Recording Light at Night and Measuring Its Impacts

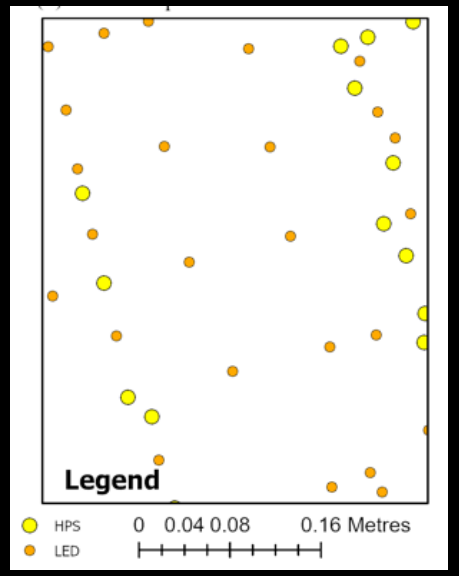
Dr. Dipendra Bhattarai

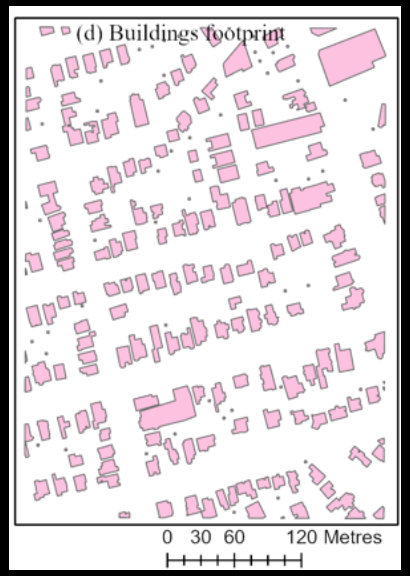
VALUING DARKNESS SYMPOSIUM & ROUNDTABLE

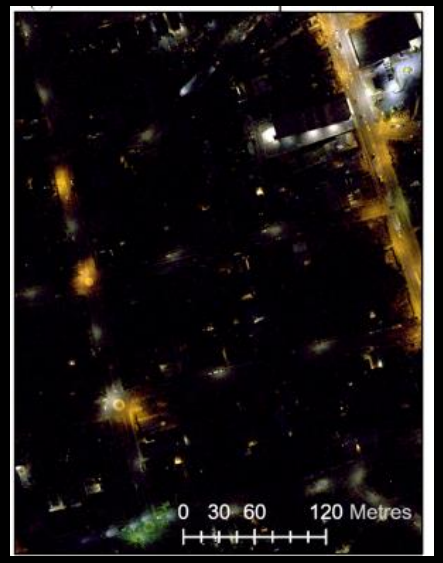
19 - 21 March 2025

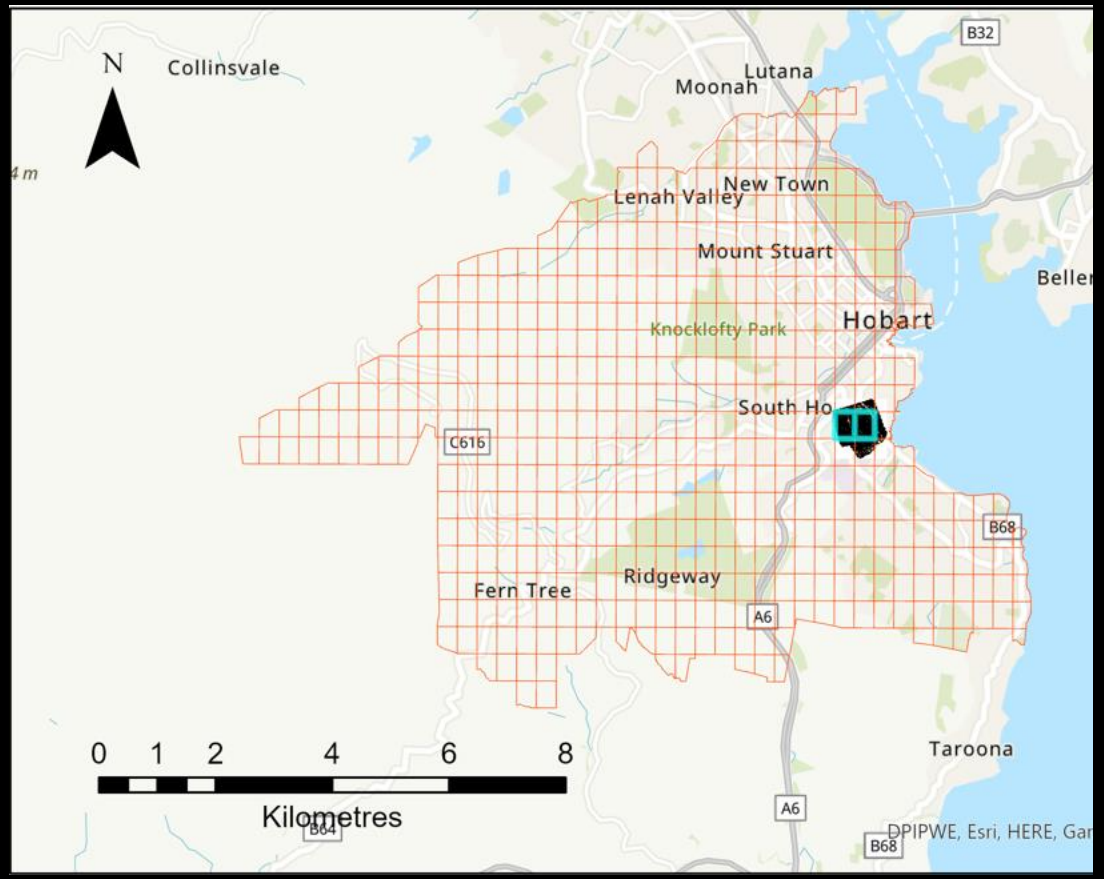
Melbourne City Conference Centre

VIIRS Pixel









(Bhattarai and Lucieer, 2024)

Drones

(Haynes 2023)

