

Potential Climate Risk Management in German Regions: Case Studies in Lusatia, inner part Spree Forest and Ahr Valley Region

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Status: open (until 30 Jun 2025)

Comment types: **AC** – author | **RC** – referee | **CC** – community | **EC** – editor | **CEC** – chief editor | : Report abuse

RC2: '[Comment on nhess-2024-124](#)', Anonymous Referee #2, 29 Jun 2025 [reply](#)

AC (– author comment) *The author expresses the most sincere gratitude for the time and effort that the reviewer invested in offering feedback on the manuscript provided. The insightful comments and substantial improvements that were suggested will further strengthen this paper. The majority of the second reviewers' suggestions have been or will be integrated, and the upcoming mentioned modifications are or will be emphasized in the manuscript. A reply to the reviewers' concerns and comments is provided in point-by-point detail below.*

RC (– referee comment) Overall quality: The manuscript, in its current form, does not meet the necessary standards for publication. If at all, major revisions—amounting to a fundamental restructuring and almost a rewriting—would be required before it could be reconsidered for review. The paper lacks both formal and content-related rigor. Its overall objective, contribution, and purpose remain unclear. There is no clearly defined research question, research gap, or conceptual framework, which results in the absence of a coherent methodology and subsequent analysis. As it stands, the text remains largely descriptive, with imprecise, at times incorrect, use of key terms and concepts. Additionally, the language and writing style significantly hinder readability and comprehension.

AC *Thank you for your valuable feedback on my manuscript. The author appreciates the reviewers' suggestion to strengthen the content, methodology, and format, and the author will/has revise/d and will continue to revise the complete manuscript accordingly, especially in terms of its scientific relevance, clarity, and reliability: Thanks so much for this insightful comment regarding the unclear overall objectives, contribution, and purpose. It highlights the necessary shift to clearly present the achieved aims and the need for a clear research question or hypothesis, especially concerning the so far more descriptive, general observation appearance. For instance,*

in lines 15-18 of the abstract and lines 571-574, the described objectives will be integrated and added to the additional essential elements of a research question in the introduction chapter. So far, the following objectives are named from line 571 on: "Specific objectives of this study were, to understand the theoretical concept of CRM within different climate change impacts while protecting especially terrestrial vulnerable land on regional level. Most beneficial was the interrelation of having included different approaches from the perspective of highly industrialized and highly threatened flooded Ahr Valley and wildfire-concerned and water-scarce Lusatia and inner part Spree Forest region. A further objective of this study was [...]. "

That, such as was stated by the reviewer, "Its overall objective, contribution, and purpose remain unclear" should strongly get approved again, so that lines 15-18 are implemented as well into the introduction part: "This research analyzed the present CRM-implementation situation and its` behind risks behaviour within processing CRM. The result is a resume for an optimized, innovative and effective Climate Risk Management (CRM) ". Overall, this suggestion is appreciated to conduct a regional study to better understand the planning and management dynamics at the regional level. In the methodology section in lines 131-132, given main (research) request is: "Besides these, by the main request for regional optimization of effective CRM-operationalization settled studies, they were also screened on the future adaptability of more spatially and timely dense disasters while preventing crises situations." In response, more precise objectives will be added to the manuscript, and the research question will be announced as is, approved again, and adapted for the entire research work. The author will/has revise/d and will rewrite/ rewritten the complete introduction accordingly to investigate the underlying in-depth assessment of the similarities or differences or the general relationship and appearance of each region's possible CRM-concept, and now more precisely presented results in Sections 5 and 6 of the then revised manuscript.

In the revised version, the author will clearly rework the exact contribution the paper is intended to make to the scientific discussion. So, this assessment lays the theoretical foundation for studying the mechanisms of regionally induced, optimized CRM implementation and developing prevention and control technologies for better disaster risk preparedness and resilience on the regional planning level.

Thank you as well for your valuable feedback on language precision. The author appreciates your suggestion to strengthen the language and will rework the text to correct imprecise terminologies in places and colloquial language, and correct minor spelling errors (mistakes found and corrected, for instance, in Fig. 5).

