CAMELS-AUS: Hydrometeorological time series and landscape attributes for 222 catchments in Australia

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Large samples of catchments are becoming increasingly important to gain generalisable insights from hydrological research. Such insights are facilitated by freely available large sample hydrology datasets, with one example being the CAMELS (Catchment Attributes and Meteorology for Large-sample Studies) series of datasets. Here we present CAMELS-AUS, the Australian edition of CAMELS. CAMELS-AUS comprises data for 222 unregulated catchments, combining hydrometeorological timeseries (streamflow and 18 climatic variables) with 134 attributes related to geology, soil, topography, land cover, anthropogenic influence, and hydroclimatology. The CAMELS-AUS catchments have been monitored for decades (more than 85% have streamflow records longer than 40 years) and are relatively free of large scale changes, such as significant changes in landuse. Rating curve uncertainty estimates are provided for most (75%) of the catchments and multiple atmospheric datasets are included, offering insights into forcing uncertainty. This dataset, the first of its kind in Australia, allows users globally to freely access catchment data drawn from Australia's unique hydroclimatology, particularly notable for its large interannual variability. Combined with arid catchment data from the CAMELS datasets for the USA and Chile, CAMELS-AUS constitutes an unprecedented resource for the study of arid-zone hydrology. CAMELS-AUS is freely downloadable from and the corresponding paper is available at https://essd.copernicus.org/preprints/essd-2020-228/.