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| **Studying the Influence of Park Attributes on Urban Temperature: A Remote Sensing Approach in Christchurch, New Zealand** |
| **Introduction/Aim:** The urban thermal environment is becoming increasingly unfavourable for city dwellers due to the growing trend of urban intensification. Under this scenario, urban parks can be identified as an integral element of urban landscape that moderate urban temperature and improve the human outdoor thermal comfort. However, the complex relationship between park attributes and temperature variables remains insufficiently explored. Furthermore, there is a notable research gap in New Zealand concerning studies on the urban thermal environment, which is becoming increasingly urgent in the context of global warming. Remote sensing can be a powerful tool to address this gap by measuring land surface temperature, vegetation cover and vegetation structure. Thus, this research is executed to investigate the impact of urban park attributes on air temperature and Land Surface Temperature as key as key temperature variables related to urban thermal environment using Remote sensing approaches.  **Methods:** The fieldwork for the study was conducted during the 2023-2024 summer season, focusing on parks in Christchurch, New Zealand. Sampling plots were established randomly throughout parks in urban area. Air temperature and wind speed were recorded using Kestrel 5500 portable weather station. Soil moisture and temperature were also collected during the field survey. Vegetation structure was measured with aerial LiDAR, while aerial imagery was used to describe land cover. Finally, Landsat imagery was used to estimate land surface temperature. An analysis was conducted to determine the effect of vegetation structure and configuration on land surface temperature and measured air temperature.  **Expected Results:** It is anticipated the results of the analysis will identify key factors that influence the urban thermal environment.  **Conclusion:** Findings will explore the complex interplay between urban greenery and urban thermal environment regulation. Replacing ground-based measurements of vegetation structure and air temperature with remotely sensed data will provide more efficient and cost-effective means of data collection. This advancement will open opportunities to incorporate outdoor thermal comfort considerations into urban planning processes. |