



Dan Howe

Project Engineer

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Dan is a project engineer with 10 years' experience in physical modelling of coastal processes and structures. He completed his PhD in swash zone dynamics which included experimental work in prototype-scale wave tanks in Germany and The Netherlands.

In addition to experimental work, Dan is experienced in water and wastewater hydraulics and the design of water pipelines and pumping stations. He has a strong background in real-time coastal environmental monitoring and wave forecast systems. He also has expertise in software development, data acquisition systems, data analysis, and visualisation of large complex datasets.

Professional history

2025-Curent: Project Engineer, UNSW WRL
2023-2025: Linux server admin, HHU Dusseldorf
2015-2020: Project Engineer, UNSW WRL
2009-2012: Hydraulic Engineer, MWH Australia

Qualifications and affiliations

PhD (Civil Engineering), UNSW, 2016
BE Hons 1 (Civil & Environ. Engineering), UNSW, 2009

Expertise

- Coastal physical modelling
- Data analysis and visualisation
- Coastal erosion hazard mapping
- Instrumentation and data acquisition
- Field investigations and data collection
- Surveying and terrestrial laser scanning
- Pump station and pipeline design
- Water hammer analysis (numerical modelling)

Summary of relevant experience

Coastal physical modelling

2019: Darwin luxury hotel seawall walkway
2019: Port of Townsville channel upgrade
2019: Ohau Point coastal protection
2018: Maroochy geobag groyne field renewal
2018: Auckland Wharves America's Cup upgrade
2018: Stern wave barriers for ocean vessels
2017: Clump Point jetty upgrade
2016: Affordable coastal protection for Pacific Islands
2016: Amrun dam slope stability
2016: NSW climate change seawall adaptation
2015: Chatham Islands Port Waitangi Wharf
2015: Artificial oyster reefs

Hydraulic design and numerical modelling

2011: Macquarie River water supply pipeline
2010: Oran Park and Turner Road water supply pipeline

Coastal hazard mapping and wave analysis

2019: Gold Coast ferry wake analysis
2017: Port Botany wave climate analysis
2017: Eurobodalla coastal zone management plan
2017: Bega Valley coastal zone management plan

Environmental monitoring

2020: Gold Coast beach monitoring
2020: Fairy Bower promenade overtopping
2019: Central Coast beaches aerial lidar surveys
2017: Aerial monitoring of Sydney water outfalls

Hydrology & water resources

2019: SPEL stormwater filter performance testing
2018: Audit of coal mine final voids in NSW
2017: Woronora Dam coal mining impacts
2016: Hunter River tidal pool modelling