Can photovoltaic panels be installed on saline-alkali land

What are the characteristics of photovoltaic power plant?
The Ca, S and Cl inside the Photovoltaic Power Plant were higher than those outside. The local soil salinization is also critical inside the Photovoltaic Power Plant. In the past decade, approximately 17 % of the world's photovoltaic capacity has been installed in China, especially in the northwestern desert areas.

How do photovoltaic panels affect land use distribution?
The installation of PPPs has changed the land use distribution . The rainwater-concentrating and shelteringeffects of photovoltaic panels have altered the soil moisture conditions,micrometeorology,and water resource utilization efficiency,thereby affecting ecosystem service functions ,,,.

Where are distributed solar PV systems installed?
Distributed solar PVs are installed on marginal agricultural lands(Martins et al.,2007),building rooftops (Bódis et al.,2019),water surfaces (Liu et al.,2019),and other unused lands to minimize potential ecological and environmental impacts.

Can photovoltaic agriculture be developed in arid areas?
Moreover,the development of photovoltaic agriculture in arid areas has been shown to achieve many remarkable economic and ecological benefits,and the labour cost associated with clearing vegetation can be converted into the establishment of photovoltaic agriculture ,.

Do solar power stations need a lot of land?
The deployment of PV power stations requires large amounts of landto accommodate solar arrays,roads,and transmission corridors,which will cause large-scale land conversion in desert areas (Edalat and Stephen,2017; Lovich and Ennen,2011).

What are the different types of PV panels installed in the study area?
Different types of PV panels are installed in the study area. The FIX PV panelsare tilted 34° from the horizontal plane and pointed towards the south,and the distance between the panels is approximately 7.5 m (Chang et al. 2018). The OSA PV panels are controlled by an automatic optical tracking system and can rotate in an east-west direction.

Soil salinization is a significant threat to soil health, especially to the agricultural ecosystem; it reduces vegetation biomass, destroys ecosystem diversity, and limits land use ...

Saline-alkali land is widely distributed on the earth, and the area of saline-alkali land in the world is about 1.0 × 10 9 hm 2, accounting for about 25% of the earth"s land area ...

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Saline-alkali soil is a type of degraded soil with poor agricultural production, and approximately 11 million hectares of soil worldwide are Saline-alkali (Stille et al., 2011).The ...

The 40MW light (storage) animal husbandry power station project has a planned installed capacity of 40MWp, and the installed capacity of the first phase project is 15MWp, with a land area of 637 mu, all of which are saline-alkali land and ...

18 PVs installed on shrub land, grassland, cropland, saline-alkali, and water surface, as well as flat concrete, steel tile, and brick ... Peters et al. 2018; Wang et al. 2018). PV panels can be ...

Amid global climate change and population growth, the prevalence of saline-alkali lands significantly hampers sustainable agricultural development. This study employs theories of asymmetric information and ...

mask of the area in the picture that corresponds to the solar panel (in case there is one). There are two main categories of the data that correspond to the background in which the panel is ...

The dataset contains 3716 samples of PVs installed on shrub land, grassland, cropland, saline-alkali land, and water surfaces, as well as flat concrete, steel tile, and brick ...

The total area of saline land in China is 99.13 million ha, accounting for 1/10 of the total saline land area in the world, which is divided into inland saline soil, coastal saline soil ...

Large-scale PV construction in desert areas can alter the local microclimate and soil conditions, thereby affecting the growth of vegetation. However, few studies have focused ...

Due to environmental changes and human disturbances, the area of saline-alkali land is increasing, and the degree of salinization is increasing as well . Salinization is an important ...

There is a large amount of uncultivated saline soil in China, and it is an important reserve of land resources. Finding ways to improve and manage these saline soils has become one of the ...

Saline-alkali land is widely distributed on the earth, and the area of saline-alkali land in the world is about 1.0 × 10 9 hm 2, accounting for about 25% of the earth"s land area and 76% of the world"s cultivated land area ...

There are ~1.0 × 10 9 ha of saline-alkali land (7% of all land) around the world [1].Saline-alkali land is an important cultivated land reserve resource for meeting the ...

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