The author believes these – hopefully – upcoming revisions will more effectively contextualize the study's significance, clearly defining the gap in its clarity and highlighting its contribution to more concrete CRM specifications. A clear explanation of the requested methodological areas and steps in Section 2, and, next to others, of case study findings, especially in Sections 5 and 6, will now be provided.

Further comments:

RC 1. The introduction does not provide clear definitions of key terms or a sufficient description of the central concepts and processes addressed in the paper (e.g., CRM). Furthermore, it lacks a clear argument for the relevance and necessity of the study, as well as an explicit identification of a research gap. A brief review of existing literature—or at least references to relevant discussions or prior work—is entirely missing, which limits the paper's ability to position itself within academic discourse.

AC 1. *Thanks so much for this insightful comment regarding the inconsistent introduction content. It highlights the necessary shift to clearly present the used terms and key terms, and the need for a clear definition of those. Furthermore, regarding the incorrectly used terms the author highlights as one example to build up upon in the line 151-152 a definition, of what a risk in general is constituted of and therefore brings up the correlation between risk and vulnerability: "Moreover, the interaction of vulnerability (of the affected system), its exposure over time (to the hazard), and the (climate-related) hazard with the likelihood of its occurrence makes up a risk (GIZ, 2021, p. 15)". Nevertheless, terms will be approved again in their correct placement and usage form. To address potential inconsistencies in the parallel use of numerous (theoretical) concepts and terms, a more in-depth explanation has been or will be included, coupled with figures 2 and 3, to ensure proper understanding of the importance of having those viewpoints within the different necessary concepts. Up to that point, it is mirroring exactly the multi-purpose usage of those named key terms (comp. f.i. fig. 3) in administrative conceptual practice. Those correlations into practice will get deepened as well. Those key terms (CRM, CCA, DRM) are, in most cases, so far implemented in Figure 3, and the author will approve the non-inflationary usage of those. As we are within the topic of disaster risk management, I am not sure if some of the key terms are common practice and, therefore, still need to be defined for the reader? Within that part, I am so far unsure, but I can add all necessary definitions for sure.*

Also, the hopefully possible revision will be processed to address this conceptual vagueness and get it intensively approved. The two different general processing approaches for DRM are essential for a later estimation in the context of the current (status-quo) situation in the regions. They were not described in the introduction, but in the upcoming Section 3, which hopefully also is a valid arrangement. Nevertheless, they will be shortly described in the Introduction section now. While approving that part, I have to acknowledge that exactly a transference is so far missing and will be added, such as the following:

To further address a greater planning processing overview, this paper conducted a large-scale investigation of typical CRM-conceptions and general regional aspects of CRM (please compare the Sections of 3 and 4 as partial more general results) while through fieldwork, and so primary, but also secondary data and literature research on these areas, it was established a balanced research work and found that the processing way in all observed regions is less fulfilling the standards of the United Nations Office for Disaster Risk Reduction (UNDRR, formerly known as UNISDR) created flagship initiative of the "Comprehensive Disaster and Climate Risk Management" (UNDRR, 2022a). However, more single-step initiatives of the (single) concepts around the comprehensive risk management (BMZ, 2019a, in cooperation with the German Association for International Cooperation (GIZ) GmbH, Bonn, Germany) are fostered on the regional level. Practicability advantage of this possible, second

processing way is, that the administrative division in several-(multi-)sector-treatment of different "sub-topics ", such as climate adaptation, mitigation, or disaster risk and crisis management is fitting and can be best adapted into the communal, regional offices and (federal state) ministries work flow and processing way. To enhance flexibility, interoperability, and streamline processes, the author of this manuscript sees a greater chance in creating at least at the state level a coordinating instance, where all these single initiatives get bundled into a disaster risk reduction plan and unit. This part of the result will be implemented more concretely.