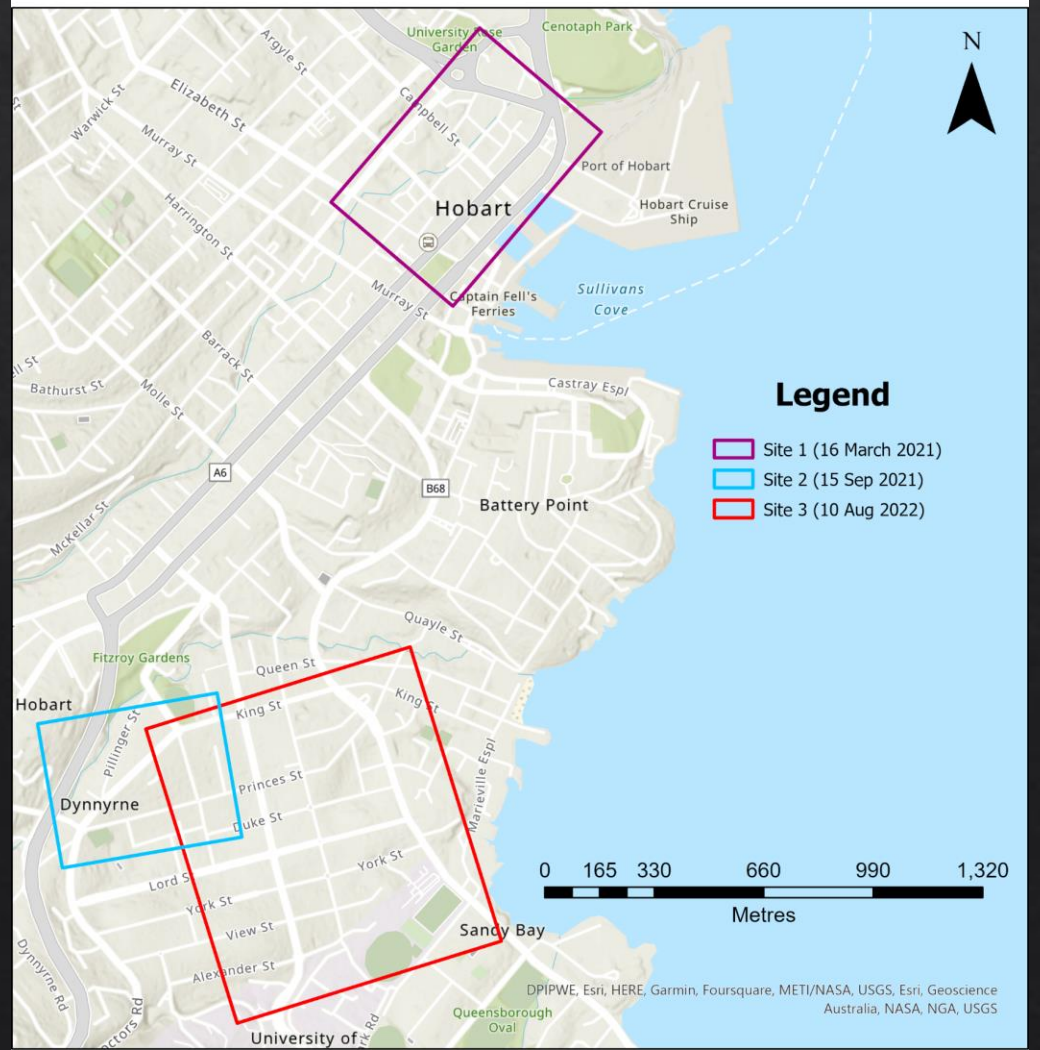


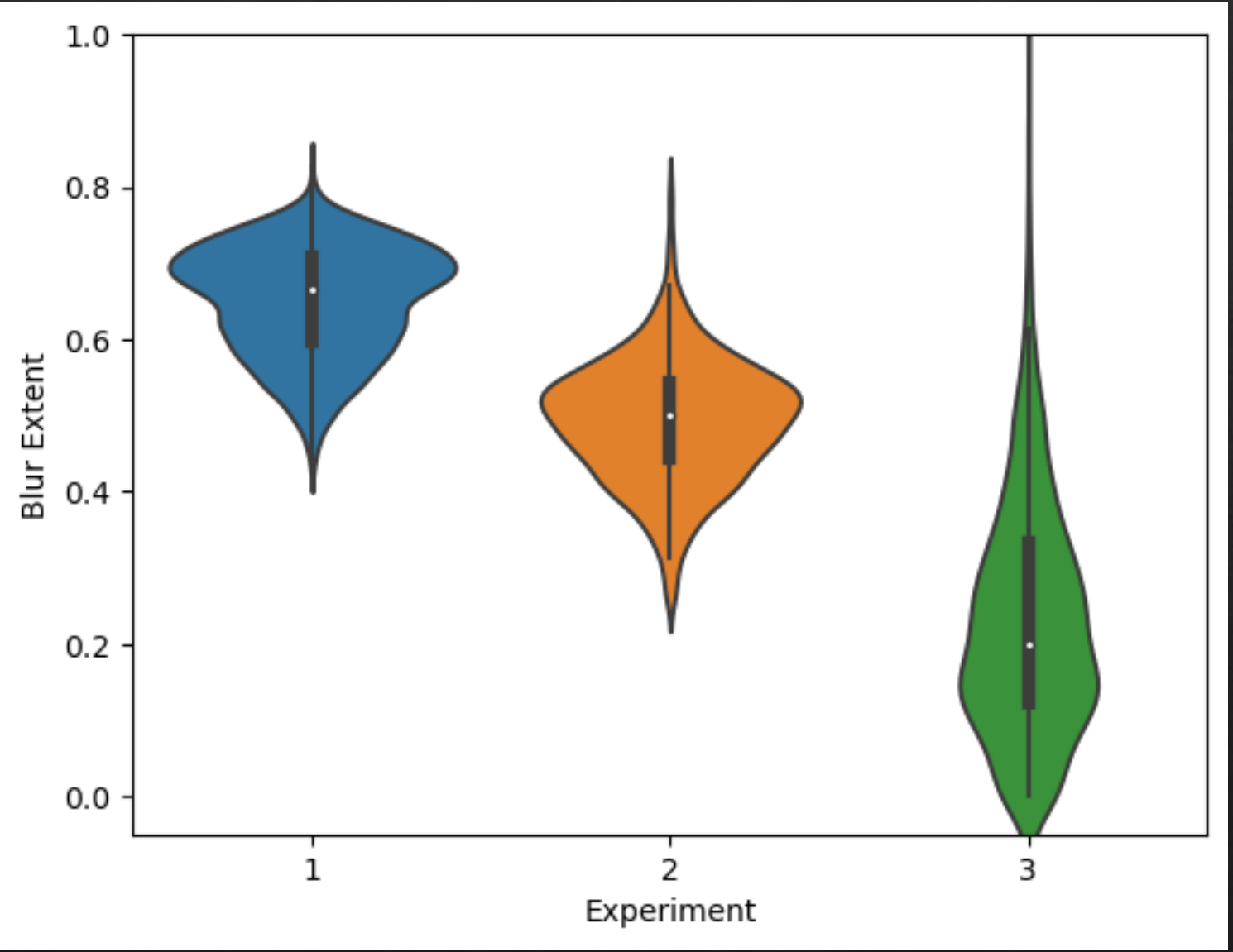
Image Quality

A blur detection algorithm