**Hydrology and Earth System Sciences Discussions**

## *Interactive comment on* "Technical note: Towards a continuous classification of climate using bivariate colour mapping" *by* A. J. Teuling

**Anonymous Referee #2**

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The note presents an interesting (and parsimonious) method to classify continuously climate systems by combining air temperature and relative humidity. The paper is well written and clear; despite the conciseness the Author succeeds to convey the potential of the methodology and to exemplify the results effectively. My recommendation is to publish the note substantially in the current form. I only have a couple of observations which are reported hereafter.

The first aspect that, in my opinion, has be clarified concerns the (availability of the) data needed to apply the classification. In particular I refer to RH observations, which in this application are retrieved in the form of gridded data with a 10 min spatial resolution. I was surprised by the facility, implicitly taken for granted by the Author, to gather this

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type of data at the required spatial and temporal resolution. The Author may want to add, in the revised version of the note, a few words on the availability of such data at the spatial/temporal scales required.

The other point that, in my opinion, may be improved is the comparison of the resulting maps with the maps of the Koppen-Geiger classification (Fig. 2). In particular, a quantitative indication on the maps similarity would positively impact the results presentation. Of course the comparison cannot be performed cell by cell since, as stated at lines 5737-3ff, "this would require the difference between two colours (with three degrees of freedom) to be expressed in a single number". However, I find that some quantitative indication could at least be derived from a synthetic table reporting, e.g., the number of (corresponding) cells in the two maps having exactly the same colour and/or the number of cells having in their neighbourhood (3 x 3 or 5 x 5?) one or more cells of the same colour.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 5733, 2011.