

An aerial night photograph of a city. A prominent, tall, cylindrical building is brightly lit with a warm orange-red glow. The surrounding area is filled with various buildings, some with lights on, and a large parking lot. The background shows a dark sky with some distant lights.

# Recording Light at Night and Measuring Its Impacts

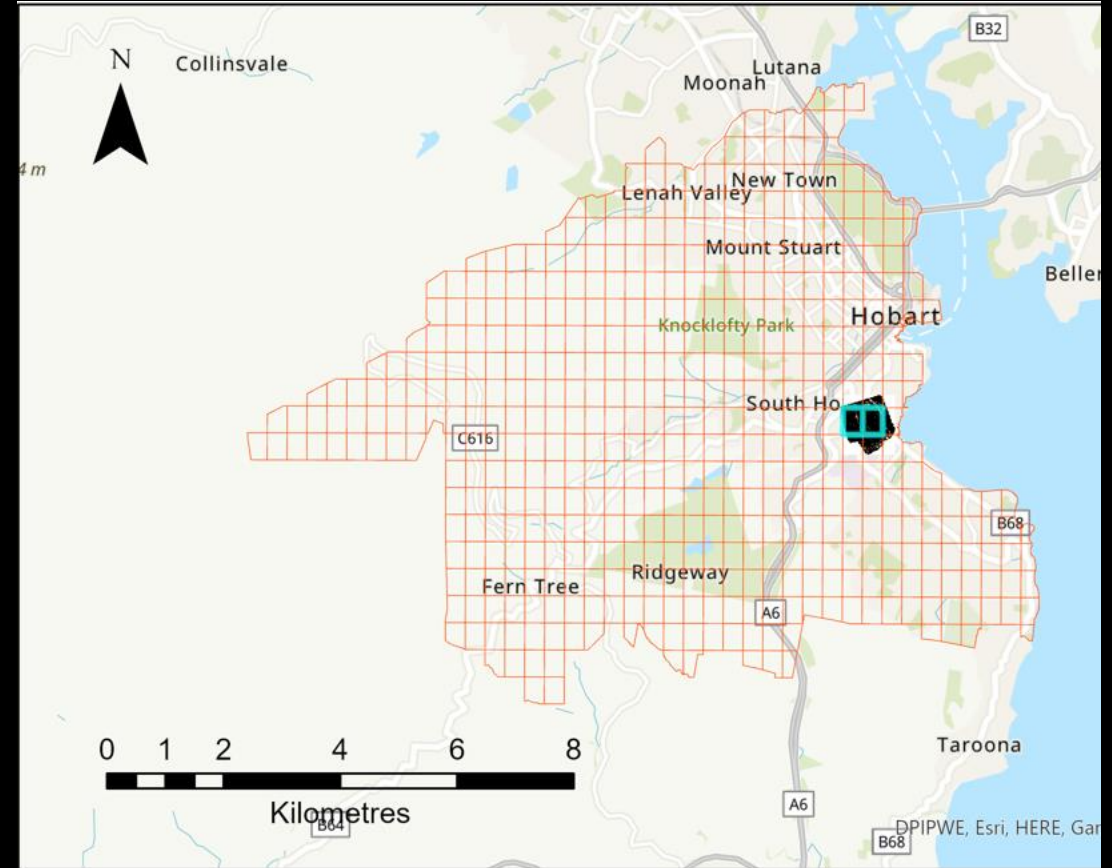
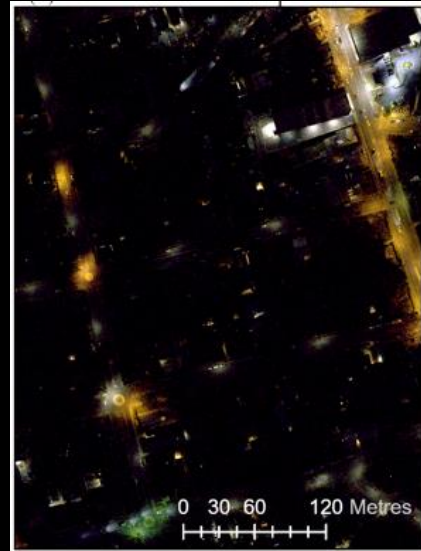
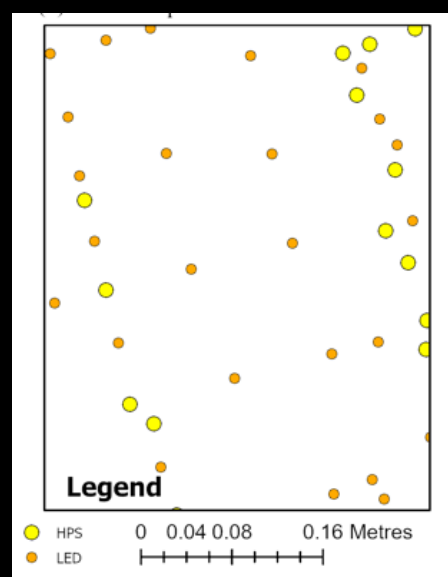
Dr. Dipendra Bhattarai

