

Are meteorological parameters useful for energy-efficient building assessment in China?

Then, country-level meteorological parameters were developed for energy-efficient building assessment in China, based on actual meteorological data in the present study. This set of meteorological parameters may facilitate engineering applications as well as allowing the updating and expansion of relevant building energy efficiency standards.

How to measure long-term variations of solar radiation in China?

Thus, understanding the long-term variations of solar radiation is important for planning the utilizations of solar energy resources over mainland China in the future. Measurement by pyranometer with accurately calibrated are the best way to obtain the long-term SSR data (Wang et al., 2012).

Where can I find the Daily SSR & meteorological variables over China?

The observed daily SSR (at 97 sites) and daily meteorological variables (at about 2400 stations) over China during 1980-2020 were available from the China Meteorological Administration. The raw records have been homogenized using combined method of static mode correction and mean value correction.

How many basic meteorological elements are there in China?

The daily data set of basic meteorological elements of China's national surface meteorological stations (V3.0) contains daily observations of basic meteorological elements measured at 2,474 major stations since January 1951.

How many cities and towns in China have surface meteorological data?

Surface meteorological data (air temperature, relative humidity, etc.) and solar radiation data were generated for 1019 cities and towns in China from 1988 to 2017. All of these meteorological parameters can be accessed by the building sector via the sharing platform.

How many meteorological stations are there in China?

For example, 98 stations with solar radiation are available and about 2400 national meteorological stations in China. Besides, there are about 70 thousand regional automatic meteorological stations, which observe one or more of the rainfall, temperature, relative humidity, and wind speed.

The weighted sum of the standardized meteorological parameter data was performed (2). The data in which $i, s, y \leq 1$ is kept for Formula 2. (2) $DS = \sum_{i=1}^n K_i \cdot x_{i,s,y}$ where K_i is the weight of each meteorological parameter; see Table 1. DS is a summary of the above eight parameter statistical values, and the smaller the DS value, the ...

In the past, many scholars have used machine learning models with different meteorological parameters as input to predict daily solar radiation in China [34]. For example, Chen et al. [35 ...

The solar radiation data can be measured using pyranometer measurements on the ground, which are mainly distributed in large cities [9]. The general meteorological parameters such as temperature, relative humidity, wind speed and sunshine duration are also observed, which are called as surface meteorological stations and distributed in cities, counties and towns.

In China, the long-term SSR values could be directly observed in 122 China Meteorological Administration (CMA) radiation stations (Zou et al., 2016). ... the temporal variability in SSR depends on atmospheric parameters, such as cloud cover, aerosol loading and water vapor (Antón et al., 2012; Haywood et al., 2011; Hu et al., 2016; Qian et al ...

DOI: 10.1016/J.ENCONMAN.2010.05.021 Corpus ID: 95519026; Estimation of daily solar radiation from routinely observed meteorological data in Chongqing, China @article{Li2010EstimationOD, title={Estimation of daily solar radiation from routinely observed meteorological data in Chongqing, China}, author={Maolin Li and Hongbin Liu and Pengtao ...

Influences of Different Meteorological Parameters on Outdoor Thermal Comfort in Cold Climate Regions in China Kuixing Liu, Tingting Gan, Wenyu Liu, Dayi Lai and Gang Liu ... China, showing that outdoor solar radiation and air temperature were decisive factors affecting outdoor thermal comfort in winter [1]. This result is consistent with the ...

The solar insolation, an important parameter in designing and planning solar photovoltaic systems, at four meteorological stations of EG (viz. Debre Markos, Debrewerq, Mota and Yetnora) is ...

To accurately evaluate the nature of solar energy resources throughout China, we first need to understand the spatial and temporal distribution characteristics of solar ...

Empirical parameter for solar PV. ... Köppen-Geiger climate classification of China based on weather data adopted in this work. f, distributions of lens concentration ratios obtained via optimization (b) and machine learning prediction (d) partitioned by major climate types in China. The left and right half-violins are normalized separately ...

For example, in China, 2,440 meteorological stations are observing routine meteorological parameters, of which only 122 stations measure solar radiation (Chen and Li, 2013). Therefore, it is necessary to develop models for estimating solar radiation based on the general meteorological parameters since there is a shortage of solar radiation data.

assemble CLIGEN input parameter values for 2405 sites stations in mainland China based on meteorological observations; (2) 115 evaluate spatial interpolation techniques for regionalizing CLIGEN parameters; (3) produce grid-based CLIGEN temperature, solar radiation and precipitation parameter values at 10 km resolution for mainland China.

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