## Project 17 – Understanding the hydrological impacts of low-flow bypasses on catchment flow processes in the Mt. Lofty Ranges

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

**Required area of expertise/background:** An Honours degree or MSc degree in Geophysics, Geology, Hydrology, Hydrogeology, Atmospheric Science, Environmental Sciences/Engineering, Biological Sciences, or relevant fields.

**Project: Project Description (Max 200 words):** One of the strong research foci at Flinders University is in the area of applied groundwater research. Within the groundwater research group, i.e. the Flinders node of NCGRT, we use a wide array of field and modelling techniques to improve the understanding of hydrogeological processes, including quality states as well as groundwater flow assessment. Catchments around the world have been significantly altered by agricultural activities; hydrologically, the impact of numerous, small farm dams within a catchment is poorly understood. This project will combine field and modelling work to investigate hydrologic response to low-flow bypass filters that allow early winter flows to remain in catchment creeks. Installation of these devices has already begun in some Mt. Lofty catchments, and significant infrastructure funding is allocated to implementing these devices in additional catchments within the next year. While the ecological response is already under investigation, little is known about the impacts on physical water flow and water quality. This project includes the opportunity to interact with local government departments (DEWNR and EPA) and potentially University of Adelaide staff and students.

**2017 RTP full time RTP Stipend Rates* ($26,682). Approximate annual top-up amount:** Subject to funding availability

**Principal Supervisor:**
This is a collaborative research project

**Co Supervisors:**
Prof Okke Batelaan - Flinders University
Dr Margaret Shanafield - Flinders University
Prof Peter Cook – Flinders University

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