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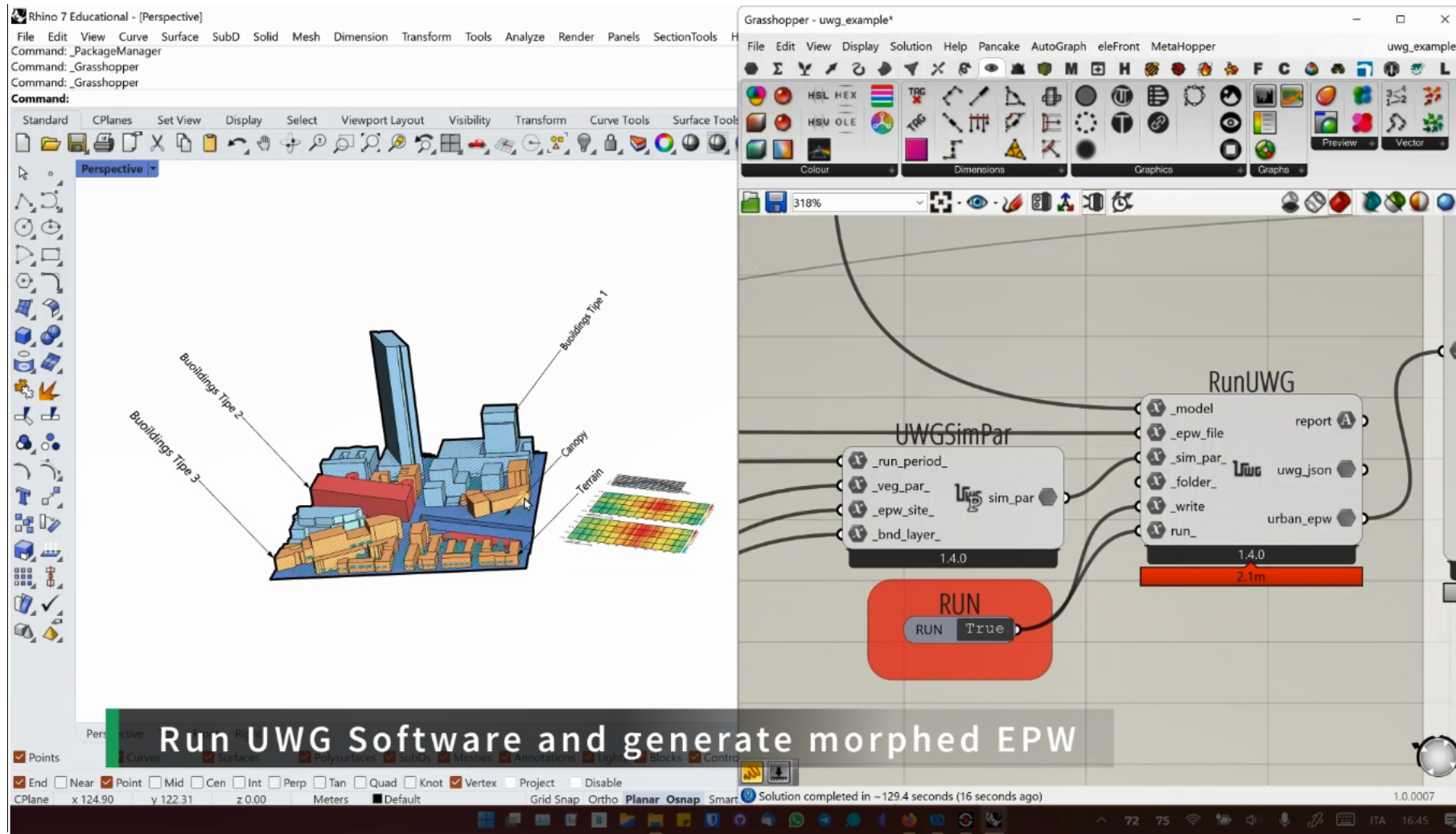Project Reference: 2021-1-IT02-KA220-HED-000032223

