

SBD Lab

(Liege University - (ULiege / ULg))

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OASIS: Overheating and Shading Indicators Dataset for Built Environment Resilience

Version 1.0



Sommese, Francesco; Attia, Shady, 2026, "OASIS: Overheating and Shading Indicators Dataset for Built Environment Resilience", <https://doi.org/10.7910/DVN/PDCXQH>, Harvard Dataverse, V1

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Description ⓘ

The dataset collects 46 case studies concerning solar shading systems applied at the building, urban, or mixed scale, extracted from scientific literature published between 2013 and 2026, drawn from 20 countries and 10 climate zones according to the Köppen–Geiger classification. Each case is documented through multiple performance indicators (KPIs), for a total of 243 rows, where each row represents the triplet case × KPI × baseline/post-intervention comparison. Case-level descriptors (bibliographic source, location, climate type, shading type and mechanism, investigation method) are repeated on every KPI row belonging to the same case, to allow filtering and analysis by individual indicator without losing the context of the original case. (2026-09-03)

Subject ⓘ

Engineering

Keyword ⓘ

Solar shading systems, Thermal comfort, Climate-adaptive, Shading, Nature-based solutions

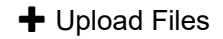
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Versions



☐ **1 File**





Dataset_Sommese,Attia.xlsx

MS Excel Spreadsheet - 180.3 KB

Published Sep 3, 2026

MD5: 196...95d 

The file is organized into two sheets: a "Legend & Instructions" tab documenting the controlled vocabulary and compilation rules, and the main data sheet ("Case_Studies_KPI_Data") with 38 columns grouped into four blocks: • CORE (mandatory): case ID, year, source, DOI, location, country, climate zone, scale (Building/Urban/Multiscale), shading type (artificial/technological, nature-based, morphological self-shading, hybrid), temporal mechanism (static, dynamic/operable, seasonal/ecological, adaptive/responsive), method type (field measurement, simulation, or both), KPI family (Thermal/Overheating, Visual/Daylighting, Energy), baseline and post-intervention values, main reported outcome. • RECOMMENDED (filled in when available): latitude, boundary conditions, characteristics and dimensions of the intervention, evaluation period and temporal resolution, absolute and percentage variation, measurement uncertainty, model validation metrics (RMSE, R², etc.), study limitations. • FRAMEWORK-DERIVED (review team interpretation): classification of each KPI along two independent axes — climatic invariance of the definition/unit of measurement, and climatic dependence of the threshold/interpretation — need for local calibration, primary and secondary resilience dimension (sensitivity mitigation, exposure reduction, adaptive capacity). • REFERENCE: traceability field inherited from the pilot phase (KPI numbering per case, legacy classification).



