|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input data (Variable)** | | **Example** | | | **Description** | | |
| "CaseStudy": | | "South Region of Brazil " | | | Case study Name | | |
| "RunSimulations": | | (1=yes), (0=no) | | | This option allows to run or to skip simulations. | | |
| "GridSize\_IDW": | | Any number e.g 50 | | | Size of the grid to perform interpolation. | | |
| "Interpolation": | | (1=yes), (0=no) | | | User option to interpolate data. Interpolation is required to perform clustering using zoning resolution b**) Interpolated data using irregular grid and c) Interpolated data using regular grid** | | |
| "Interpolation\_Method" | | (1=ANN), (2=Elevation and coordinates) | | | This option allows to choose an interpolation method. Two methods are available, 1) Based on ANN and 2) based on Coordinates and elevation of each point. | | |
| **Paths** | | | | | | | |
| **Input data (Variable)** | | **Example** | | | **Description** | | |
| "mainProjectFolder": | | "C:/simzoning/", | | | Main folder of simzoning | | |
| "BuildingIDFPath": | | "C:/simzoning/IDFS/", | | | Folder of IDFs used for simulation | | |
| "SimresultsOUTPUTpath": | | "C:/simzoning/Simulations\_SZ/", | | | Folder containing simulation results in .csv format and .txt format | | |
| "Aggregated\_Simesults\_Path":" | | "C:/simzoning/simresults/", | | | Folder containing aggregated simulation results | | |
| "EPlusPath": | | "C:/EnergyPlusV8-7-0/", | | | EnergyPlus folder | | |
| "WeatherPath" | | e.g. "C:/EnergyPlusV8-7-0/WeatherData/", | | | Weather folder of the simulation program | | |
| **Simulation settings** | | | | | | | |
| "Predifined\_listofweatherfiles": | | (1=yes), (0=no) | | | User option to predefine a list of weather files to run simulations. This list can be defined using prefix. In case there is not a predefined list of weather files, the program can identify which weather files fall inside the area of study and near the boundaries. | | |
| "Weatherfiles\_searching\_prefix": | | ["\*\_ SC\_\*.epw","\*\_SP\_\*.epw",  "\*\_RS\_\*.epw","\*\_PR\_\*.epw"], | | | This option is useful when the user knows the weather files available for the area of study, and will be used if the Predifined\_listofweatherfiles=1 | | |
| "WeatherSource": | | e.g. "TMYx20072021", | | | This option indicates the weather files type used in the study | | |
| "run\_simulations\_with\_all\_climates": | | (1=yes), (0=no) | | | User option to run simulations with all-weather files | | |
| "jmin": | | 1, | | | First weather file for simulation(from a list) adopted. | | |
| "Maxi\_Num\_of\_climates\_for\_simulation": | | 10, | | | Last weather file selected to run simulations(from a list). | | |
| "Num\_of\_cores": | | 4, | | | If your computer has multiple CPUs, simzoning will run multiple simulations in parallel to reduce computation time. | | |
| **Extraction of simulation results** | | | | | | | |
| "PerformanceIndicator": | | ["Cooling", "Heating", "MGR" "Overheating","Cold discomfort"], | | | Performance indicators used for clustering | | |
| "PerformanceIndicator\_Zones\_order": | | ["Cooling"], | | | Performance indicator used to number zones. | | |
| "PerformanceIndicator\_Units": | | ["(kWh/m2.a)", "(kWh/m2.a)", "(%)", "(%)", "(%)"], | | | Performance indicators units used in figures and reports, these units must follow the same order of Performance indicators | | |
|  | |  | | |  | | |
| "Building\_Zones\_considered\_for\_PerformanceIndex\_calculation": | | ["R1","R2","LIVINGKITCH"], | | | The name of the building’s zones used to calculate performance requiring hourly values(e.g. Thermal comfort, MGR). (These names should match the variables described in the EnergyPlus output reports ). | | |
| Building\_Zones\_occupation\_Schedule | | [SCH\_OCUP\_DORM, SCH\_OCUP\_DORM, SCH\_OCUP\_SALA] | | | The name of the schedule of each room used to calculate performance. They should follow the same order of building zones considered for performance calculation. | | |