Teachers Training Workshop
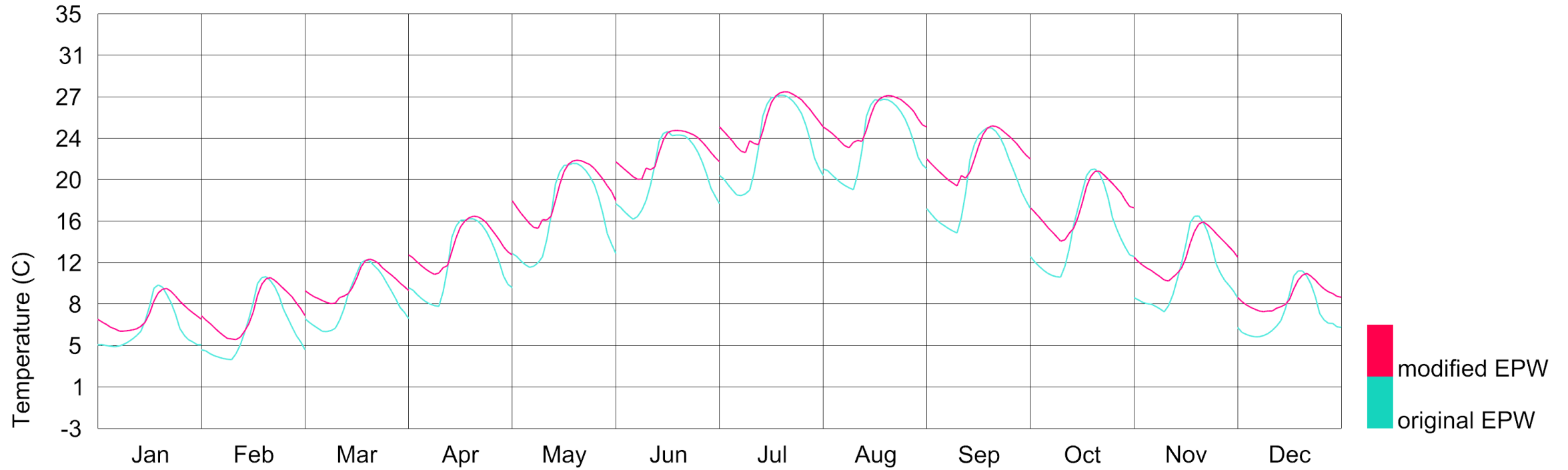Belgrade, June 16-17, 2022

Session 2: Objectives and methodologies

Climate Profile: objectives, purposes, pedagogical approach, suitable technologies (CYI and UNICAM)
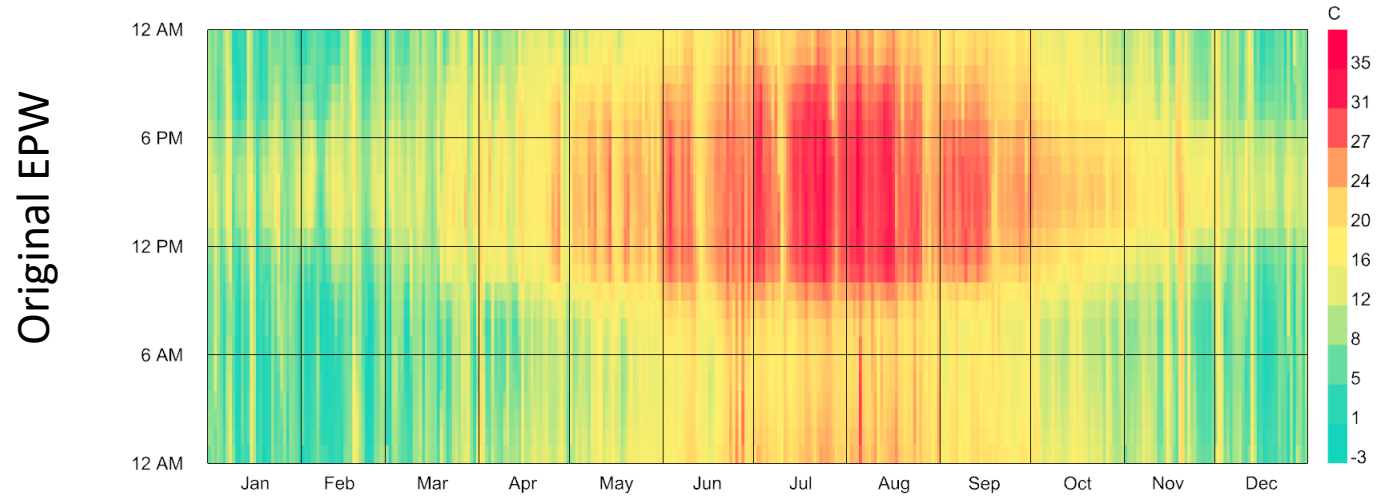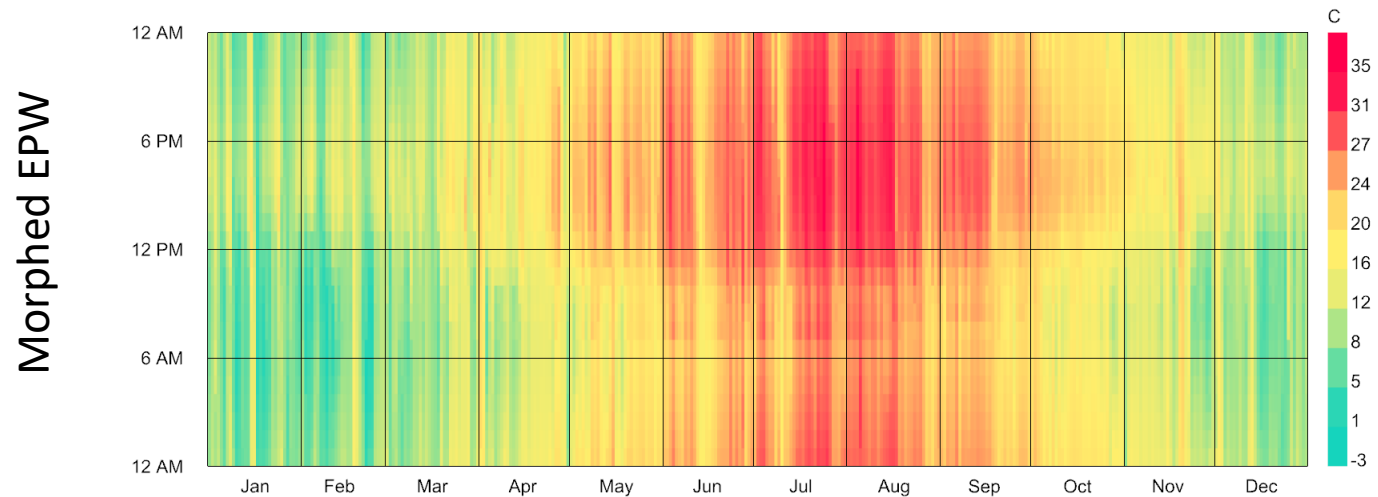
Roberta Cocci Grifoni-Unicam

