

**Review Form 1.7**

Journal Name:	<b>International Journal of Environment and Climate Change</b>
Manuscript Number:	<b>Ms_IJECC_110011</b>
Title of the Manuscript:	<b>Potential Factors Affecting the Spatiotemporal Features of Sunshine Duration in Saudi Arabia Between 1983 and 2022</b>
Type of the Article	

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**PART 1: Review Comments**

	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)
<p><b>Compulsory</b> REVISION comments</p> <ol style="list-style-type: none"> <li>1. <b>Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</li> <li>2. <b>Is the title of the article suitable?</b> (If not please suggest an alternative title)</li> <li>3. <b>Is the abstract of the article comprehensive?</b></li> <li>4. <b>Are subsections and structure of the manuscript appropriate?</b></li> <li>5. <b>Do you think the manuscript is scientifically correct?</b></li> <li>6. <b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></li> </ol> <p><b><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></b></p>	<p>The manuscript presents an analysis of sunshine duration trends in Saudi Arabia. Assessing solar resources is crucial for renewable energy development and planning. The spatiotemporal analysis of trends could be useful information for the region.</p> <p>The title conveys the main objectives related to analyzing spatiotemporal variability and factors influencing sunshine duration. It is suitable.</p> <p>Could be improved. It provides a nice summary touching on the key points. However, it could be improved by stating the specific research goals and questions upfront.</p> <p>The subsections and structure generally follow a reasonable flow. The results and discussion section could be condensed in places to improve readability.</p> <p>More information, including pre-processed and post-processed data, is required for validation</p> <p>Expanding the background literature to include some broader analyses is recommended.</p>	
<p><b>Minor</b> REVISION comments</p> <ol style="list-style-type: none"> <li>1. <b>Is language/English quality of the article suitable for scholarly communications?</b></li> </ol>	<p>There is room for improvement via streamlining repetitive statements and strengthening interpretive analysis. The revisions suggested regarding writing style and content enhancement.</p> <ul style="list-style-type: none"> <li>- Stylistically, there is some repetitiveness and lengthy phrasing that should be condensed in places to improve readability.</li> <li>- From a usage perspective, there are several things that could be smoothed out. For example, statements like "upward trend in SD remained statistically significant..." sound a bit awkward.</li> <li>- The narrative relies more heavily on descriptive statements rather than interpretations or depth of analysis. Expanding in those areas would demonstrate stronger command of academic style.</li> </ul>	
<p><b>Optional/General</b> comments</p>	<p>The manuscript presents analysis of spatiotemporal variability and trends in sunshine duration over Saudi Arabia from 1983-2022 using satellite data. It would benefit from the following improvements:</p>	

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	<p><b>Abstract:</b></p> <ul style="list-style-type: none"><li>- The abstract should state the research objectives/questions upfront. Consider reorganizing to clearly state the goals first.</li><li>- Briefly explain why analyzing sunshine duration trends is important (e.g. solar resource assessment).</li></ul> <p><b>Introduction:</b></p> <ul style="list-style-type: none"><li>- Expand on why analyzing spatiotemporal variability in sunshine duration is useful, especially for solar energy applications, setting the relevance better.</li><li>- Provide more background on factors influencing sunshine duration (e.g. cloud cover, aerosols etc.) and trends over the Middle East to motivate the research questions.</li></ul> <p><b>Methods:</b></p> <ul style="list-style-type: none"><li>- The description of study area could be condensed to be more concise.</li><li>- More details are needed on the SARAH-2.1 sunshine duration data, such as spatial resolution, temporal resolution, uncertainty estimates etc.</li><li>- For the supplemental meteorology data, provide sources and uncertainty information.</li><li>- Were any quality control or homogenization procedures applied to the data? This should be specified.</li></ul> <p><b>Results and Discussion:</b></p> <ul style="list-style-type: none"><li>- Consider streamlining the text, reducing repetitive statements.</li><li>- The discussion of results relies heavily on description rather than interpretation. Provide more discussion of mechanisms, comparisons to other studies, etc. to add depth.</li></ul> <p><b>Conclusions:</b></p> <p>The conclusions do not provide much context, significance or future outlook stemming from this work. Elaborate on the broader implications.</p> <p><b>References:</b></p> <p>The references appear dominated by regional studies. Suggest including other related works analyzing sunshine duration trends over broader areas for context.</p>	
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**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <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>
<b>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

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