was used to quantify and compare the image quality, utilising the Haar wavelet transform, a widely used technique in image analysis (Tong et al. 2004).

(Garth 2021)

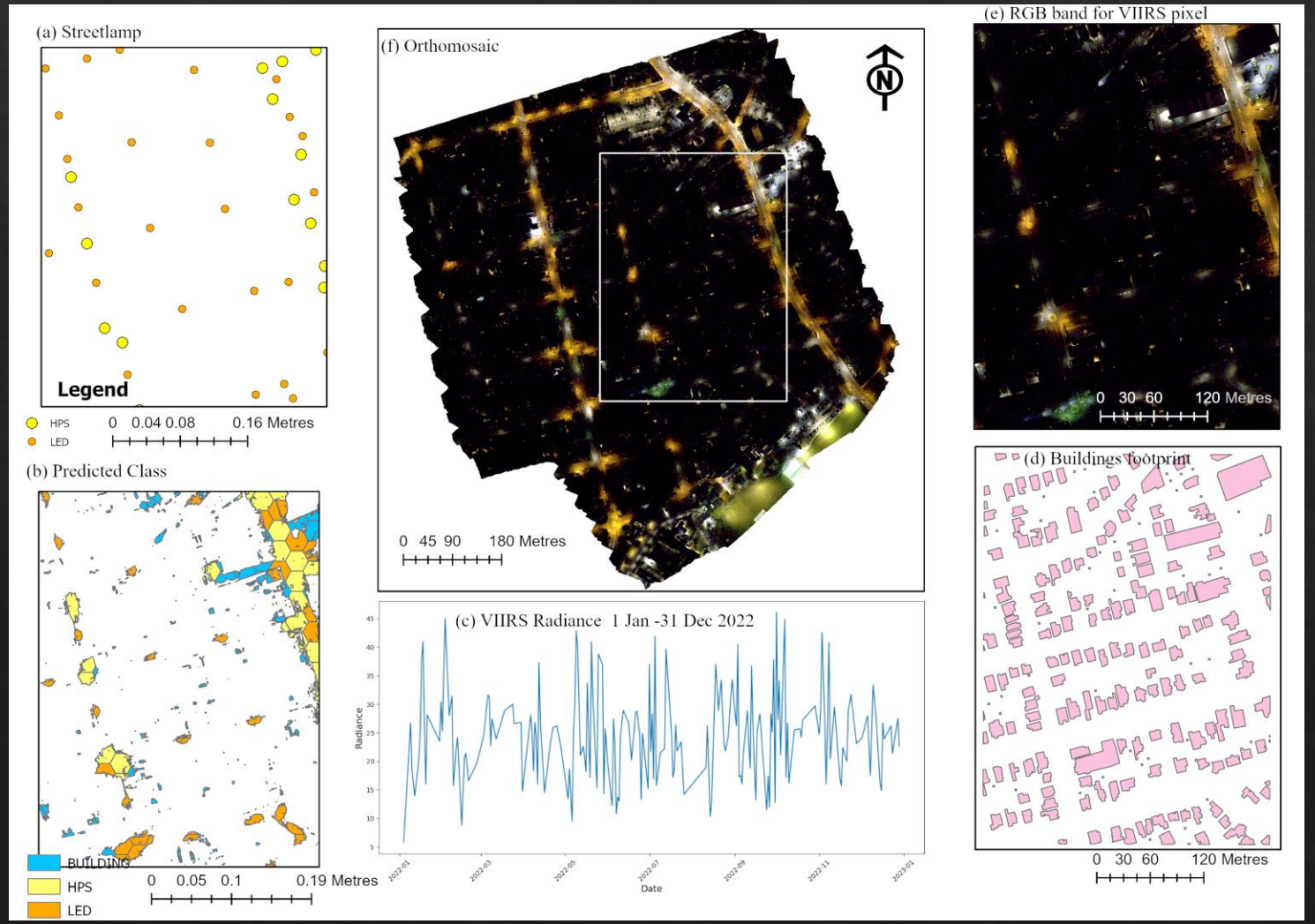
(Bhattarai and Lucieer, 2024)

