

***Data underlying the publication: 'An Australian climate-based characterization of hygrothermal risks for buildings' ***

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General Introduction

This dataset contains two types of data: moisture reference year (MRY) for 30 locations across Australia, ready to be used in the most used hygrothermal simulation software, and hourly climatic data for 10 consecutive years for Brisbane, Cairns, Melbourne, Darwin, Hobart, Sydney and Canberra (AU). The data has been part of the project: <https://doi.org/10.1016/j.enbuild.2022.112086>

This dataset is being made public both to act as supplementary data for publications and to create a shared file that can be used across Australia for similar studies to allow for benchmarking and comparison of results.

Purpose of the study

The purpose of the study was to generate MRY files and sub-divide Australia into moisture risk -related climate clusters.

Description of the data in Appendix 1

Files with the city name contain hourly climate data for the period 1991 to 2020 for that city. The name of the file indicates the climate zone (according to the building standard) and the city: #_City_climatedata. The file contains: month of the year, days of the month, hours of the day, dry bulb temperature, relative humidity, wind speed, wind direction, air pressure, direct normal radiation, diffuse horizontal radiation, cloud index, and precipitation.

The file called MoistureIndex_30cities_Australia contains the annual moisture index for all reference cities. Each sheet refers to one reference city.

The folder called MoistureIndex_classification_graphs.zip includes the moisture index equipotential graph that shows whether a city is characterized by high hygrothermal risk or low hygrothermal

risk.

Description of the data in Appendix 2

This folder contains the files ready to be used in hygrothermal assessments. It includes the moisture reference year in .wac extension for 30 reference cities in Australia and the 10-year climate data for Brisbane, Cairns, Melbourne, Darwin, Hobart, Sydney and Canberra (AU).