

Interactive comment on “The energetics response to a warmer climate: relative contributions from the transient and stationary eddies” by D. Hernández-Deckers and J.-S. von Storch

Anonymous Referee #1

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The paper by Hernandez-Deckers and Von Storch is definitely a good contribution to the understanding of the energetics of the climate system and of its response to changes in the CO₂ concentration. The paper is well written, self-contained, and is able to link the changes in the Lorenz energy cycle to variations in the large scale atmospheric circulations. The idea of analysing separately the upper and lower atmosphere is rather interesting.

Just one minor point: 1) In 2xCO₂ conditions, the total dissipation is weaker. The authors may consider to present the changes in the intensity of the winds in the close vicinity of the surface, as these play a major role in determining the total dissipation.

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Changes in the near-surface winds are in general of great interest. One of the figures already present in the paper seems to suggest a decrease of their intensity (as expected), but a slightly more accurate discussion could be interesting. The paper by Lucarini et al. (2010) cited in the text provides an example of such an analysis.

Interactive comment on Earth Syst. Dynam. Discuss., 2, 355, 2011.

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