



Ryan Shojinaga

B.Mathematics, B.Civil Engineering

ryan.shojinaga@griffithuni.edu.au

orcid.org/0000-0002-8497-4501

Summary

Stream metabolism describes how matter and energy moves and transforms in rivers and streams. Stream metabolism is a critical water quality indicator because it is the manifestation of multiple aquatic and terrestrial ecosystem processes and provides valuable ecosystem services throughout the catchment. For my research I have proposed to evaluate how stream metabolism is affected by the water cycle and imminent change to the water cycle through a changing climate and landscape.

Through the use of high-resolution water quality data and environmental process models, I will study the impacts of global change to hydrology and stream metabolism two different climatic systems—coastal streams and rivers of the Pacific Northwest, USA, and those of Southeast Queensland, AUS. The aims of the project are to understand how changes to the intensity and frequency of droughts and floods will impact metabolism for each system?

Research Expertise

- Surface water modelling
- Hydrology
- Water quality
- Biogeochemistry