

Review Form 3

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_125060
Title of the Manuscript:	"Assessing Flood vulnerabilities in Paradip coastal area, through Weighted overlay index"
Type of the Article	

General guidelines for the 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 guidelines for the Peer Review process, reviewers are requested to visit this link:

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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.	This manuscript addresses a critical issue of flood vulnerability in Paradip, providing valuable insights for urban planning and disaster management. Its use of GIS techniques and diverse data sources is methodologically sound and offers practical, data-driven solutions. The findings are relevant to policymakers and urban developers, though further emphasis on policy implications could strengthen the impact. Overall, it is a valuable addition to flood risk assessment literature.	
Is the title of the article suitable? (If not please suggest an alternative title)	The current title is informative but could be more concise and polished for clarity. Here's a refined suggestion: "Flood Vulnerability Assessment in Paradip Coastal Area Using Weighted Overlay Index"	
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>The abstract is informative but could benefit from more clarity and conciseness. Here are some suggested improvements:</p> <p>Focus on objectives and results: The abstract should highlight the main objectives, methods, and key findings more clearly. Some details, like extensive background information on the city, can be shortened.</p> <p>Emphasize the contribution: The abstract should more strongly emphasize how the GIS-based flood vulnerability map contributes to flood risk management and urban planning in Paradip.</p> <p>Conciseness: Streamline some of the technical details (e.g., specific GIS software versions) to focus on the broader impact and results.</p> <p>Suggested revision: This study evaluates flood vulnerabilities in Paradip, a coastal city, using GIS and a weighted overlay index. By integrating satellite imagery, digital elevation models (DEM), and historical data on rainfall and soil types, we developed a detailed flood vulnerability map that categorises areas into high, moderate, and low risk. The results provide essential insights for urban planning and flood mitigation strategies, with direct implications for improving disaster preparedness and climate resilience. This research highlights the effectiveness of GIS in flood risk assessment, offering valuable guidance for sustainable development in vulnerable coastal regions.</p>	
Are subsections and structure of the manuscript appropriate?	<p>The manuscript is generally well-structured, with a logical flow from the introduction to the conclusion. However, some refinements to subsections would improve clarity and balance:</p> <p>Introduction: While the introduction provides a solid background, it could be made more concise by reducing some of the contextual details. A clearer and more direct focus on the study's objectives would strengthen this section.</p> <p>Methodology: The methodology is thorough, but it would benefit from clearer subheadings to separate key elements such as data collection, analysis techniques, and tools/software used. This would make the section easier to follow.</p> <p>Results and Discussion: These sections are well-structured. However, ensuring a clear distinction between the presentation of results and their interpretation would improve readability.</p> <p>Overall, the manuscript structure is effective, but minor adjustments to subsection headings and content organisation would enhance clarity and flow.</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.	This manuscript exhibits strong scientific correctness, as it applies established methodologies in GIS and the weighted overlay index to assess flood vulnerabilities. The integration of various data sources, such as satellite imagery and historical rainfall records, strengthens the reliability of the results. Furthermore, the study adheres to sound scientific principles, ensuring that the findings are both valid and applicable.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. :	<p>The references in this manuscript are generally sufficient and include a mix of foundational and recent studies relevant to flood vulnerability and GIS methodologies. However, while some references are up to date, the manuscript would benefit from incorporating additional recent literature to strengthen its context and findings.</p> <p>In the Introduction, there is a mention of "[14]": "average discharge is roughly 700,000 cubic feet per second (19,000 m³/s) [14]." Does this indicate a missing reference, or what does the number 14 signify?</p> <p>I recommend including studies from the last 2-3 years that focus on:</p> <ul style="list-style-type: none"> Advances in GIS techniques for flood risk assessment. Recent case studies of flood vulnerability assessments in similar coastal regions. Current policy frameworks or guidelines on flood management and urban planning. <p>These additions would provide a more comprehensive view of the topic and enhance the manuscript's relevance to contemporary discussions in the field.</p>	

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<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language quality of the manuscript is generally clear and suitable for scholarly communication. However, there are areas where the writing could be improved for greater precision and readability. Specifically:</p> <p>Grammar and Syntax: Some sentences are overly complex or lack clarity, which could be simplified to improve readability.</p> <p>Technical Terminology: Ensure consistent use of technical terms throughout the manuscript to avoid confusion.</p> <p>Conciseness: Certain sections, especially in the introduction, can be made more concise without losing important information.</p> <p>A thorough proofreading and minor revisions for grammar, sentence structure, and clarity would enhance the overall quality and flow of the text.</p> <p>Here are some specific suggestions for textual improvements that can be made to the manuscript to enhance clarity and conciseness:</p> <p>1. Original: "Paradip, a renowned coastal city on India's eastern seaboard, offers an intriguing mix of environmental dynamics and urban difficulties. Paradip is the local with the most extensive tidal range among the region's important tidal gauge stations including Vishakhapatnam and Chennai."</p> <p>Suggested Improvement: "Paradip, a prominent coastal city on India's eastern seaboard, presents a unique combination of environmental challenges and urban pressures. It has the largest tidal range among major regional tidal gauge stations, including Vishakhapatnam and Chennai."</p> <p>2. Original: "Significantly, the city experiences a 2.33mm annual relative sea level rise; projections indicate that this will increase by 0.183 feet by 2047 and 0.76 feet over a century."</p> <p>Suggested Improvement: "The city experiences an annual sea level rise of 2.33 mm, with projections indicating an increase of 0.183 feet by 2047 and 0.76 feet over the next century."</p> <p>3. Original: "The study applies the GIS technique to analyze to produce a flood vulnerability map of the Paradip urban area."</p> <p>Suggested Improvement: "This study employs GIS techniques to generate a flood vulnerability map for the Paradip urban area."</p> <p>4. Original: "Many factors affect an area's vulnerability to flooding, but topography is one of the most important ones."</p> <p>Suggested Improvement: "Topography plays a crucial role in determining an area's flood vulnerability, among other influencing factors."</p> <p>5. Original: "This study demonstrates how remote sensing and GIS may be used to analyze and produce the flood vulnerability data needed for efficient flood decision-making."</p> <p>Suggested Improvement: "The study illustrates how remote sensing and GIS techniques can be effectively utilized to generate flood vulnerability data essential for informed decision-making."</p> <p>6. Original: "Flood risks can be increased by changes in natural drainage patterns brought about by land use practices like urbanization and forestry."</p> <p>Suggested Improvement: "Alterations in natural drainage patterns due to land use changes, such as urbanization and deforestation, can exacerbate flood risks."</p>	
<p>Optional/General comments</p>	<p>Overall, the manuscript is a solid contribution to the field, with minor revisions already indicated to enhance clarity and impact.</p>	

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PART 2:

	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>
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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