

Review Form 3

Journal Name:	<u>Journal of Geography, Environment and Earth Science International</u>
Manuscript Number:	Ms_JGEESI_126103
Title of the Manuscript:	Hydrological Modeling of Krishna Upper Catchment area of India Using Multisite Calibration and Validation of SWAT Model
Type of the Article	Original Research 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>
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.	Please See Below	
Is the title of the article suitable? (If not please suggest an alternative title)		
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.		
Are subsections and structure of the manuscript appropriate?		
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.		
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =		

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Minor REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?		
Optional/General comments	<p>Hydrological Modeling of Krishna Upper Catchment area of India Using Multisite Calibration and Validation of SWAT Model</p> <p>The work is quite interesting and deals with multisite calibration and validation of the Soil and Water Assessment Tool (SWAT) model of the Krishna Upper Catchment area of India.</p> <p>Authors attempted SWAT-CUP, SUFI-2 algorithm for monthly sensitivity analysis, calibration, and validation. Authors works on six gauging stations for the study. Authors claimed that the SWAT model performed well across all gauging stations.</p> <p>It is evident that the task has been accomplished to a commendable standard, demonstrating a unique and efficiently executed strategy. The selected methodology has been carried out with meticulousness and proficiency, enhancing the overall efficacy of the project. Nevertheless, certain discrepancies are noticeably present and require rectification. The recommended amendments are outlined as follows.</p> <p>Comments/Observations:</p> <p>1. The paper is generally well-written but could benefit from minor language adjustments to improve clarity. Here are a few examples:</p> <p>a. Sentence structure: Some sentences are long and complex, which can reduce readability. Breaking these into shorter sentences would improve flow.</p> <p>b. Grammar: Watch for small grammatical errors, such as inconsistent verb tenses and article usage. For instance, "Water resource play an key role..." should be "Water resources play a key role..."</p> <p>c. Punctuation: Ensure consistent use of punctuation, particularly commas, to improve readability.</p> <p>2. In the Abstract section, there is a small grammatical issue in "for all five gauging stations, the SWAT model worked well for." Consider rewording to improve clarity, e.g., "The SWAT model performed well for all five gauging stations." You could also add a brief statement about the study's significance or potential applications. Also the authors mentioned five gauging station but it's actually six stations in the study. Please clarify.</p> <p>3. The introduction is well-written, providing background on water resources in India and the relevance of hydrological models. You successfully connect the challenges of water management in the Krishna Basin with the need for accurate hydrological models like SWAT. Consider slightly shortening the paragraph on water resource estimates to focus more on the direct relevance to your study area. Also, clarify the significance of multisite calibration, as this appears to be a major focus of your work.</p> <p>4. The description of the study area is detailed, providing geographic, climatic, and hydrological context. The SWAT model setup and the data used (topography, LULC, soils, etc.) are clearly explained. However, some sections could be streamlined. For instance, the detailed breakdown of the slope classes and soil types may be summarized more concisely in the main text, with more specific information relegated to tables or appendices.</p> <p>5. Suggestion: A flowchart summarizing the methodology (from data collection to model calibration/validation) might help readers follow the process better.</p> <p>6. The results are presented clearly, with appropriate use of statistical performance indicators (NSE, R², PBIAS). However, the interpretation could be improved by providing more explicit comparisons between the different gauging stations. Highlight any notable differences in performance or hydrological behaviour across the stations.</p> <p>a. Uncertainty analysis: You briefly mention the uncertainty in rainfall and temperature data, but this could be expanded upon. A deeper discussion of the sources of uncertainty and their potential impact on model performance would add strength to your conclusions.</p>	

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	<p>b. Figures: The figures (e.g., dotly plots, model calibration/validation graphs) are helpful but could benefit from a clearer explanation in the captions or text. Additionally, ensure that all figures are referenced correctly in the body of the paper.</p> <p>7. The conclusion effectively summarizes the key findings, with a strong statement on the model's performance and its potential use for water management in the Krishna Basin. However, you could enhance this section by suggesting specific applications of the model results or recommending further research directions (e.g., how to improve model accuracy for extreme flow events).</p> <p>8. The reference section appears comprehensive, citing relevant studies and models. However, ensure all citations in the text are fully aligned with the references section and that the formatting is consistent according to your target journal's guidelines.</p> <p>Recommendations: The paper can be considered for publication essentially after minor revisions and corrections.</p>	
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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)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

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