

Why should we map photovoltaic panels?

The accurate mapping of photovoltaic panels provides visual spatial data for monitoring photovoltaic panel layouts, and evaluating the effect of photovoltaic power generation on ecology and the environment.

What is the global area of PV solar panels in 2022?

In the temporal analysis of global PV solar panels for 2019-2022, the global area of PV solar panels for each year 2019-2022 was first counted. In 2019 the global area of PV was 3831.6 km², and in 2022 the area of PV grows to 6469.8 km², the growth is 2638.2 km². The overall growth rate of PV solar panel area is more than 60%.

Where are photovoltaic panels located?

Photovoltaic panels were mainly concentrated in the northern regions of the study area, and there were large-scale photovoltaic power generation sites in Hebei, Jiangsu, and Shandong. After the morphological calculation and artificial visual correction, the overall accuracy of our photovoltaic panel classification was 94.31%.

What are the spatial distribution characteristics of PV solar panels in 2022?

From the spatial distribution characteristics of PV solar panels in 2022 (Fig. 7a), global PV is concentrated in the middle and low latitudes, and there is little PV distribution in high latitudes. Besides, PV solar panels are mostly distributed in densely populated areas of the world except Africa.

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Here, we developed a new approach that uses spectral and textural features to identify and map the PV panels there were in coastal China in 2021 using multispectral instrument (MSI) and ...

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The Global Solar Atlas provides a summary of solar power potential and solar resources globally. It is provided by the World Bank Group as a free service to governments, developers and ...

It is expected to be highly beneficial for solar resource assessment and forecasting in China. This study is the first to estimate, using FY-4A and a random forest model, the global ...

We provide a remote sensing derived dataset for large-scale ground-mounted photovoltaic (PV) power stations in China of 2020, which has high spatial resolution of 10 meters.

For the binary classification problem, PV solar panels account for a very small percentage of the Earth's surface, and in order to make the non-PV samples cover as many more comprehensive ...

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