Weather Clim. Dynam. Discuss.,
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Interactive comment on "The representation of Northern Hemisphere blocking in current global climate models" *by* Reinhard Schiemann et al.

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This paper compares the representation of Northern Hemisphere blocking in CMIP5 and CMIP6 models for historical periods as well as high-resolution simulations with blocking in reanalysis data. The results show the CMIP6 data capture blocking better than CMIP5 and that higher resolution contributes to a better representation of blocks. However, simply increasing resolution does not completely remove biases. The results are relevant and the paper is well organized and written and the figures are clear. I therefore recommend publication after minor revisions.

Minor points: 1) Suggest to replace current with a more specific description in the title 2) L28 List the references here already 3) L69 overviewed → listed 4) L110ff How

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Discussion paper

can this blocking indicator be affected by temperature trends? 5) L127 Why do you include shorter lived anomalies as well? 6) L146 Mention by how much they are underestimated 7) L299ff Can you further clarify this statement, it is not obvious to me why this is the case. 8) A general point: please add a discussion on whether the underestimation of the longevity is the explanation for the frequency biases or if there are also differences in the number of events? 9) Figure 3ff: I do not understand why the reanalysis estimate is outside of the reanalysis variability box plot.

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