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Belgian Arrondissement Level Data for Residential Overheating Exposure, Vulnerability and Priority under Observed and Future Climate Conditions

Version 1.0



Wang, Tianyi; Zitouni, Dyna Chourouk; Attia, Shady, 2026, "Belgian Arrondissement Level Data for Residential Overheating Exposure, Vulnerability and Priority under Observed and Future Climate Conditions", <https://doi.org/10.7910/DVN/G9IWPJ>, Harvard Dataverse, V1

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Description ?

This dataset contains harmonised inputs and processed outputs from a national assessment of residential overheating vulnerability across 43 Belgian arrondissements. It combines observed and projected heat exposure, the spatial distribution of residential built surface, population ageing and housing construction period. Daily maximum temperature from the Royal Meteorological Institute of Belgium climateGrid and ALARO simulations was harmonised to 1,360 observation based 5 km grid cells. Additive quantile delta mapping was used to correct ALARO temperature distributions before estimating tropical days and heatwave event frequency for 1991 to 2020, 2036 to 2065 and 2071 to 2100. Arrondissement records include residential exposure proportions, standardised vulnerability components, continuous priority scores, formal exposure and vulnerability types, rank changes, stability statistics and sensitivity results. Summary outputs for climate correction, the Geo.be ensemble derived climate product and JRC modelled heat mortality are also included. The workbook provides analysis ready values used in the related article. Original third party source files are not redistributed and remain available from the providers listed in the workbook. (2026-08-21)

Subject ?

Earth and Environmental Sciences; Engineering

Keyword ?

residential overheating, heat exposure, vulnerability, Belgium

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