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Vincent Post

Vincent Post has 20 years of professional experience in coastal hydrogeology. He completed his PhD on groundwater salinisation in the Netherlands and has worked on projects in coastal zones around the world, including Portugal, Kiribati, Australia. He is Adjunct Associate Professor at Flinders University (Australia) and Research Associate at the Federal Institute of Geosciences and Natural Resources (BGR) in Hannover, Germany. His expertise spans a broad range of topics. Which include numerical modelling, hydrochemistry, measurement techniques and freshwater resources management. Dr Post ha published extensively on coastal groundwater flow and chemical processes. Among his over 150 publications, he is co-author with Jimmy Jiao of the inspiring book "Coastal Hydrogeology" (Cambridge University Press) recommended as a "must use book to all those who work in any aspect of groundwater in the coastal environment" (John Cherry). He was an Editor of the Hydrogeology Journal and is an Associated Editor from the Journal of Hydrology. He is also actively involved in the organization of the Salt Water Intrusion Meeting series that saw its fiftieth anniversary in 2018.

Course programme

Lecture 1
Coastal groundwater systems

- Coastal zones
- Aquifer types
- Conceptual models of groundwater flow
- Seawater intrusion

Lecture 2
Groundwater flow in coastal aquifers

- Head measurements
- Density corrections
- Darcy's Law in variable-density groundwater systems
- Tidal effects

Lecture 3
Groundwater exploration in coastal regions

- Common problems with boreholes
- Mapping groundwater salinity
- Geophysical methods
- Conductivity-salinity relationships

Lecture 4
Hydrochemistry

- Chemical processes in coastal aquifers
- Sampling
- Interpretation methods

Lecture 5
Modelling

- Simple models of coastal groundwater flow
- Numerical models

Lecture 6
Management issues

- Data needs
- Sustainable use
- Seawater intrusion mitigation
- Aquifer storage and recovery
- Climate change