VALUING DARKNESS SYMPOSIUM & ROUNDTABLE

19 - 21 March 2025

Melbourne City Conference Centre

# VIIRS Pixel

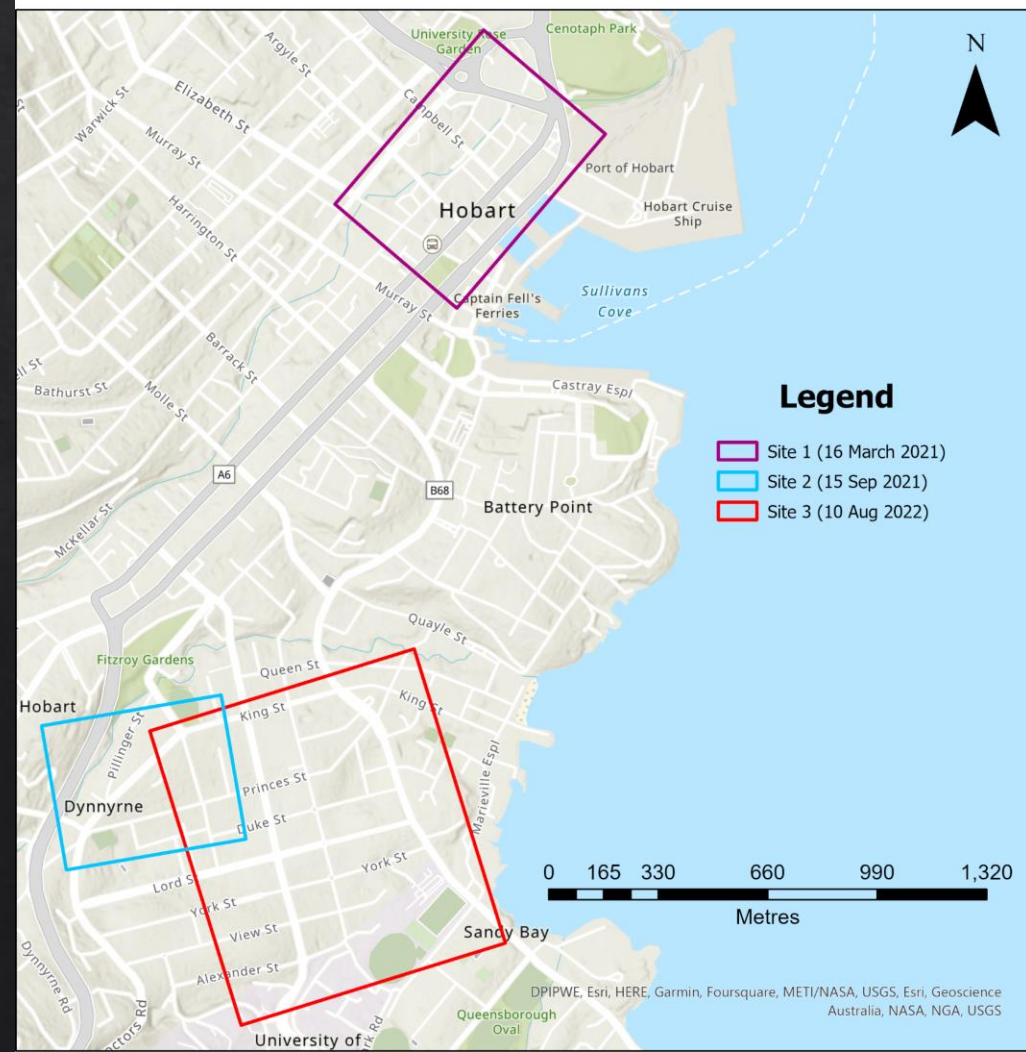


(Bhattarai and Lucieer, 2024)

