

The paper provides an interesting and unique contribution showing atmospheric rivers as drivers of high flows in the lower Rhine catchment. It thus enriches our understanding of hydrometeorological flooding drivers at the catchment level for this global region. By utilizing a long and comprehensive meteorological record, the authors show how indeed ARs have led to important damages in the region. It also provides interesting insights these events are preceded up to 7 days by intense moisture transport from the tropical North Atlantic basin typically precede ARs. The comments I have are minor which concern mainly methodological clarifications as well as suggestions to provide more insights of the repercussions of their findings. If a new version of the manuscript successfully address these issues I would recommend the article for publication. Please find here below my specific observations:

- Line 78: “(i) analyze from a hydrological point of view” This sounds rather broad and ambitious; this line should be refined to specify what ‘hydrological’ actually means in the context of this publication
- Line 81: “(iii) link the flood peaks with 80 the occurrence of AR”. It does not look very scientifically sound to try to find a link between these two aspects. This suggest that the objective is already anticipating the results. This objective should be changed to something along the lines of ‘explore how the occurrence of ARs explains flood peaks’ or similar
- 95-102: This paragraph should be enriched with references. It sounds as if data has been already processed and the authors are already presenting their results
- Line 98: “winter or spring floods, which are triggered by warm air intrusions with corresponding snow melt in flatlands and low mountain ranges and summer floods, which are fed by large-scale 100 heavy rain or long-lasting repeated precipitation episodes (in connection with late snowmelt / glacier runoff in theAlps)” Please improve the fluidity of this sentence or try to split it two. At present it is not very clear
- Line 112: This paragraph would be enriched by a short 1-2 sentence conclusion about the general hydrological trends of these tributaries.
- Line 114: How is this station representative for the catchment? What about the impact of upstream water infrastructure (dams, reservoirs, levees, and others which may mitigate floods)? Wouldn’t readings at this specific part of the catchment give a misleading interpretation if the catchment is heavily intervened? Is hydraulic and infrastructure intervention indeed important here?. I think that this is very relevant when you compare events of 1925 vs the 1990s. I suppose that a number of hydraulic interventions have been made in the river in a period of ~60 years. Probably these interventions and the fact that you are just looking at river gauge readings are leading us to underestimate the connection between ARs and flood peaks. Even if the role of hydraulic infrastructure is not deemed as relevant in this part of the catchment, it would be useful to clarify these aspects throughout the text.
- Line 144: reference? What is the general proportion of floods happening during winter vs summer? Are winter ones more or less frequent (generally speaking although these trends, naturally, are not constant)?
- Line 214 and in general throughout the text: The manuscript would be highly enriched if somehow these monetary losses are translated to current usd/eur

values; not asking the authors to perform a complex econometric calculation but it would be useful to put these economic losses in perspective. For example, the 1925 event seemed to have caused losses of 100 Million DM vs 50 Million DM in 1993 vs 500M in 1995. How do they compare each other nowadays in current USD/EUR?. Similarly, the text would be enriched if the authors provide a table (or figure) comparing the impacts that these events have had on human lives, displaced people, monetary losses, infrastructure damages (even a qualitative description), and others. This would provide a useful information to understand the truly impacts of ARs in this key global catchment.

- Line 333, Conclusions:
 - In general I think that either here or in previous sections there should be a short discussion describing the general trends of ARs-caused high flows over these 2-century time period. With the data you already have, it would be very useful to have a perspective on whether ARs-caused floods in the Rhine have been more recurrent? Or more intense? Both? None? While I understand that a full and comprehensive trend type of analyses might be out of the scope of this study, the manuscript will be highly enriched if even few sentences are added exploring this issue.
 - The conclusions should also highlight the socio-economic impacts that these events have caused.