

Interactive comment on “Desertification, Resilience and Re-greening in the African Sahel — A matter of the observation period?” by Hannelore Kusserow

Anonymous Referee #2

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The paper covers the interaction between desertification, resilience and re-greening in the African Sahel, which is a subject relevant to Earth System Dynamics and the special issue on “Climate, land use, and conflict in Africa”. It collects a vast range of information and data, drawn from a large number of publications as well as own field research. While this collective body of research is a valuable and solid contribution that offers interesting individual insights in this field, the way of presentation could be improved.

Overall the paper is very long, with around 18,000 words, including nearly 190 references which looks like a comprehensive literature review. Besides the introduction and

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conclusion sections the paper puts everything else into the very long Section 2 and its five subsections, rather than making each of these a separate section.

While the length of the paper is not necessarily a critical issue, the presentation of methodologies and results appears rather unstructured and sometimes repetitive, adding numerous details about various vegetation patterns at different periods of time and locations in the Sahel, diverse sources of data (historical documents and records; various satellite images and resolutions; field observations from several authors) and other methods such as models of pattern formation. Jumping between the different combinations of these dimensions makes it hard to read, difficult to follow a logical track and recognize the overall picture among the many puzzle pieces.

Much of the paper refers to published work, looking like a comprehensive literature review, with some results based on own previous work scattered across the text. While this collection is useful it is not easy to identify own new results among results from others. In addition, it would be good to understand the role of modeling in this paper and to which degree it has been applied by the author.

To address these concerns and strengthen the paper, a more structured and perhaps condensed version would be a gain, making it more accessible to the reader and the synthesis clearer, to better see the overall picture. A systematical presentation of information would be helpful, e.g. in a table, that summarizes the results across the different dimensions (time, location, pattern/change, source/method), and/or with an integrated map highlighting where and when vegetation has changed in which way.

Besides more clearly stating the key messages, it is recommended to clarify what is new in this paper and what the own original contribution is in the context of the existing literature.

Some minor points: Check for more recent relevant references, especially on the Sahel greening. Check for language corrections, in particular in the abstract and in the beginning.

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