

Review Form 3

Journal Name:	<a href="#">International Journal of Environment and Climate Change</a>
Manuscript Number:	Ms_IJECC_129192
Title of the Manuscript:	LULC impacts on NDVI and LST: A case study on Jashore District, Bangladesh
Type of the Article	

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Is the language/English quality of the article suitable for scholarly communications?		
<u>Optional/General</u> comments	<p>The study is good. But it needs some modification. I have highlighted the comments try to rectify the manuscript accordingly.</p> <p>The manuscript mentions using Landsat data and GIS technology but does not provide sufficient details on the methodology used for LULC classification. It would be helpful to specify the classification technique (e.g., supervised or unsupervised), and the specific algorithms or tools employed.</p> <p>There is no mention of preprocessing steps for the Landsat data, such as atmospheric correction, geometric correction, or cloud masking. These are crucial for ensuring the accuracy and reliability of the results.</p> <p>The study mentions using "ancillary data" but does not specify what this data includes. Detailing the sources and types of ancillary data (e.g., meteorological data, socio-economic data) would improve the transparency of the methodology.</p> <p>The term "vegetation land cover" is used but not clearly defined. It would be beneficial to clarify whether this refers to forest cover, cropland, grassland, or another type of vegetation, and how these were classified in the study.</p> <p>While NDVI and LST analysis are mentioned, the specific methods or formulas for calculating these indices are not provided. Including information on how NDVI and LST were derived and analyzed would make the study more robust.</p> <p>The study reports a negative correlation between LST and NDVI, but it is unclear how the correlation was quantified. It would be important to include the correlation coefficient and discuss any potential confounding variables or seasonal variations that could affect this relationship.</p> <p>The resolution and quality of the Landsat data are not mentioned. The study should clarify the spatial and temporal resolution of the Landsat images used, as this can significantly impact the interpretation of LULC changes and LST variations.</p> <p>While the manuscript acknowledges that LST could be influenced by global climate change, there is no further exploration or analysis of how climate change might interact with local land use changes. This is a significant limitation if the study aims to make long-term predictions or policy recommendations.</p>	<p>In the abstract we have included the method of classification (supervised method) and included the software (ARCGIS 10.8) we have used. All the changes are highlighted with yellow colour (lines 17 to 20).</p> <p>We have added a reference paper in the pre-processing of data section (147-148). All the changes are highlighted with yellow colour.</p> <p>We have written the ancillary data source in the data collection section (line 123 to 124). All the changes are highlighted with yellow colour.</p> <p>In this manuscript, the vegetation land cover indicated both natural vegetation and anthropogenically modified vegetation such as forests, croplands, grasslands and others. A new sentence in abstract section mentioned what 'vegetation land cover' means in the revised manuscript in line 23 to 24. This is an MS student's work, and it is now difficult to perform the repeated study and include more detailed land cover types at this stage. However, a detailed study on LULC changes in the same study area is under work. So, we kindly request the honourable reviewer to consider the limitation. We have already mentioned our limitations in the revised manuscript under the section 'Limitations and future concern' in line 407. All the changes are highlighted with yellow colour.</p> <p>The NDVI and LST analysis method are being mentioned in the sections 'Calculation of NDVI' (line 177) and 'Calculation of LST from thermal band' (line 188). All the changes are highlighted with yellow colour.</p> <p>We have added a new section 'method for correlation analysis between LST and NDVI' in methodology how correlation and regression analysis were performed (lines 241-248). All the changes are highlighted with yellow colour.</p> <p>The resolution and quality have been added in the table 1. All the changes are highlighted with yellow colour.</p> <p>Since, we did not specifically and experimentally explore how the global climate change interacts with LST, we remove the sentence from abstract but acknowledged in the section of 'limitations and future concern' in lines 420-429. All the changes are highlighted with yellow colour.</p>

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	<p>The Kappa statistics are provided for 2002 and 2022, but it would be helpful to include accuracy assessment for intermediate years (e.g., 2012) to provide a clearer picture of how LULC has changed over time.</p> <p>There is no mention of how LST values were validated. Ground-truthing or comparison with temperature data from weather stations would enhance the credibility of the LST findings.</p> <p>The study focuses on Jashore District, but the findings may not be generalizable to other regions in Bangladesh or beyond. A discussion on the regional applicability of the results and whether similar patterns could be observed in other areas would strengthen the conclusion.</p>	<p>Unfortunately, the 2012 image has lines error and for that we can not use it because it will degrade the accuracy of the image. We have added this limitation in lines 421-425. All the changes are highlighted with yellow colour.</p> <p>We have renamed the section 'Changes in LST' to 'Changes in LST and validation of LST data'. In this section, we validated LST data with BMD data (lines 331 to 349). All the changes are highlighted with yellow colour.</p> <p>The applicability of the result has been discussed in conclusion section in the revised manuscript. All the changes are highlighted with yellow colour.</p>
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