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Summary

Intertidal wetlands are biodiversity hotspots, pollution filters, and important sites for carbon sequestration and greenhouse gas (GHG; CO₂, CH₄ and N₂O) fluxes. Restoring intertidal wetlands can remove excess nitrogen in the water column, sequester carbon, and reduce GHG emissions. However, many uncertainties exist in achieving, measuring, and reporting success in wetland restoration attempts. My research focuses on measuring the changes in denitrification, GHG fluxes, and the effects of pesticide legacy in the soil in a restored wetland. The site is a previously farmed sugarcane paddock in the Maroochy River floodplain, Southeast Queensland, which will be restored to a tidal wetland in 2023. My work will test whether ecosystem services are recovered during the early stages (1-3 years) after restoration, and whether land use legacy is an impediment for the recovery.

Research Expertise

- Water Quality
- Pesticide Toxicity
- Restoration Monitoring
- Ecosystem Services