| Conditioning\_type\_tag | | ["HVAC","NV"], | | | Tags of the .idf name used to identify models with natural ventilation and HVAC systems. This information is required to calculate the appropriate Performance indicator for each model. | | |
| "Row\_heating\_cooling":, | | ["49","50"] | | | Row of the EnergyPlus output (\*Table.csv) report containing heating and cooling annual load. | | |
| "Column\_heating\_cooling": | | ["6","5"], | | | Column of the EnergyPlus output (\*Table.csv) report containing heating and cooling annual load | | |
| "Line\_EPW": | | ["5","5"], | | | Line containing the EPW file name in the Energyplus output (\*Table.csv) report | | |
| **Zoning settings** | | | | | | | |
| “Macrozones\_divisions”: | | (1=yes), (0=no) | | | User option to divide the area of study in Macrozones prior to the definition of Zones. | | |
| “NumberofZones”: | | Any number e.g. 4, | | | Number of climatic zones, used when Macrozones are not required. | | |
| “Number\_of\_subzones”: | | [“4”,”3”], | | | In case the Macrozone option is selected, each macrozone will be divided into specific number of zones. The first macrozone is the coldest, where heating represents at least 5% of cooling load, (considering ideal loads). | | |
| “Zoning\_grid\_type”: | | [“Isolated\_Locations”,”Municipalities”,”Regular\_Grid”], | | | Name of grid types based on resolution | | |
| “Zoning\_isolated\_locations”: | | (1=yes), (0=no) | | | Zoning Resolution   1. Points 2. Irregular grid 3. Regular grid | | |
| “Zoning\_interpolated\_PerfData\_IrregularGrid”: | | (1=yes), (0=no) | | |
| “Zoning\_interpolated\_PerfData\_RegularGrid”: | | (1=yes), (0=no) | | |
|  | |  | | |
|  | |  | | |
| "grid\_of\_points\_exceeds\_areaofstudy": | | (1=yes), (0=no) | | | User option to indicate if the simulation points exceed the area of study, if so, the shape file of the area of study will be used to filter data. | | |
| Irregular\_grid\_input\_data | | "MunicipiosBrasil.csv" | | | Input file containing coordinates (LAT and LON) of an irregular grid. E.g Municipalities. It should be located in the main folder of simzoning. | | |
| "IrregularGrid\_exceeds\_areaofstudy | | (1=yes), (0=no) | | | If the irregular grid adopted (e.g. Municipalities) covers a region greater than the area of study, the program will filter the data using the shapefile of the area of study. | | |
| "AlternativeMethod\_for\_comparison": | | (1=yes), (0=no) | | | Option to use an alternative method to compare clustering results using the MPMA index. | | |
| "Name\_of\_AlternativeMethod\_for\_comparison": | | ["DegreeDays\_Brazil","GT\_Brazil"], | | | The name must be the same of the Shapefile located in the folder C:\simzoning\GISfiles\CZ\_Methods\_Comparison, without the extension .shp  Such shape file must contain a feature named “zone” containing a numeric value to identify climatic zones. | | |
| **Area of study** | | | | | | | | | |
|  | | | | | | | | | |
| "AreaofStudyShapefile\_Path": | | | | "./GISfiles/AreaOfStudy/", | | | Folder containing the Shape file of the area of study | | |
| "ShapeFileName\_AreaofStudy": | | | | "RS\_SC\_PR\_SP.SHP", | | | Name of the shape file containing the limits of the area of study. | | |
| "Elevation\_file": | | | | "topografia1\_ProjectRaster2.tif", | | | Tiff file containing elevation data covering the area of study. Tiff files with projection data: WGS\_1984\_World\_Mercator have been tested. | | |
| **Fonts, size of points (plotted in maps)** | | | | | | | | | |
| "sizeofpoints":  "sizeofpointsHDM":  "TitlefontSize":  "TextFontSize":  "SubtitleFontSize":  "LabelFontSize" | | | | Any number from 10 to 30 (FontSize)  And up to 60 (size of points) | | | Size of fonts used in titles, subtitles, labels and legends of figures. As well as the size of points in maps. | | |
|  | | | |  | | |  | | |