# Drones



(Haynes 2023)



# Image Quality

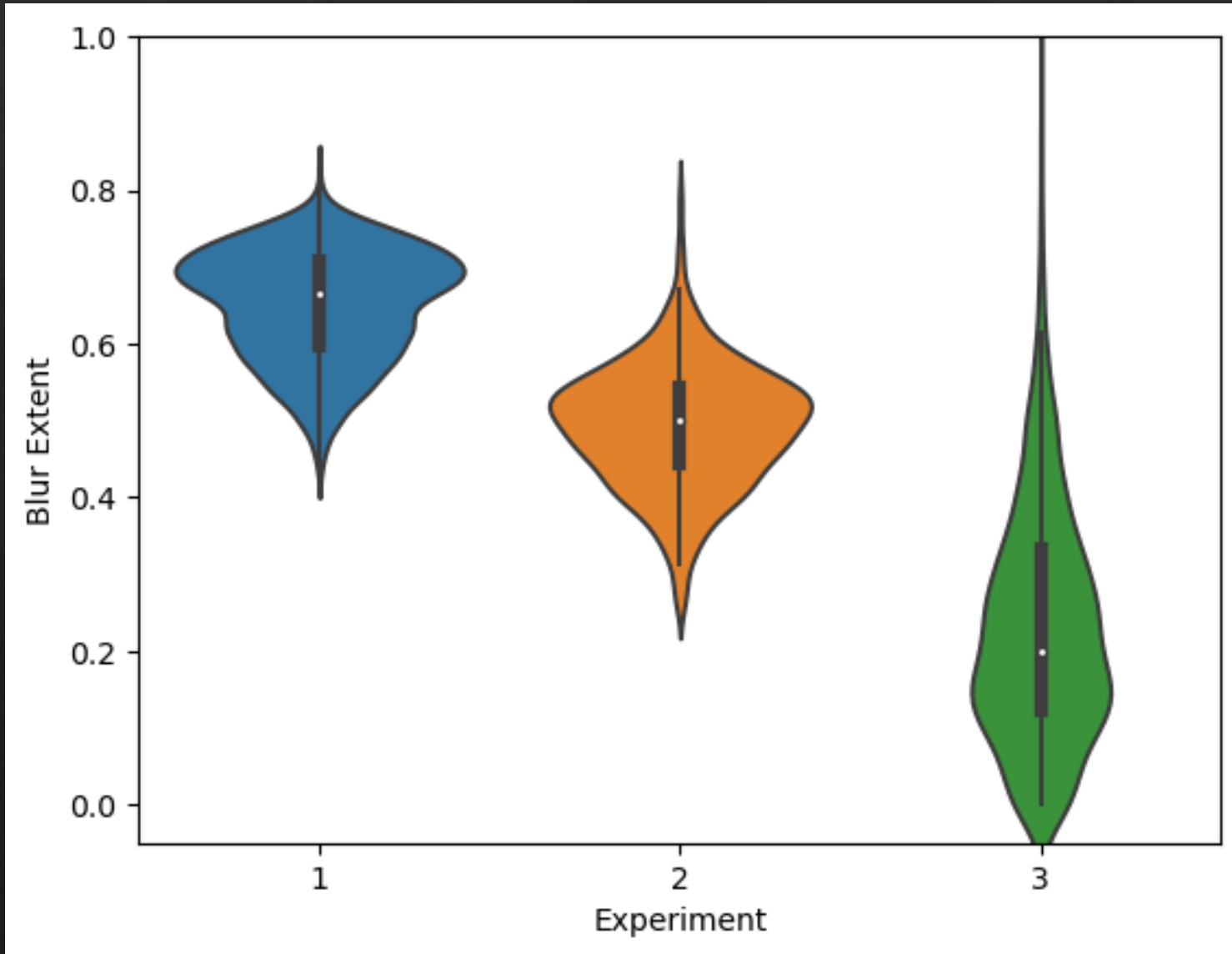


A blur detection algorithm was used to quantify and compare the image quality, utilising the Haar wavelet transform, a widely used technique in image analysis (Tong et al. 2004).

