

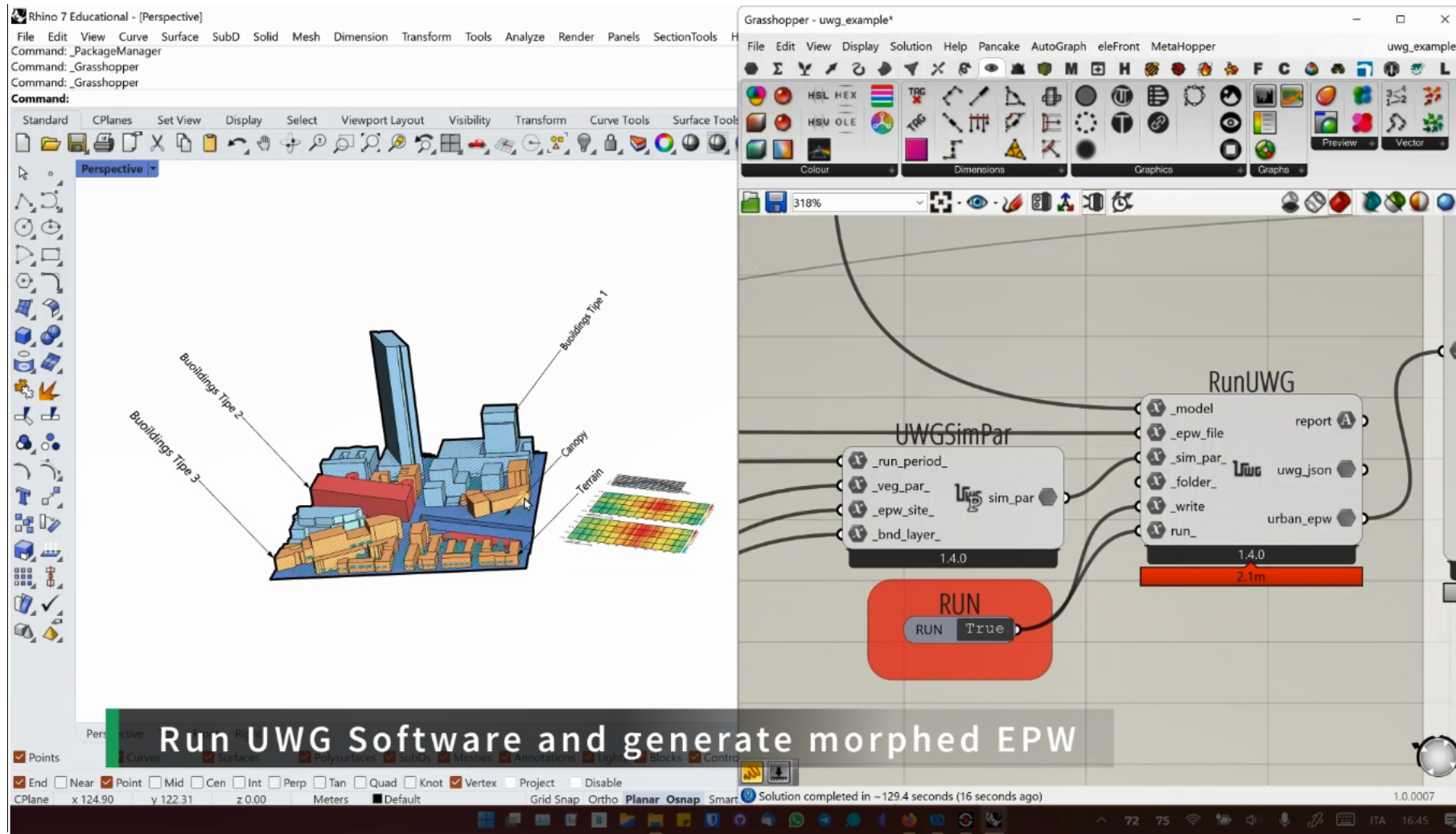
Teachers Training Workshop

Belgrade, June 16-17, 2022

Session 2: Objectives and methodologies

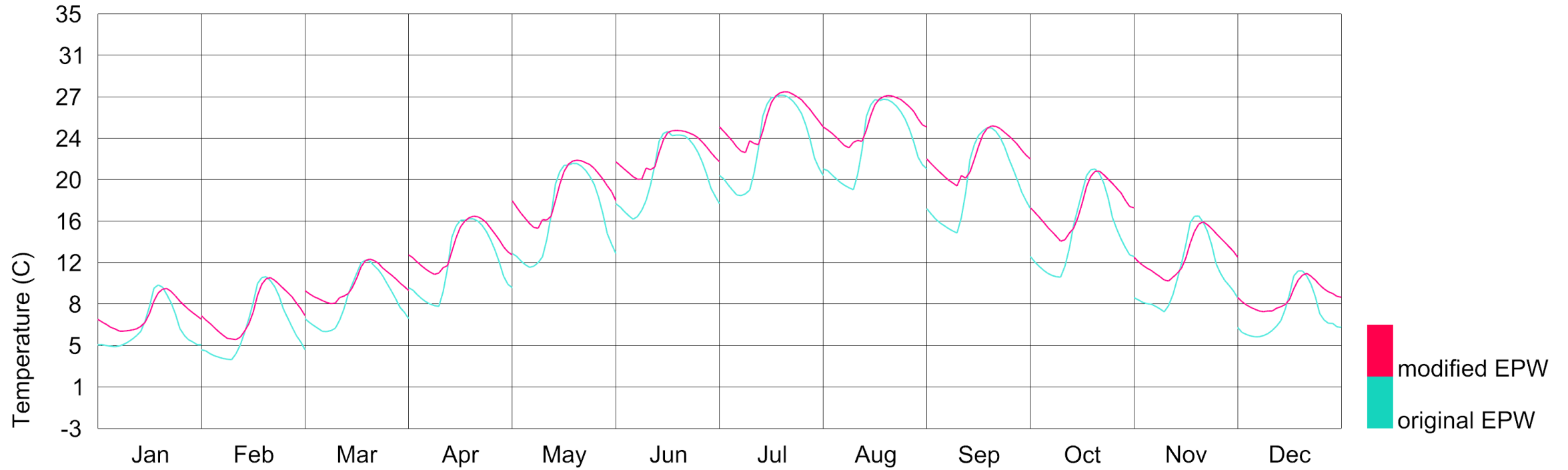
Climate Profile: objectives, purposes, pedagogical