



The association of melioidosis with soil disturbance and the weather in Darwin

GLOBAL AND TROPICAL HEALTH

HONOURS

Melioidosis is a severe infectious disease affecting humans and animals in Northern Australia. It is caused by the soil bacterium *Burkholderia pseudomallei*. Cases mainly occur during the wet season and there is a strong association with rainfall. We hypothesize that large-scale soil disturbance and earthworks during large construction projects also increase the melioidosis incidence rate locally.

This is a desktop-based project in collaboration with the Research Institute for the Environment and Livelihoods (RIEL) at CDU. There is a spatial data component where the student will extract spatiotemporal data from historical archives of satellite data and compute indices for changes in vegetation and earthworks followed by a biostatistical component performing time series analyses to assess whether melioidosis incidence rates are associated with soil disturbance and the weather.

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Eligibility Criteria and Scholarship Provisions

Eligibility: The successful applicant should have completed (or be currently enrolled in) ENV306/ ENV506 (Environmental Monitoring and Modelling) and ENV311/ENV511 (Real-World Statistics and Data Reasoning) at CDU or similar units at other universities. Interest in learning and using various biostatistical techniques in R is essential

Scholarship Provisions: Nil

Application Process:

Applicants should submit the following:

- Brief summary of why they want to complete the project
- Current CV
- Copies of certified academic transcripts
- Proof of Residency (not required for Australian citizens)

All applications should be submitted to Mirjam Kaestli (mirjam.kaestli@cdu.edu.au)