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| Journal Name: | [**International Journal of Environment and Climate Change**](https://journalijecc.com/index.php/IJECC) |
| Manuscript Number: | **Ms\_IJECC\_140782** |
| Title of the Manuscript: | **Rainfall and climate change anomalies in Bhubaneswar City Using GIS and Python** |
| Type of the Article |  |

**PART 1: Comments**

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|  | **Reviewer’s comment**  **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** (It is mandatory that authors should write his/her  feedback here) |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript provides critical insights into the spatio-temporal variability of rainfall in Bhubaneswar City over a 24-year period, highlighting the growing impacts of climate anomalies on urban infrastructure, health, and resource management. By integrating GIS and Python-based data analysis, the study presents a replicable model for climate-resilient planning in rapidly urbanizing regions. Its findings contribute to the scientific understanding of localized climate change effects and support policy interventions aligned with global sustainability goals, particularly SDGs 11 and 13. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | The current title — "Rainfall and Climate Change Anomalies in Bhubaneswar City Using GIS and Python"  — is generally informative but can be improved for clarity, scientific precision, and impact.  Suggested Alternative Titles  **Spatio-Temporal Analysis of Rainfall Variability and Climate Anomalies in Bhubaneswar City (2000–**  **2024) Using GIS and Python** |  |
| **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.** | The abstract is generally comprehensive and captures the key components of the study—objectives, data sources, methods, findings, and implications. However, it could benefit from improved structure, clarity, and focus. Below are specific suggestions for enhancement:  Strengths of the Abstract:  • Clearly identifies the geographic focus (Bhubaneswar, Odisha) and timeframe (2000–2024).  • States the methodology (GIS and Python-based analysis).  • Highlights seasonal rainfall trends and extreme events.  • Mentions impacts on health, infrastructure, agriculture, and water systems.  • Includes visualizations and the use of digital elevation data.  • Concludes with practical recommendations linked to SDGs 11 and 13.  Suggestions for Improvement:  1. Clarify data timeline and resolution:  You mention data for the years 2000, 2005, 2010, etc., but refer to monthly trends. Clarify whether you used monthly data from selected years or full monthly datasets spanning 2000–2024.  2. Avoid overloading technical terms:  Too many visualization types are listed; instead, summarize their function (e.g., “Various plots and GIS maps were used to analyze rainfall distribution and intensity”).  3. Mention key findings concisely:  Highlight one or two *major insights* (e.g., July 2024 rainfall, Bomi Khal vulnerability) with quantified impact, but avoid too many specific figures in the abstract.  4. Streamline the ending:  Combine recommendations and SDG alignment more smoothly into one sentence. |  |
| **Is the manuscript scientifically, correct? Please write here.** | The manuscript has a strong foundation and is generally **scientifically correct**, but it requires revisions to clarify data methodology, improve statistical rigor, and strengthen the analytical framework. Enhancing these areas will increase its credibility and contribution to the scientific community. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | The references cited in the manuscript are **limited in number** and **lack recent peer-reviewed sources**, especially considering the scientific and technical nature of the work. For a study addressing climate variability, urban flooding, GIS-based analysis, and sustainability planning, a stronger and more current reference base is essential. |  |

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| **Is the language/English quality of the article suitable for scholarly communications?** | The language of the article demonstrates a reasonable understanding of scientific terminology and structure;  however, it **requires substantial revision** to meet the standards of scholarly communication. |  |
| **Optional/General** comments | This manuscript presents an important and timely analysis of rainfall variability and climate change impacts in Bhubaneswar, leveraging GIS and Python-based methodologies. The integration of spatial data and urban planning concerns offers valuable insights for policymakers, especially in the context of  India's smart city mission and SDGs 11 and 13.  However, to enhance the manuscript's scientific value and readability, the following improvements are strongly recommended:  1. Refine the language and structure to align with academic standards.  2. Clarify your methodology — including data sources, temporal resolution, and statistical thresholds — for better reproducibility.  3. Strengthen the connection between spatial findings and proposed solutions with more concrete evidence or modeling outputs.  4. Improve citation quality by referencing more peer-reviewed, recent sources and reducing reliance on non-scholarly data (e.g., social media).  5. Consider including a limitations section, reflecting on data quality, temporal resolution, or assumptions in the spatial models.  With careful revisions, this study could make a meaningful contribution to the fields of urban  climatology, disaster risk management, and sustainable planning in climate-vulnerable regions. |  |

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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)* |  |

**Reviewer details:**

**Dr. Ranojit Kumar Dutta, City University, Bangladesh**