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Urban Weather data morphing

Historical Forecast Weather (HFW)

Run UWG Software and generate morphed EPW

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Urban Weather data morphing

Air Temperature heatmap

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The Representative day

Short Communication

The representative day

T. Tirabassi ☒, S. Nassetti

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The representative day. Atmospheric Environment 33 (1999) 2427–2434

Atmospheric Environment, Volume 33, Issue 27, November 1999, Pages 4529

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Abstract

The work presents a daily trend of pollutant concentrations, referred to as the "representative day", i.e. the day for which the overal sum of the mean-square differences between its concentration, averaged within each hour, and the concentrations for all other days at the same hour, is a minimum. The approach also allows the identification of the "least representative day" (the daily series that maximises the mean sum of squared residuals), which usually indicates an

The representative day technique in the analysis of thermal comfort in outdoor urban spaces

Roberta Cocci grifoni · Giovanni Latini · s. Tascini

Overview   Stats   Comments   Citations (5)   References (4)   Related

Abstract

The aim of this study is to evaluate the possibility of assessing the diurnal variation of PMV thermal comfort index by introducing the Representative Day technique in order to obtain information on correlation between thermal comfort and meteorological parameters. The representative day is constituted by the actual data of the day, in the considered period, where the sum of the mean-square differences among its evaluated or monitored quantities, averaged within each hour, and the same quantities for all other days at the same hour is minimised. This technique can prove to be a very important tool for identifying both anomalous and standard behaviours of comfort indices within the selected period in outdoor urban spaces. In this paper a preliminary evaluation of the methodology for the representative day of PMV index is presented.

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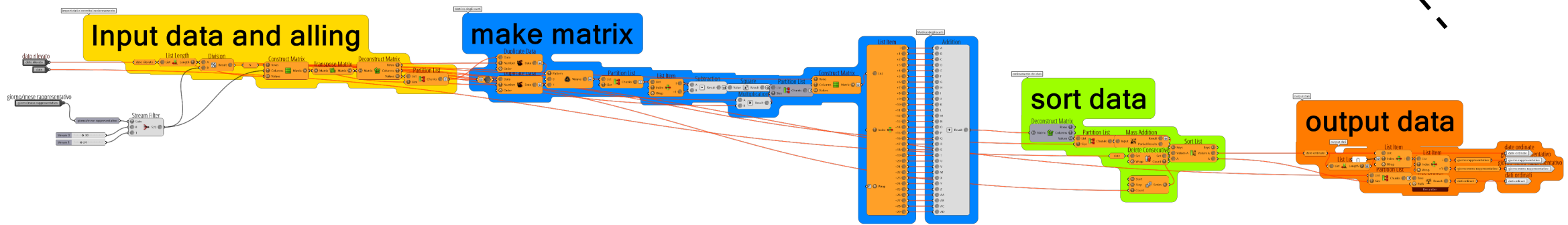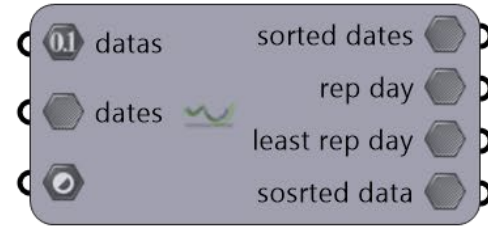Project Reference: 2021-1-IT02-KA220-HED-000032223

Representative day

The Representative Day (RD) is a real day that best represents (in the meaning of the least squares technique) the set of daily trends of the considered time series

1. Select date interval
2. Set filters or thresholds
3. Run calculation

The use of the Representative Day allows the compilation of large amounts of data in a compact format that will supply meaningful information on the whole data set. The Least Representative Day (LRD), on the contrary, it is a real day that worst represents (in the meaning of the least squares technique) the set of daily trends of the same time series.

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Representative day Tool

24 datas per day to be calculated

dates of the days to be calculated

The algorithm explained

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Simulation of the Urban Space Thermal Environment

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