

Te Kura Kairūri School of Surveying Lunchtime Seminar Series



Forecasting the future state of groundwater in Dunedin under sea level rise



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(in association with many collaborators)

While it is obvious that property immediately adjacent to the ocean is exposed to direct inundation during storms, there are also largely unseen and poorly understood hazards from groundwater that are also increasing as sea levels rise. Emergent springs and flooding can occur considerable distances inland from the coast when groundwater gets pushed and prohibited from draining from low-lying coastal by the sea. Pluvial (rain-related) surface flooding can be exacerbated where groundwater is shallow, making areas more-impervious as it reaches the surface. Dunedin has a large number of assets, houses and critical infrastructure situated at, or close to, sea level. Presently protected from coastal inundation by a slightly elevated margin of reclaimed land and fragile sand-dunes, the city's flat-lying coastal land is crucial to its present functional operation. Recent research by GNS Science and collaborators provides a holistic multi-hazard forecast of the long-term challenges and Dunedin's future. It provides an exemplar for understanding the complex interplay of hazards from coastal inundation, groundwater rise and rainstorms in low-lying coastal regions elsewhere.

Thursday 10th April 2025 (12pm – 1pm)

L1 Lecture Theatre | School of Surveying, 310 Castle Street
OR Join remotely: <https://otago.zoom.us/> (ID: 979 1434 6880, P/W: 310310)