

Project 22 – Irrigation recharge in a complex environment

Location: The project will be based at Adelaide, SA

Required area of expertise/background: An Honours or MSc degree in Hydrology with experience in modelling & agronomy

Project: In the Riverland and Sunraysia, drainage from irrigation mobilises naturally saline groundwater to flow into the River Murray, degrading water quality. The rate and timing of groundwater recharge from irrigation is needed to manage the salinity of the River Murray, but has proved hard to quantify. Part of the difficulty is the irrigation history, as a variety of irrigation methods have been used over the past century, and the irrigated areas have expanded and contracted. Another factor is the complexity of the unsaturated zone, which is often thick and includes perching over the Blanchetown Clay Formation.

This project will improve estimates of irrigation recharge over time, both historical and future, through improvements in understanding the processes and parameters. Methods to improve understanding would include measurement of recharge rates in situ, laboratory studies, and unsaturated zone modelling. Quantitative estimates of the uncertainty would also be extremely useful.

2017 RTP full time RTP Stipend Rates* (\$26,682). Approximate annual top-up amount: To be negotiated

Principal Supervisor:

TBC -

Co Supervisors:

Juliette Woods – DEWNR
Graham Green – DEWNR



Government of South Australia
Department of Environment,
Water and Natural Resources



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