

AVVISO DI SEMINARIO

Venerdì 6 ottobre 2017 – ore 9:15
Aula M – Dipartimento ICEA
Complesso di Ingegneria di Via Marzolo 9

LAND USE AND WATER RESOURCES ECO-HYDROLOGICAL STUDIES FROM DOWN-UNDER

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Land use and land-use change are key drivers of the hydrologic cycle by affecting the vegetation water use of catchments. We report on two on-going projects aimed to determine the effects of climate variability and land-use on water resources in intermittent rural catchments and natural reserves in urban areas.

Many small catchments in south eastern Australia have seen a transition from pastures to plantation for timber production. This has implication on the water balance, because trees commonly use larger amounts of water than pastures, possibly causing a reduction in streamflow and groundwater resources. A series of small catchments used as either pastures or plantations have been monitored for 5 years to determine the role of land-use on the catchment water balance, showing complex relationships between climate variability, catchment characteristics and land cover.

Urbanization is one of the more drastic changes in land use. As cities in Australia developed and sprawled, pockets of natural vegetation have remained to be used by local communities. Vegetation in these natural reserve is under several sources of stress, due to the reduction of water resources available to the trees and the harsher conditions in urban areas. Preliminary work on the water balance of few reserves in Melbourne, Victoria, will be presented and discussed.

Dr Edoardo Daly obtained his PhD in hydraulics from the Politecnico di Torino, Italy. After a post-doctoral period in the Pratt School of Engineering and Nicholas School of Environment and Earth Sciences, Duke University, USA, he joined the Department of Civil Engineering at Monash University, where he is currently working as senior lecturer. Dr Daly's research efforts in recent years have been focusing on the eco-hydrology of rural and urban catchments using a suite of experimental methods and modelling tools.

Valentina Marchionni completed her M. Sc. Degree in Civil Engineering at the University of Perugia (Italy) in 2009. Afterwards, she worked in engineering consultancy until 2013, when she joined CERIS research group at Instituto Superior Técnico (IST), University of Lisbon (Portugal). In 2016 Valentina joined Monash University as a PhD student under the supervision of Dr. Edoardo Daly, Prof. Nigel James Tapper, and Prof. Jeff Walker.