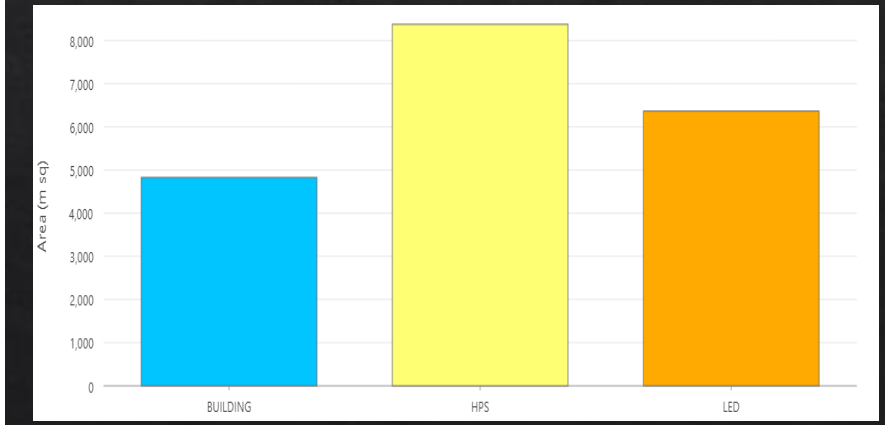
Image Quality



(Bhattarai and Lucieer, 2024)

Machine Learning and Light Source





(Bhattarai and Lucieer, 2024)

References

Dipendra B. and Arko L. 2024. Optimising camera and flight settings for ultrafine resolution mapping of artificial night-time lights using an unoccupied aerial system. Drone Systems and Applications. 12: 1-11. https://doi.org/10.1139/dsa-2023-0086

Haynes R. 2023. Photograph of DJI Matrice 300 RTK with Zenmuse P1. University of Tasmania, Hobart.

Garth C. 2021. Night-time photographs of Hobart. Hobart City Council.

Source: ABC Hobart, Photographer: Robbie Moles

Thank You

Dipendra.bhattarai@utas.edu.au

LinkedIn: bdipen

Bluesky: bdipen.bsky.social