Thanks further to the reviewer for the helpful observations regarding the vague described procedure, which severely limits reproducibility and scientific validity. The author will also clarify how further data sources have counter-referenced and rechecked own results in order to ensure the most transparent, reproducible, scientifically valid, and trustworthy processing way. These revisions will/not only appear in the Introduction section, the same as in the main part and especially within the main Results sections of 5 and 6, but also especially in the Methodology section. And then a better contextualization of the study's trustworthiness, reproducibility, and, up to that, relevance within the current discourse on DRM-concepts on the regional level will become more obvious.

Thanks so much for these valuable comments regarding the lack of a clear argument for the relevance and necessity of the study. In response to this feedback, several improvements will be/ have been made to the manuscript. Firstly, the descriptions and arguments around objectives, research question, and the reviewer's explicit identification of a missing research gap will be processed in conjunction with the existing and found research gap. Secondly, the so far vague research gap will be delineated in the Introduction chapter. Thirdly, the entire methodology will be reconsidered in relation to those re-elaborations, also regarding the assessment and expected results. It leads into the further part of the review's constructive comments to communicate and describe the processed initial literature review while enhancing referencing to relevant discussions or prior work, so that the paper's ability to position itself within academic discourse is not further limited.

RC 2. The paper does not clearly state which data were used or how they were collected. Even more critically, the methodological approach remains vague: it is unclear whether any structured analytical steps were applied, and if so, which ones. This undermines credibility of the research. Additionally, the heavy reliance on the author's own prior work, without adequate engagement with external sources, seems problematic for meeting scientific standards.

AC 2. *Thank you for your valuable feedback on my manuscript. The author appreciates the reviewer's suggestion to strengthen the methodology description and how and where data were collected, selected, and esp. analyzed. The author has revised/will revise and rewritten/rewrite the complete methodology chapter accordingly and therefore, in a comprehensible manner. For instance, the in the methodology chapter listed – by the reviewer in this state of appearance absolutely correctly as particularly critical declared – own previous research works and partially publications and seemingly predominant*

reference to the author's own previous publications will get differentiated in a clear fourfold way: (1.) which ones are primary and secondary data and (2.) for which purpose and (3.) in which way they were used. Moreover, (4.) the mixed use, and not only on my own primary and secondary data relying results is/ will be highlighted: in most cases of each of my research entrance steps, I am processing an initial literature review, which also took place over here.

Nevertheless, due to the limitation of meeting the deadline, it did not happen to appear as a further research step, and further sources in this Methodology section so far. That is a greater leaking point and leads to unclear data sources and possibly an unbalanced view, mainly based on own data sources. Also, the entire manuscript will be reapproved regarding the reviewers' statement that it presents a self-referential argumentation, which does not meet scientific standards, and the author will treat this extremely carefully. To constructively rework on that essential difficulty, the entire research work and each sentence and their citations, such as "Many regions in Germany (and worldwide) are suffering from more continuous vulnerability of [...], in this case, Ahr Valley floods (Reinstädler, 2022a; 2022b; 2022c; 2023a; 2023b) and partially [...]" will get approved and for sure further literature from other researchers will be added to verify from different lenses and sources. Those are the best available and should verify the argumentation chain in a more neutral, objective, and securing way.

These processing enhancements include describing the systematics behind the analysis steps, and so forth, for the comparative assessment within the methodology section. Where necessary, new subsections will be implemented. Thank you very much for these essential hints.

Moreover, although the author obviously did not describe and depict a comparative assessment in a overseeable way, the author is sure to successfully rework on it just after the statement by Sun Tzu: "The ground gives rise to measurement, measurements give rise to assessments, assessments give rise to calculations, calculations give rise to comparisons, and comparisons give rise to victories" (as cited in Taillard, 2014, p. 37). I highly appreciate this suggestion, which helps improve the understanding of this research format. In response, the process of the comparative assessment will be reworked on, such as named above and in case of the following parts being reworked on in a more comparable and in depth way: a more general entry step into a fulfilled verbal-argumentative assessment on regional aspects of climate risk management, up to a climate risk status-quo observation in German regions, including climate disposition (with precipitation rate, total renewable water resources) and in the next step on each case study region a comparable climate risk status-quo observation, also including climate disposition. Up to that point, each region's specifics will be declared, such as for Lusatia drought risk, up to a development chain corresponding to land (use) and landscape development being dependent on, next to others, water availability (comp. Fig. 4). So, several parts of the manuscript will get/were revised and reorganized to improve the clarity and logical flow of the comparative assessment and the then relating, derived and justified findings and recommendations.

