

Peer Review Report

Review Report on Land Surface Temperature Anomalies as indicators of urban land cover change –A study over two Indian cities

Original Research, Earth Sci. Syst. Soc.

Reviewer: Yusuf Aina

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EVALUATION

Q 1 Please summarize the main findings of the study.

The study affirms the findings of previous studies that:

1. Vegetation and water have cooling effects
2. Impervious surface and barren land have heating effects
3. Industrial areas have prominent heating effects

Q 2 Please highlight the limitations and strengths.

The limitations of the study are that lack of validation of the satellite data with ground measurements and inadequate consideration of the effects of spatial configuration and patterns. Moreover, as stated by the authors, night time variations are not considered. The strength of the study is the use of mean of three images to represent the LST of the summer period.

Q 3 Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

The study did not adopt recent methods of image classification such as the machine learning algorithms. They have been reported to have accuracies over 90%. The authors cited a previous study in line 237 to indicate the accuracy of the image classification. The authors are expected to assess the accuracy of their own classification and not refer to the accuracy achieved by others.

Q 4 Check List

Is the English language of sufficient quality?

Yes.

Is the quality of the figures and tables satisfactory?

Yes.

Does the reference list cover the relevant literature adequately and in an unbiased manner?

No.

Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)

No.

If relevant, are the methods sufficiently documented to allow replication studies?

Yes.

Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)

No.

Does the study adhere to ethical standards including ethics committee approval and consent procedure?
Not Applicable.

If relevant, have standard biosecurity and institutional safety procedures been adhered to?
Not Applicable.

Q 5 Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List):

The study can be improved by considering the previous comments above.
In addition, the authors should consider comparing the results from the two cities statistically. Are they significantly different?
The discussion section does not explain the results in the light of the existing literature. It can be improved by adding more references and discussing their findings.
The authors mentioned the influence of industrial areas and slum on LST in the abstract. But this is not mentioned in the text. Even there is no land cover classified as "industrial area" in their image classification. In table 1, instead of doing visual assessment, the authors should carry out proper accuracy assessment. How did the authors address the issue of cloud cover in the image in Figure 1 A?

QUALITY ASSESSMENT

Q 6 Originality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q 7 Rigor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 8 Significance to the field	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 9 Interest to a general audience	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 10 Quality of the writing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 11 Overall quality of the study	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>