Review of manuscript egusphere-2025-3331 submitted to Natural Hazards and Earth System Sciences (NHESS)

Emergence of climate change signal in CMIP6 extreme indices

by Nina Schuhen, et al.

General comments:

This manuscript presents a comprehensive analysis of climate change impacts on extreme climate indices, with a particular focus on identifying the time of emergence of changes in extremes relative to natural variability using an ensemble of CMIP6 models. The study is well written, greatly structured, and clearly relevant to the NHESS readership and the broader climate science community.

Based on the previous round of discussion and my own assessment, I consider that the authors have adequately addressed the comments raised by the referees. I do not identify any major remaining issues that would require substantial revisions. I therefore recommend acceptance of the manuscript, subject to minor technical corrections and clarifications outlined below.

Technical corrections:

-Line 12: The statement "Precipitation indices tend to emerge much later and mostly only later" would benefit from greater specificity. If possible, please indicate an approximate year or decade of emergence, as is done for temperature-related indices.

-Line 15: The abstract would benefit from a clearer closing statement. I recommend adding a brief sentence highlighting the broader implications of the results and/or providing a short outlook on potential applications or future research directions.

-Line 58: It is not sufficiently clear that the data were retrieved from the Copernicus Climate Data Store. Please make this explicit and state clearly whether the climate extreme indices were obtained directly from the Copernicus platform (e.g., "We retrieve the climate extreme indices from the Copernicus Climate Data Store …").

Line 75-76: The statement made in this section requires clarification. Please specify the source of this claim or explain how it is demonstrated or supported by the analysis presented.

Line 145: It would be helpful to briefly summarize the approach of Brunner et al. (2020b), particularly explaining why certain models receive a larger weight and how this affects the results.