RC 3. It is not transparent how the findings were derived. The analytical steps that led to these findings are neither described nor justified, making the results difficult to assess in terms of validity and reliability. This is also true for the recommendations presented,

AC 3. Thanks to the reviewer for the helpful observations regarding the lack of a scientifically sound evaluation. Moreover, thanks so much for this important comment regarding the derivation of findings and analytical steps leading to the findings, which is an essential part of a sound evaluation. In response, the author will now include an in-depth analysis of the assumptions to validate the transparency and accuracy of the case study analysis and derivation of findings and recommendations, as mentioned in AC 2 already. Specifically following will be summed up in the introduction (and methodology) section:

The reasoning behind this was becoming clearer to the author, and hopefully, a revision will lead to a clearer and more justifiable overall processing. These processing enhancements include describing the systematics behind the comparative assessment within the Introduction and especially the Methodology section. Where necessary, new subsections will be implemented, and the derivation and justification of findings and recommendations will be approved. Thank you very much for these essential hints.

RC 4. Conceptual Approach and Use of Terminology: The paper employs a broad range of concepts and terminology, but their use is often imprecise or inconsistent. In several cases, key terms are not clearly defined or are applied in a way that does not align with established academic usage. This weakens the conceptual clarity and is also problematic for understanding the argumentation.

AC 4. Thanks so much for the constructive comments regarding the transparency and clarity of the concepts, terminologies, and key terms. Thanks to the reviewer for the helpful observations regarding the lack of a scientifically sound concept and terminology background. How the author deals with and highlights this area was described in more detail in my answer to point and referee comment Nr 1 already. This area will be treated in a most sensitive and renewing way (comp. Again AC 1), so that the basis of this research is better secured and transparency within the scientific routes is becoming clearer.

Thanks to the reviewer for the helpful observations regarding the content, form, and common threats of the manuscript and the formulation of the problem statement, alongside the clear research objectives. In response, while the entire manuscript will be observed and reworked on, several parts of the manuscript will be/were fundamentally revised and reorganized to improve clarity, transparent methodological and analytical depth, with clear scientific argumentations and a theoretical foundation.

Additionally, new case study assessment parts will be/have been added where appropriate, based on the valuable suggestions from the reviewers, to enhance the depth and coherence of the content. Also, the problem statement and research objectives were refined, respectively strengthened, to ensure they are more rigorous, clearly articulated, and objectively presented. These revisions appear in the Introduction section and the Methodology section (next to the Abstract), and they better contextualize the study's relevance within the current discourse on case study comparisons. Also, the author examines

and fundamentally rewrites the Conclusion section, so that they are drawn from the previous analysis. So, the conclusions will be restructured to improve readability and coherence, ensuring that they are presented in a more structured and digestible format in direct correlation to the previous analysis. Similar findings will be/have been grouped, making the key points of the entire assessment more accessible and facilitating a smoother reading experience. The author trusts these changes improve the clarity and impact of the manuscript, making it more engaging and easier to comprehend. Thanks so much again for these thoughtful suggestions, and I look forward to further feedback on the revised version, if possible, to resubmit.

The author further believes these changes will/have strengthened/ed the manuscript's structure and scientific framing. Moreover, the reviewer's guidance is sincerely appreciated. Thanks so much for the constructive comments and your highly valuable feedback, and the time spent on my manuscript. I appreciate all your suggestions and recommendations, which will help improve the scientific rigor of this study. Thanks so much again for this insightful feedback.