## Project 4 - A consistent national model-based method for estimating recharge

**Location:** The project will be based at Flinders University, Adelaide, SA

**Required area of expertise/background:** An Honours or MSc degree in Hydrology or Hydrogeology with good understanding of groundwater modelling, geoscience, physics or mathematics is likely to be suitable.

**Project:** Recharge is a key input required for successful groundwater model operation. Currently, in developing groundwater models, recharge is considered as a percentage of rainfall or modelled recharge from specific rainfall/runoff models. Hence, there is a great need within the groundwater modelling community to have access to recharge data produced from a consistent methodology.

The Australian Water Resources Assessment (AWRA-L) model developed by CSIRO in collaboration with the Bureau provides consistent estimates of deep drainage ($D_d$) across Australia. Since the AWRA model does not take in to account the subsurface lateral flow component, the modelled $D_d$ is considered to represent the potential recharge.

The proposed project is formulated to understand;

- the applicability of AWRA-L deep drainage in groundwater modelling
- the groundwater model performances in the presence of uncertainty in deep drainage along with other key parameters such as hydraulic conductivity
- testing the options of nesting groundwater models into the AWRA model framework

**2017 RTP full time RTP Stipend Rates* ($26,682). Approximate annual top-up amount:** $10,000

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**Co Supervisors:**
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