approach, suitable technologies (CYI and UNICAM)

Roberta Cocci Grifoni-Unicam

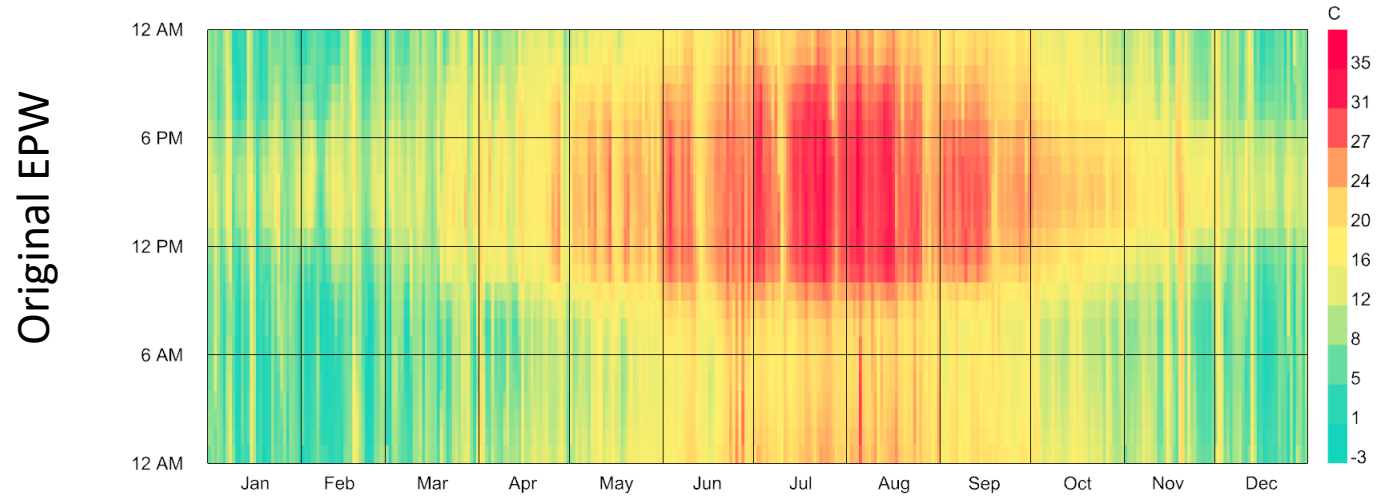


Urban Weather data morphing

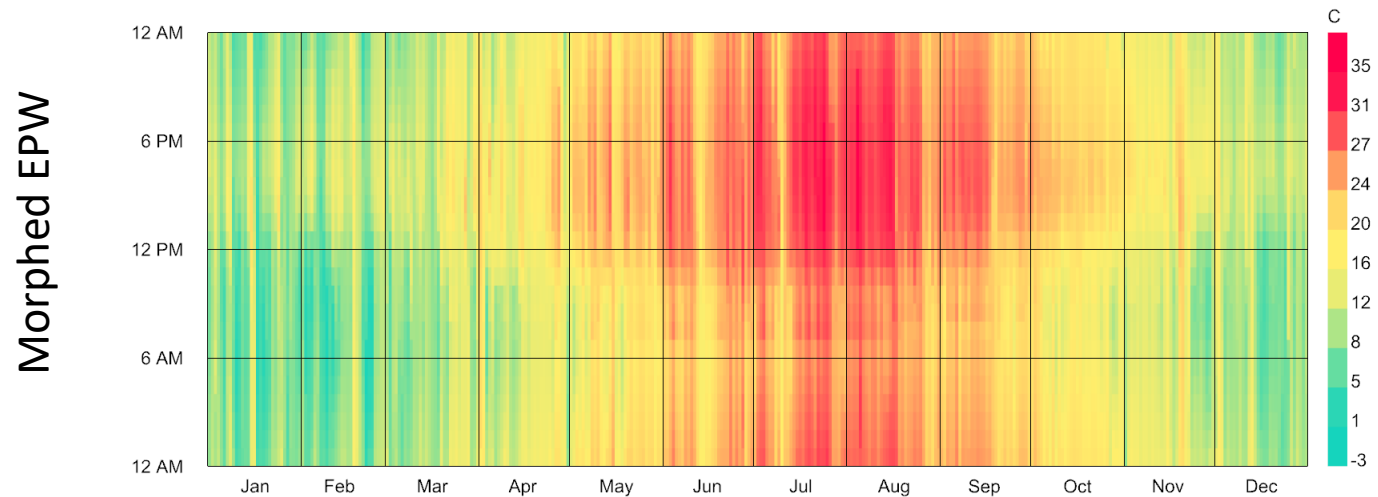
Historical Forecast Weather (HFW)



