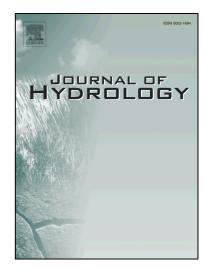
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Multi-objective assessment of three remote sensing vegetation products for

streamflow prediction in a conceptual ecohydrological model

Bushra Naseem¹, Hoori Ajami^{1,2}, Yi Liu³, Ian Cordery¹ & Ashish Sharma^{1*}

¹School of Civil and Environmental Engineering, University of New South Wales, Sydney,

NSW 2052, Australia

²Department of Environmental Sciences, University of California Riverside, Riverside, USA

³ARC Centre of Excellence for Climate System Science & Climate Change Research

Centre, UNSW, Sydney, Australia

*Corresponding author address:

Ashish Sharma, School of Civil and Environmental Engineering, University of New South

Wales, Kensington, New South Wales, 2052, Australia.

E-mail: a.sharma@unsw.edu.au

Phone: +61 2 9385 5768

Fax: +61 2 9385 6139

Abstract

This study assesses the implications of using three alternate remote sensing vegetation products in the simulation of streamflow using a conceptual ecohydrologic model. Vegetation is represented as a dynamic component in this model which simulates two response variables, streamflow and one of the following three vegetation attributes: Gross Primary Productivity (GPP), Leaf Area Index (LAI) or Vegetation Optical Depth (VOD). Model simulations are performed across 50 catchments with areas ranging between 50 to 1600 km² in the Murray-Darling Basin in Australia. Moderate Resolution Imaging Spectroradiometer (MODIS) LAI and GPP products, passive microwave observations of VOD and streamflow are used for model calibration and/or validation. Single-objective model calibration based on one of the vegetation products (GPP, LAI and VOD) shows that GPP is the best vegetation simulating

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