

Review Form 3

Journal Name:	Archives of Current Research International
Manuscript Number:	Ms_ACRI_126386
Title of the Manuscript:	TREND ANALYSIS OF CLIMATE CHANGE OVER NIGERIA; A MANN-KENDALL AND SEN'S APPROACH
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<p>This manuscript holds significant importance for the scientific community as it provides in-depth climate trend analysis specific to Nigeria. Given Nigeria's climate-sensitive sectors and its socio-economic dependency on agriculture and energy, this study's insights could inform more resilient adaptation strategies and data-driven policies. I appreciate this manuscript's comprehensive use of the Mann-Kendall (MK) test and Sen's slope estimator, which are robust statistical tools for detecting trends in climate variables, especially in regions with non-normally distributed data. Furthermore, this study's regional focus on Nigeria highlights the variability in climate impacts across different climatic zones, thus contributing valuable localized data crucial for targeted adaptation measures.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>yes</p>	
<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>The abstract is comprehensive, but it could be strengthened by including a few more details and clarifying the methodological approach to give a fuller overview.</p> <p>This study investigates long-term temperature and precipitation trends across Nigeria's climatic zones from 1981 to 2022, focusing on their implications for agriculture and water resources. Using the Mann-Kendall trend test, Sen's slope estimator, and anomaly analysis, the research examines climate data from Calabar, Ibadan, Kano, and Kukawa, representing tropical monsoon, savannah, semi-arid, and desert climates, respectively. Results reveal significant warming trends across all locations, particularly in semi-arid and desert zones like Kano and Kukawa, with temperature increases of 0.0443°C/year and 0.0412°C/year, respectively. Regional precipitation trends vary, with a monthly decrease of -1.26 mm/year in Calabar, while Kukawa shows an unexpected increase, suggesting possible greening in desert areas. These findings highlight the need for tailored climate adaptation strategies, such as improved water conservation in warming regions and flood management in desert areas with rising rainfall. The study underscores the importance of multi-scale analysis for informing climate-resilient agricultural practices, water resource management, and targeted policies to mitigate climate impacts across Nigeria's diverse regions.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The manuscript's structure and use of subsections seem broadly suitable for a study focused on climate trend analysis. However, ensuring the flow is logical and that each subsection contributes meaningfully to the overall objectives is essential.</p> <p>Introduction, material and methods, results, discussion conclusion reference</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>No</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p> <p>:</p>	<p>Yes</p>	

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Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	Yes	
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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