

## ***Interactive comment on “The influence of the circulation on surface temperature and precipitation patterns over Europe” by P. D. Jones and D. H. Lister***

### **Anonymous Referee #1**

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#### 1 General comments

This paper intends to assess whether the long-term change in temperature (daily mean and diurnal temperature range) and precipitation over Europe is a result of a change in the frequency of the single circulation types (CTs) or the result of within-type changes. By using the existing CT classification by Philipp et al. (2007) and the daily series developed during the EMULATE and ECA&D projects they document that the major changes, such as warming in overall Europe and drying/increasing in wetness in Southern Europe/Northern Europe, are rather the result of within-type changes. The results were calculated for three periods (1911-1940, 1941-1970 and 1971-2000). In-

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terestingly, for the most recent period, they also show that the number of CTs indicating warmer temperature increased, particularly for winter. (Philipp, A. et al. 2007, J. Climate 20, 4065-4095)

## 2 Specific comments

The conclusions of the paper were drawn based of a high number of maps and diagrams. Most of them could not be shown in the paper. Therefore, the reader can hardly draw the important conclusions. Because only three maps out of 34 CTs (each calculated for all three periods) are shown, the reader expects a set of clear and quantitative figures summarizing the broad insights behind this comprehensive analysis. Unfortunately, only one of the four mentioned synthesis figures announced in the text is shown (summary plot for summer). Those synthesis figures are very interesting, but they need to be considered very carefully. To summarize I recommend to revise section 4 (results) and to reconsider the representation of the final summary plots. In addition, I propose to add a supplementary section showing a larger set with the most important CT figures.

## 3 Technical corrections

Page 537, line 1: They first estimated. . . .

Page 542, line 6: 1971-2000).

Page 544, line 27: precipitation

Figures 3 – 5: The figures are very small. Therefore, some structures are quite blurred.

Figure 6: Only one summary plot (for summer) is represented.

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Interactive comment on Clim. Past Discuss., 5, 535, 2009.

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