

2022 Global Change Youth Research Project Description

Project title:	Multivariate analysis of Australian fire incident statistics
Project duration, hours of engagement & delivery mode	Duration of the project: • 4 weeks during Winter Vacation and 1 day a week during semester 2, 2022. • Hours of engagement: 30 hrs per week. <i>On-site attendance preferred but work can be carried out remotely as well.</i>
Description:	This research project on <u>disaster proof infrastructure</u> involves statistical analysis of a database of fire incidents over multiple years in Australia. Students will be supported to quantitatively and qualitatively consider fire incident reports and the interaction of key factors. For example, the rate of false alarms between different occupancy types is an important data point to consider the efficiency of existing fire alarm systems. The project aims to shed light on complex interactions between variables in order to highlight issues within fire safety frameworks and to provide data for quantitative risk analysis.
Expected outcomes and deliverables:	Scholars are expected to develop a reproducible statistical analysis including a discussion and conclusion section to highlight the interaction of a large fire incident dataset. Scholars will be supported by industry partners (Arup) and become familiar with fire safety reporting in Australia. They will be able to contribute to a project with a real world impact and learn from academics and professional fire safety engineers, as well as fire and emergency personnel through a visit to the Queensland Fire and Emergency Services (QFES).
Suitable for:	This project is open to applications from students with a background in engineering with a preference for students with an interest in fire safety engineering. Students should have rudimentary understanding of the use of advanced spreadsheet operations or be able to use program languages.
Primary Supervisor:	Dr Felix Wiesner, Dr David Lange
Further info:	For further information on the project please contact Dr Wiesner (f.wiesner@uq.edu.au) and Dr Lange (d.lange@uq.edu.au) directly.