



# Mahmood Sadat-Noori

## Lecturer

Mahmood is a lecturer and researcher in Coastal Groundwater at UNSW's Water Research Laboratory. He has a Bachelor's and Master's degree in Water Engineering and a PhD in Groundwater Hydrology which he completed at Southern Cross University. His thesis research introduced a novel approach for reducing uncertainties related to groundwater discharge quantification into surface waters when using natural groundwater tracers through field investigation

and analytical analysis. Mahmood has a strong track record of publishing 20 scientific papers in high-ranking journals and more than 12 peer-reviewed conference papers. His research has received more 500 citations worldwide (Google Scholar).

Mahmood has a strong theoretical background into principal groundwater dynamics and movement. His primary field of interest is related to the use of natural geochemical groundwater tracers such radon ( $^{222}\text{Rn}$ ) and radium ( $^{223,224,226}\text{Ra}$ ) to investigate groundwater-surface water interactions in coastal environments. Mahmood is currently working on understanding the effects of wetland restoration on groundwater dynamics and quality. His research in this field has led to several publications in prestigious journals such as the *Journal of Hydrology* and *Journal of Environmental Management*.

## Qualifications and affiliations

PhD (Groundwater Hydrology), Southern Cross Uni, 2017  
MSc (Water Resources Engineering), Uni of Tehran, 2011  
BSc (Water Engineering), Hons 1, Uni of Tehran, 2009

Member: Institute of Engineers Australia (MIEAUST)  
Member: International Association of Hydrogeologists (IAH)  
Member: American Geophysical Union (AGU)

## Expertise

- Surface water and groundwater hydrology
- Investigation of geochemical processes in the coastal zone
- Large field investigations with a multidisciplinary approach
- Analytical analysis of surface water - groundwater interaction

## Summary of relevant experience

### Groundwater resources investigations

2017-2020: Impacts of Kooragang wetland restoration on shallow GW dynamics, Newcastle, NSW  
2019-2020: Review on the impacts of bottled water industry on GW resources in Northern NSW  
2016-2017: Impacts of groundwater extraction on ICOLLs, Bribie Is, QLD  
2013-2016: Hat Head Creek surface water - groundwater interaction assessment

### Field investigations and monitoring

2017-2020: Kooragang Island, NSW  
2016: GW seepage into Sydney Harbour, NSW  
2016: GW seepage effects on Coffs Creek water quality, NSW  
2014: Bribie Island groundwater resources, QLD  
2013: Hat Heat Creek groundwater dynamics, NSW

## Selected journal publications

- M. Sadat-Noori**, W. Glamore, D. Khojasteh, (2020). Groundwater level prediction using Genetic Programming: The importance of precipitation data and weather station location on model accuracy. *Environmental Earth Sciences Journal*, 79:37.
- M. Sadat-Noori** and William Glamore (2019). Porewater exchange drives trace metal dissolved organic carbon and total dissolved nitrogen export from a temperate mangrove wetland. *Journal of Environmental Management*, 248, 109264.
- M. Sadat-Noori**, I. Santos, D. Tait, A. McMahon, S. Kedal, D. Maher, (2016). "Intermittently closed & open lakes and/or lagoons as groundwater-dominated coastal systems: Evidence from seasonal radon observations". *Journal of Hydrology*, 535: 612-624.
- M. Sadat-Noori**, I. Santos, D. Maher, C. Sanders, L. Sanders (2015). "Groundwater discharge into an estuary using spatially distributed radon time series and radium isotopes". *Journal of Hydrology*, 528: 703-719.
- M. Sadat-Noori**, Ebrahimi, (2016). "Groundwater vulnerability assessment in agricultural areas using a modified DRATIC model". *Environmental Monitoring and Assessment Journal*, 188: 1-18.
- M. Sadat-Noori**, Ebrahimi, K. and Liaghat, A. M. (2014). "Groundwater quality assessment using the water quality index and GIS in Saveh-Nobaran aquifer, Iran". *Environmental Earth Sciences Journal*, 71 (9): 3827-3843.