

Review Form 1.7

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| Journal Name: | International Journal of Environment and Climate Change |
| Manuscript Number: | Ms_IJECC_104307 |
| Title of the Manuscript: | Assessment of climate change impact and adaptation strategies for rainfed maize (Zea mays L.) |
| Type of the Article | Research |

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journalijecc.com/index.php/IJECC/editorial-policy>)

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PART 1: Review Comments

| | Reviewer's comment | Author's comment <i>(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)</i> |
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| <p><u>Compulsory</u> REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p> | <p>The manuscript is important to the scientific community, as it addresses the critical issue of the impact of climate change on the production of rainfed maize in specific regions of Tamil Nadu, India. The study uses climate projections from the CMIP6 models and the DSSAT model, providing valuable information on the potential effects of climate change on maize production and the effectiveness of adaptation strategies. The findings are relevant for researchers, policymakers, and agricultural practitioners seeking to develop climate-resilient agricultural practices.</p> <p>The title of the article, "Assessment of Climate Change Impact and Adaptation Strategies for Rainfed Maize (Zea mays L.)," is suitable, as it clearly conveys the focus and scope of the research and effectively communicates the study's intention to assess the impact of climate change on rainfed maize and explore adaptation strategies.</p> <p>The abstract of the article is comprehensive, providing a concise overview of the study's objectives, methodology, and key findings. It clearly summarizes the main outcomes, including the decrease in maize yield under future scenarios and the positive impact of delayed sowing as an adaptation strategy. The abstract effectively captures the essential aspects of the research.</p> <p>The subsections and structure of the manuscript are appropriate and well organized. The study follows a standard scientific format, beginning with an introduction, followed by materials and methodology, results, and discussion, and concluding with key findings. This clear structure allows the reader to easily understand the research flow and findings.</p> <p>The manuscript appears to be scientifically correct, given the methodology employed and the data sources used. The study uses climate projections from reputable CMIP6 models and applies the DSSAT model, which is a widely recognized crop simulation tool. The results and discussion are presented logically and are supported by the data obtained from the simulations.</p> <p>The references provided in the manuscript are reasonably recent. Authors have cited relevant sources to support the background, rationale, and methodology of the study. However, I would suggest that the authors can consider incorporating additional recent references, especially if there have been notable developments or significant studies in the field of impacts of climate change on agriculture and adaptation strategies to ensure that the latest advancements in the field are accounted for.</p> | |
| <p><u>Minor</u> REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p> | <p>The manuscript requires careful proof reading and editing to improve the language and grammar. Some sentences are not clear or overly complex, making it difficult to grasp the intended message.</p> | |

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| <p>Optional/General comments</p> | <p>Overall, the manuscript has the potential to contribute significantly to the understanding of the impacts of climate change on rainfed maize and adaptation strategies. Addressing the following comments would strengthen the scientific rigour of the manuscript and enhance its relevance and impact.</p> <ol style="list-style-type: none"> 1. Data sources and assumptions: The manuscript lacks a detailed description of the data sources and assumptions used in the climate projections and the simulations of the DSSAT model. The specific versions and configurations of the CMIP6 model, as well as the underlying assumptions in the DSSAT model, must be clearly stated. In addition, any uncertainties or limitations associated with the data and models must be addressed to enhance the robustness of the study. 2. Discussion of results: The discussion section should delve deeper into the reasons behind the observed changes in maize yield under different climate scenarios. The authors should discuss on the following lines: Are there specific climate variables driving the yield decline? Can adaptation strategies fully compensate for projected impacts? A more comprehensive analysis of the underlying mechanisms would add depth to the study. 3. Implications and recommendations: The manuscript should provide clearer implications of the findings for policymakers and agricultural stakeholders. How can the results be applied practically to develop effective adaptation strategies? Specific recommendations should be included for policymakers and farmers on implementing delayed sowing or other adaptation measures. 4. Comparison with other studies: The manuscript should better position its findings within the existing literature. 5. Statistical analysis: Although the DSSAT model is valuable for crop simulation, some statistical analyses to quantify the uncertainty and confidence intervals of the yield projections would enhance the reliability of the results. 6. Significance of Findings: The manuscript should explicitly highlight the importance of its findings in the context of addressing the challenges of food security posed by climate change. Emphasising the importance of rainfed maize and its role in regional food production will enhance the impact of the manuscript. 7. Relevance of the policy: The policy implications of their research should be discussed more explicitly. For example: How can the results of the study inform climate change adaptation policies and strategies at the regional or national levels? A clearer connection to policy contexts would make the research more relevant to a broader audience. 8. Figure legends should be e written as per journal format. | |
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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) |
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| <p>Are there ethical issues in this manuscript?</p> | <p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p> | |

Reviewer Details:

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| <p>Name:</p> | <p>Vivek Pandey</p> |
| <p>Department, University & Country</p> | <p>CSIR-National Botanical Research Institute, India</p> |