




## ICCED 2023 Submission 407

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### Submission 407

Title	The Impact of the COVID-19 Pandemic on Land Surface Temperature Change through Remote Sensing Data Processing
Paper:	 (Sep 11, 05:42 GMT)
Author keywords	Landsat LST Urban Heat Island COVID-19 RS-GIS
EasyChair keyphrases	land surface temperature lst (100), satellite images (70), remote sensing (70), gis plugin (50), surface temperatures (50), degrees celsius (50), base map (50), implementation of work from home (46), pandemic on land surface temperature (46), land use and land cover (46), pandemic conditions (40), top of atmosphere toa (40), lst maps (40), toa to brightness temperature (40), land surface temperature (39), clouds and cirrus (31), remote sensing data (31), states of america (31), difference vegetation index (31), west java indonesia (31), band specific (30), global warming (30), satellite sensor (30), surface temperature (30), united states (30), lst map (30), time ranges (30), gis tools (30)
Abstract	Abstract— Various fields can collaborate in analyzing specific phenomena, such as the impact of the COVID-19 pandemic. Most research tends to focus on one aspect of the discipline, such as economics, health, spread predictions, and the like. Given its impact not only on health but also on other aspects, this study utilizes the processing of spatial data derived from satellite imagery using Geographic Information System (GIS) to observe the impact of the pandemic phenomenon on environmental conditions, i.e., surface temperature warming in the city of Bekasi, Indonesia. This research utilizes GIS tools to convert Landsat 7 and Landsat 8 datasets by extracting thermal sensors (Band 10 and Band 11). The test results show an increase in temperature each year, but a decrease during the COVID-19 pandemic. This indicates the possibility of reducing temperature by reducing carbon usage as closely as possible to pandemic conditions.
Submitted	Sep 11, 05:42 GMT
Last update	

### Authors

first name	last name	email	country	affiliation	Web page	corresponding?
Herlawati	Herlawati	herlawati@ubharajaya.ac.id	Indonesia	Universitas Bhayangkara Jakarta Raya		✓
Rahmadya Trias	Handayanto	rahmadya.trias@gmail.com	Indonesia	Universitas Islam 45, Bekasi		✓
Kusuma	Hati	kusumahati.antarbangsa@gmail.com	Indonesia	STMIK Antar Bangsa		✓

## Reviews

### Review 1

Overall evaluation	The review identifies several areas for improvement in the paper. First, the background lacks depth, with no explanation for the choice of Bekasi as the study area or the selected research methodology. Second, issues with image clarity, notably in Figures 1 and 3, where numbers overlap and are unclear, need attention. Lastly, there's an inconsistency in temperature comparisons: while the discussion mentions a 7-degree difference between day and night temperatures, the LST map comparison reports a 3-4 degree difference between 2018 and 2021. Clarity is needed regarding whether the 7-degree difference pertains to diurnal variations or yearly changes during the COVID-19 period. These suggestions aim to enhance the paper's overall quality and coherence
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### Review 2

Overall evaluation	Abstract/ Introduction : The author can give short reasons of choosing Bekasi area in research. Literature Review : Methods, references and previous research have been explained well, clearly and coherently between one paragraph and the next. Conclusion : The author can give more description of the results.
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### Review 3

Overall evaluation	Major revisions 1.the background of the research written is not so easy to identify. Please write in more detail the background, objectives and issues raised 2. The research theme cannot be identified as to its novelty and urgency. Please explain it!
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PAPER: 407

Reviewer Response

REVIEWER 1

The review identifies several areas for improvement in the paper. First, the background lacks depth, with no explanation for the choice of Bekasi as the study area or the selected research methodology. Second, issues with image clarity, notably in Figures 1 and 3, where numbers overlap and are unclear, need attention. Lastly, there's an inconsistency in temperature comparisons: while the discussion mentions a 7-degree difference between day and night temperatures, the LST map comparison reports a 3–4-degree difference between 2018 and 2021. Clarity is needed regarding whether the 7-degree difference pertains to diurnal variations or yearly changes during the COVID-19 period. These suggestions aim to enhance the paper's overall quality and coherence.

Author's Response

Thank you for the suggestion and correction. We have made the Figure 1 and 3 clearer as well as the inconsistency of the temperature comparison as follows, "The results prove a decrease of approximately 10 degrees during COVID-19 both for daytime and night-time", in conclusions as well as abstract.

REVIEWER 2

Abstract/ Introduction: The author can give short reasons of choosing Bekasi area in research.  
Literature Review: Methods, references and previous research have been explained well, clearly and coherently between one paragraph and the next.  
Conclusion: The author can give more description of the results.

Author's Response

Thank you for the comment. We have made the conclusion more descriptive similar to Reviewer 1 suggestion.

REVIEWER 3

Major revisions

- 1.the background of the research written is not so easy to identify. Please write in more detail the background, objectives and issues raised.
2. The research theme cannot be identified as to its novelty and urgency. Please explain it!

Author's Response

Thank you for the suggestions. We have added the explanation as follows, "Most environmental research is still based on qualitative data in assessing the environment [1], [13]. Some experts advocate for reducing vehicle and industrial emissions, but the actual impact is rarely quantified. The occurrence of COVID-19, aside from affecting all aspects of life, can also serve as a crucial basis for the importance of emission reduction, accompanied by real quantitative data .." to show the contribution as well as easy to identify the background.