This study utilizes complex network methods to uncover the evolution of climate network community structures in the context of global warming. It was discovered that the community structure of the climate network experienced a significant transition around 1982. The findings are intriguing. I have also reviewed the response letter from the first round of review, and I am pleased to see that the authors have meticulously addressed the concerns raised by the editor and the two reviewers. Consequently, the revised manuscript is now in good shape and is suitable for publication. However, there are some typos and technical errors that need to be corrected:

Line 30: The punctuation is incorrect; different references should be separated by semicolons.

Line 48:Change "precipitation, temperature, wind" to "precipitation, temperature, and wind."

Line 111-120: Change the mathematical symbols in the text to italic, and bold the matrix A.

Line 130: Change the mathematical symbols in the text to italic.

Line 151: Change the mathematical symbols in the text to italic.

Line 164: Ensure uniform spacing between the figure and the main text in the manuscript.

Line 195: Change "the maximum time lag of 365 days" to "the maximum time lags of 365 days."

Line 291: There are some mistakes in the writing of the references.