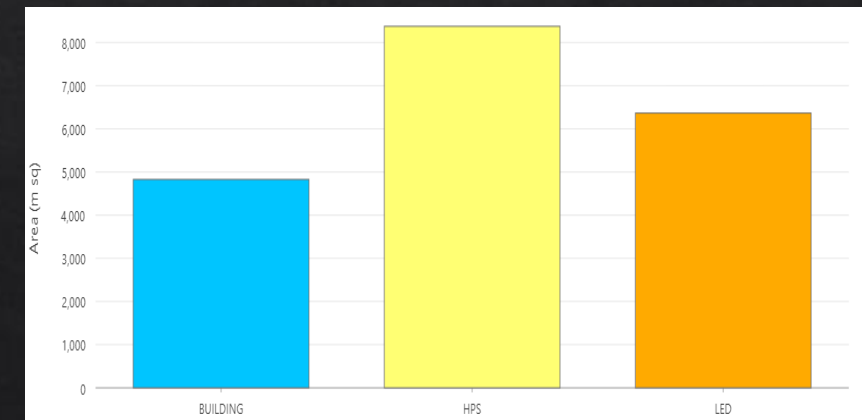
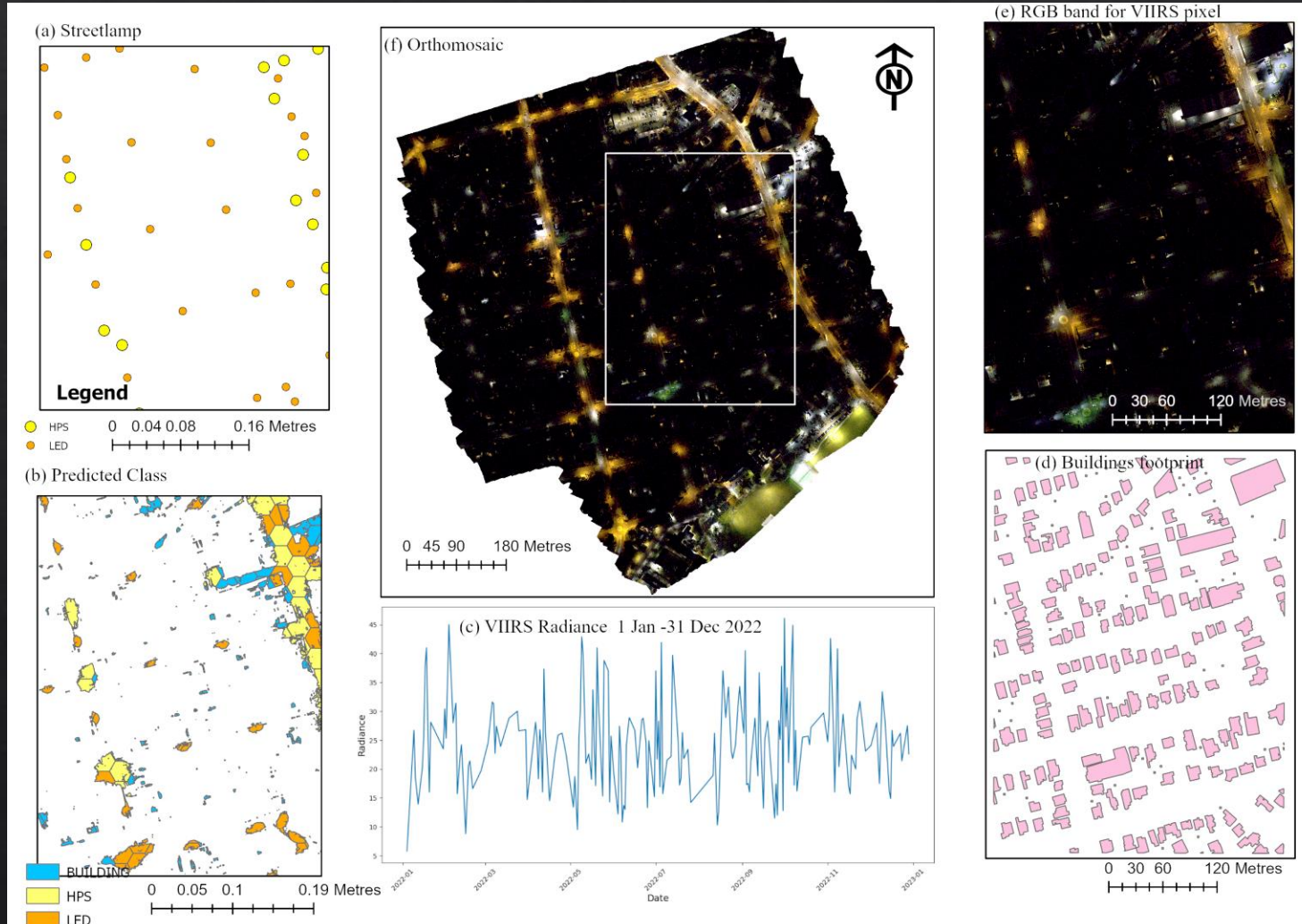
(Garth 2021)