Urban Weather data morphing



original EPW (C)
1/1 to 12/31 between 0 and 23 @1



modified EPW (C)
1/1 to 12/31 between 0 and 23 @1



ELSEVIER

Atmospheric Environment

Volume 33, Issue 15, 1 July 1999, Pages 2427-2434



Short Communication

The representative day

T. Tirabassi , S. Nassetti

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Referred to by T. Tirabassis, S. Nassetti

[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 overall 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

January 2011

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.



The interface shows a 'start time' and 'end time' selection area with calendars for 2014-2018. The 'csv location' is set to 'C:\Users\ionon\OneDrive - Università di Camerino\Desktop\folders\wwo\ascoli piceno\weather_data_1hr.csv'. The 'hours filter' is set to 0-23. The 'set the VAR to read' field is empty. The 'threshold' is set to a low value. The 'play' and 'save' buttons are visible.

The graph displays two lines: a red line for the 'representative day' (2016-07-26) and a blue line for the 'least representative day' (2016-07-12). The red line has a peak of 34.0 and a trough of 16.0. The blue line has a peak of 25.0 and a trough of 23.0.

sorted dates	sorted datas
0 2016-07-26	0 17
1 2016-09-11	1 17
2 2016-07-25	2 17
3 2016-06-14	3 18
4 2016-08-23	4 19
5 2016-09-10	5 20
6 2016-06-11	6 22
7 2016-08-24	7 23
8 2016-09-12	8 24
9 2016-07-27	9 25
10 2016-08-07	10 25
11 2016-06-08	11 25
12 2016-09-09	12 25
13 2016-09-17	13 25
14 2016-06-18	14 25
15 2016-08-06	15 23
16 2016-06-16	16 22
17 2016-06-07	17 20
18 2016-07-22	18 19
19 2016-09-13	19 18
20 2016-07-24	20 17
21 2016-07-18	21 17
22 2016-08-13	22 17
23 2016-07-17	23 16
24 2016-06-21	(1)
25 2016-07-23	0 17
26 2016-06-06	1 17
27 2016-08-08	2 17
28 2016-09-08	3 18
29 2016-05-29	4 19
30 2016-06-28	5 20
31 2016-06-05	6 21
32 2016-08-22	7 23

Representative day

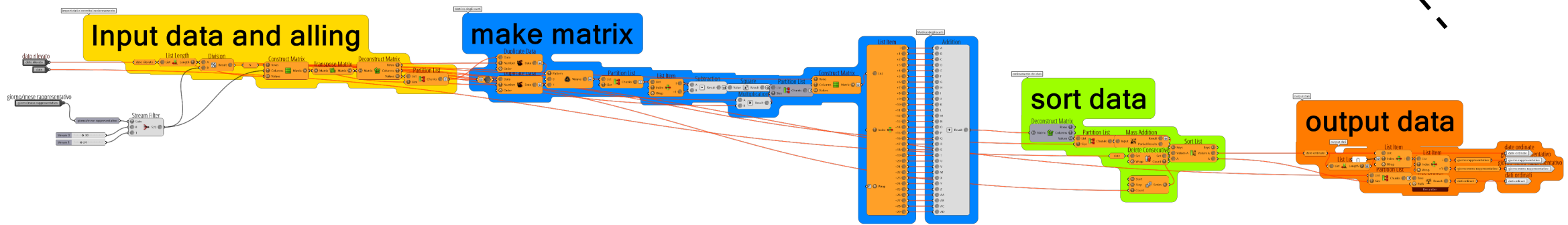
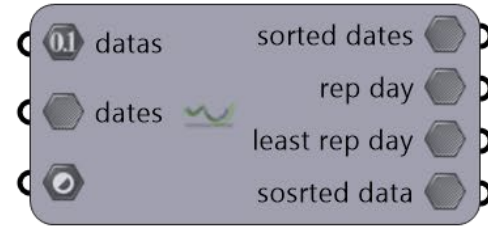
The Representative Day (RD) is a real day that best represents (in the meaning of the least squares technique) the set of daily trends of the considered time series

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.

24 datas per day to be calculated

dates of the days to be calculated



Simulation of the Urban Space Thermal Environment

