



## **Interannual variation in satellite-derived estimates of leaf-area index reflect measured changes in annual catchment water balances across southwestern Australia, 2000-2006**

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Across a large area of south-west Western Australia we derived estimates of annual evapotranspiration (ET) from the difference between annual precipitation (derived from ANUCLIM) and gauged runoff. Between 2000 and 2006 calculated annual ET varied from a low of 473 mm (2006) to a high of 777 mm (2005) in one well instrumentated catchment of over 250,000 ha. In the same area, maximum leaf-area indices (LAI), assessed by NASA's Moderate Resolution Imaging Spectromradiometer at a spatial resolution of 3 x 3 km, decreased between 2005 and 2006 in response to drought conditions. The decrease was consistent with the observed reduction in ET. The approach was extended to a larger portion of s.w. Australia with the observation that drier than average years result in larger than average fires that further reduce LAI. Implications for impacts of climate change across south-west Western Australia are discussed.