(Bhattarai and Lucieer, 2024)

# Image Quality



# Machine Learning and Light Source

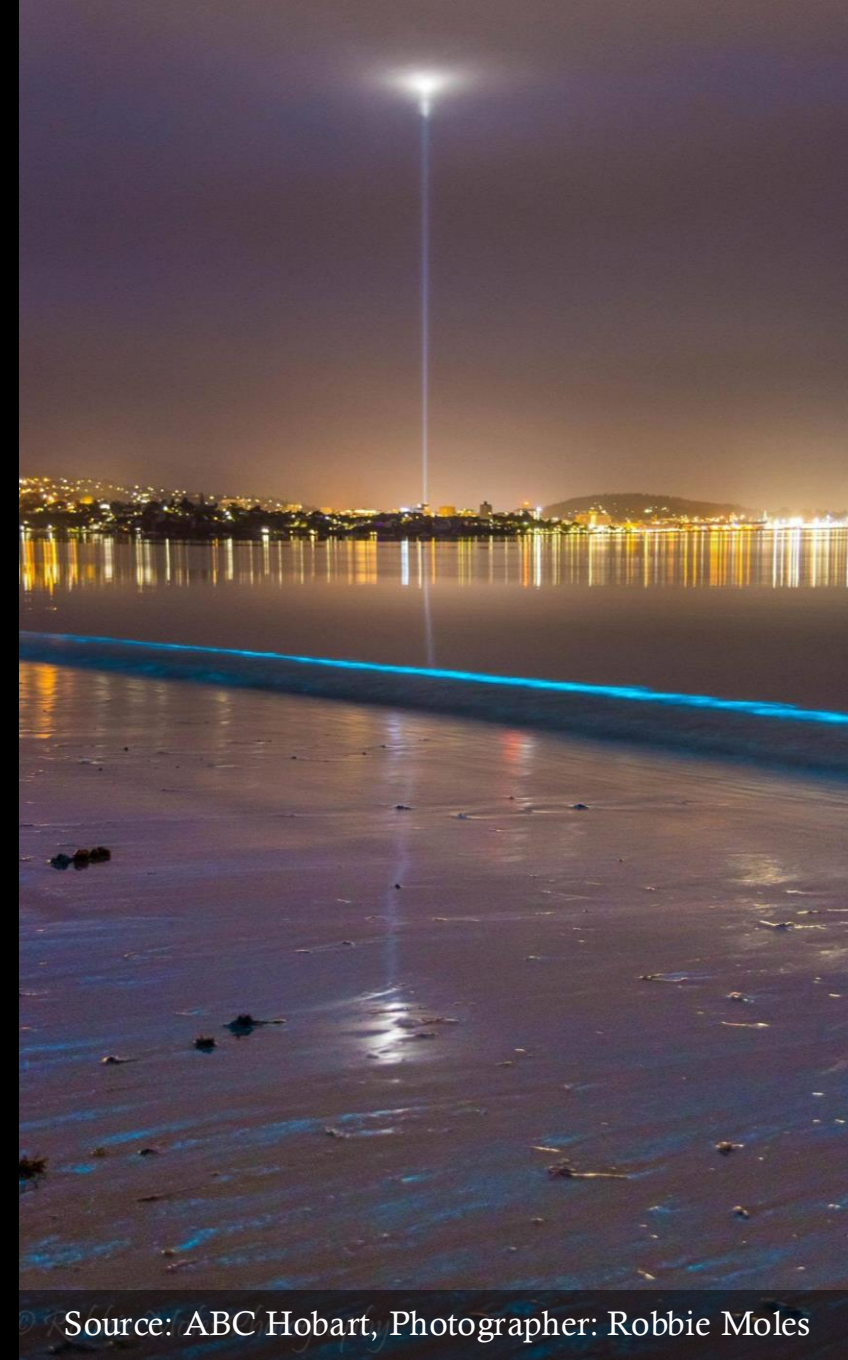


# References

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

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