

Faculty of Engineering

Summer Research Program 2023-2024

Project Title: Detectives from the sky: harnessing publicly available data to identify pollution sources

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Website profile of project supervisor: <https://www.monash.edu/engineering/annalintern>

Objective

The main objective of this project is to identify key pollution producing hotspots in a landscape.

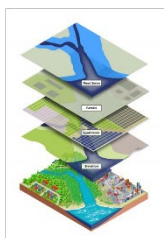
Project Details

Pollution of streams, rivers and lakes is a significant problem facing humans – threatening both public and ecosystem health. To manage and fix this problem, we need to pinpoint exactly where pollution is coming from in the landscape. Once we identify these locations, the catchment managers can go in and fix the problem.

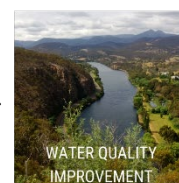
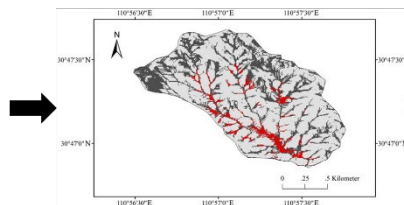
This is often easier said than done. Pollutants travel to streams, rivers and lakes via complex processes that vary over space and time. However with more and more publicly available data (water quality data, maps, satellite imagery) and powerful Geographic Information System tools, we have the power to identify (remotely) the likely pollution producing areas within a landscape.

In this project, the student will be trained to use GIS to use spatial data to pinpoint the key pollution producing areas within a landscape.

Publicly available spatial data + GIS



Maps of pollution producing areas



Additional Information

Applicants are encouraged to reach out to the project supervisor if they have any questions about this project.

This is a mainly modelling-based project, and will focus on upskilling the student to be proficient in GIS. Students will be given the opportunity to contribute to field and lab work conducted in the Green Infrastructure and Water Quality (GIWaQ) research group, conducted over the summer period.