducted with the support by experts from DKRZ, and thermal comfort variables Universal Thermal Climate Index (UTCI) and Physiological Equivalent Temperature (PET) were computed for the domain (Figure 1). Currently, these simulations are evaluated with data from the FESST@HH measurement campaign data. However, in contrast to the initial proposal, the 2-meter resolution simulations were postponed due to high computational demands. This is partially related to the larger domain, which is required due to the needs from the stakeholders and other work packages with the CoSynHealth project. For the next phase smaller subdomains will be simulated at 2-m meter resolution. Unfortunately, 75% of the computing time expired due to the delayed start of the simulations.

Finally, we are grateful to DKRZ for the provision of computing resources as well as for the support during the installation of PALM-4U on the levante.



Figure 1: PALM-4U Simulation results for 8 August 2020 at 16 CEST for Hamburg Altona.