

**Review Form 3**

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| Journal Name:            | <a href="#">International Journal of Environment and Climate Change</a>  |
| Manuscript Number:       | Ms_IJECC_124641  |
| Title of the Manuscript: | <b>Morphometric and Hypsometric Analysis of Niragantipalli Micro Watershed Using Remote Sensing and Geographical Information System Techniques</b> |
| Type of the Article      | <b>Research Paper</b>  |

[Review Form 3](#)

**PART 1: Review Comments**

| <b>Compulsory</b> REVISION comments   | Reviewer's comment  | <b>Author's Feedback</b> (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
|---|---|---|
| <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> | <ol style="list-style-type: none"> <li>1. Advances Understanding of Watershed Dynamics</li> <li>2. Application of Remote Sensing and GIS in Watershed Studies</li> <li>3. Sustainable Water Resource and Environmental Management</li> <li>4. Implications for Urban and Rural Planning</li> <li>5. Contributes to Climate Change Research</li> <li>6. Regional Relevance with Global Applications</li> <li>7. Methodological Contributions</li> <li>8. Informing Future Research</li> </ol>  |   |
| <p>Is the title of the article suitable? (If not please suggest an alternative title)</p>   | <p>Integrated Morphometric and Hypsometric Analysis of the Niragantipalli Micro-Watershed Using Remote Sensing and GIS Techniques</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><b>Yes</b> : Write the conceptual framework of the concept</p>   |   |
| <p>Are subsections and structure of the manuscript appropriate?</p>   | <p><b>Yes</b></p> <ol style="list-style-type: none"> <li>1. <b>Abstract</b> <ul style="list-style-type: none"> <li>• Brief summary of the key objectives, methods, results, and conclusions.</li> </ul> </li> <li>2. <b>Keywords</b> <ul style="list-style-type: none"> <li>• A list of important terms like <i>Morphometry, Hypsometry, Remote Sensing, GIS, Watershed, Niragantipalli.</i></li> </ul> </li> <li>3. <b>Introduction</b> <ul style="list-style-type: none"> <li>• <b>Contextual Background:</b> Provide an overview of the importance of watersheds, morphometric and hypsometric analysis, and the role of Remote Sensing (RS) and Geographic Information Systems (GIS).</li> <li>• <b>Problem Statement:</b> Why is it important to analyze the Niragantipalli Micro-Watershed?</li> <li>• <b>Objective:</b> Clearly define the purpose and research questions or hypotheses.</li> <li>• <b>Significance of the Study:</b> Emphasize the relevance of the study to environmental science, watershed management, etc.</li> </ul> </li> <li>4. <b>Study Area</b> <ul style="list-style-type: none"> <li>• <b>Location:</b> Detailed information about the Niragantipalli Micro-Watershed, including its geographical location (latitude, longitude, elevation).</li> <li>• <b>Topography:</b> Overview of physical features, climate, geology, land use, and vegetation.</li> <li>• <b>Map:</b> A map showing the boundaries of the watershed.</li> </ul> </li> <li>5. <b>Materials and Methods</b> <ul style="list-style-type: none"> <li>• <b>Data Collection:</b> <ul style="list-style-type: none"> <li>○ Data sources (e.g., satellite imagery, topographic maps, DEMs).</li> <li>○ Software and tools used (GIS software like ArcGIS, ERDAS, etc.).</li> </ul> </li> <li>• <b>Morphometric Analysis Methods:</b> <ul style="list-style-type: none"> <li>○ Explain the formulas and metrics used (e.g., stream order, bifurcation ratio, drainage density).</li> </ul> </li> <li>• <b>Hypsometric Analysis Methods:</b> <ul style="list-style-type: none"> <li>○ Discuss how the hypsometric curve and hypsometric integral are calculated.</li> </ul> </li> <li>• <b>Use of Remote Sensing and GIS:</b> <ul style="list-style-type: none"> <li>○ Explain the procedures for processing satellite imagery, creating DEMs, digitizing drainage networks, etc.</li> </ul> </li> <li>• <b>Validation Techniques</b> (if applicable):</li> </ul> </li> </ol> |   |

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|   | <ul style="list-style-type: none"> <li>○ How were the accuracy and precision of the analysis ensured?</li> </ul> <p><b>6. Results and Discussion</b></p> <ul style="list-style-type: none"> <li>• <b>Morphometric Results:</b> <ul style="list-style-type: none"> <li>○ Present the calculations and findings for various morphometric parameters like drainage density, stream order, stream frequency, bifurcation ratio, etc.</li> </ul> </li> <li>• <b>Hypsometric Results:</b> <ul style="list-style-type: none"> <li>○ Show the hypsometric curve and integral values.</li> <li>○ Discuss what these values suggest about the watershed's erosion and geomorphic stages.</li> </ul> </li> <li>• <b>Integration of GIS and RS:</b> <ul style="list-style-type: none"> <li>○ Present how RS and GIS helped in the analysis. Include maps, charts, and graphs generated through GIS.</li> </ul> </li> <li>• <b>Discussion of Findings:</b> <ul style="list-style-type: none"> <li>○ Analyze and interpret the results in the context of watershed management, hydrological behavior, flood risk, soil erosion, and landscape evolution.</li> <li>○ Compare with previous studies, if any.</li> </ul> </li> </ul> <p><b>7. Conclusion</b></p> <ul style="list-style-type: none"> <li>• <b>Summary of Key Findings:</b> Highlight the important outcomes of the morphometric and hypsometric analysis.</li> <li>• <b>Implications:</b> Discuss the practical implications for watershed management, environmental planning, or policy.</li> <li>• <b>Recommendations:</b> Suggest areas for further research or actions needed based on the findings.</li> </ul> <p><b>8. Acknowledgments (if necessary)</b></p> <ul style="list-style-type: none"> <li>• Recognize the contributions of funding agencies, collaborators, or institutions that supported the research.</li> </ul> <p><b>9. References</b></p> <ul style="list-style-type: none"> <li>• List all the references cited in the manuscript, following the appropriate citation style (APA, MLA, etc.).</li> </ul> |  |
| <p><b>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.</b></p> | <p>The use of Remote Sensing (RS) and GIS techniques must be scientifically sound, ensuring proper data acquisition (e.g., satellite imagery or DEM), processing, and spatial analysis. If these methods are rigorously followed and the results are properly interpreted within the context of the watershed's geomorphological processes, the manuscript would be considered scientifically accurate. Proper validation of results and comparison with previous studies would further enhance its scientific robustness.</p>   |  |
| <p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p>   | <p><b>Add more reference</b></p>   |  |
| <p><u>Minor</u> REVISION comments</p> <p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>   | <p>The language should be clear and concise, avoiding ambiguity and overly complex sentence structures. Technical terms should be used correctly and consistently, but jargon should be minimized unless essential for the field.</p>  |  |
| <p><u>Optional/General</u> comments</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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|----------------------------------|---|
| Name:                            | <b>Bharat L Gadakh</b>  |
| Department, University & Country | <b>K. R. T. Arts, B. H. Commerce and A. M. Science College, India</b> |