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Title: Building power base stations on cultivated land

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How do centralized photovoltaic power stations affect terrestrial ecosystems?

Therein, centralized photovoltaic power stations in terrestrial ecosystems cover the earth's surface, which leads to changes in land use and has a significant effect on the surface energy balance and precipitation regimes, altering soil nutrient cycling and plant productivity, and ultimately significantly affects ecosystem functions and services.

What factors constrain the construction of centralized PV power stations (CPPs)?

We aimed to address these gaps by considering seven factors constraining the construction of centralized PV power stations (CPPS) and developing an indicator system based on terrain, climate, soil, and economic factors.

Do photovoltaic power stations improve soil quality?

Overall, the photovoltaic power stations improved the quality of the soil condition, especially in harsh environments, and increased the vegetation coverage.

Can photovoltaic panels increase plant biomass & vegetation cover in grassland ecosystems?

Furthermore, plant aboveground biomass and vegetation cover were also enhanced by SPP construction in grassland ecosystems. In farmland ecosystems, photovoltaic panel installation increased plant aboveground biomass, soil available phosphorus and soil pH, while reducing CO₂ flux, plant species richness and vegetation cover in woodlands.

Should urbanization construction include cultivated land?

Urbanization construction should include cultivated land from the perspective of total farmland. The balance between requisition and compensation does not consider the decline in the quality of farmland or grain production capacity. Cultivated land protection should guarantee stability of food production capacity.

Is permanent basic farmland a core system for cultivated land protection?

As the case study shows, it is possible to arrange permanent basic farmland as the core system for cultivated land protection and practice grade protection system on cultivated land outside permanent basic farmland zones to strictly limit farmland conversion into construction land.

The stability of cultivated land ecosystem is crucial to the green and high-quality development of agriculture. Revealing its spatio-temporal differentiation is an important ...

The farm is deployed with over 30 connected devices, such as pest monitoring stations and weather stations, which can collect and transmit data ...

In the case of the deficiency of cultivated land quantity, poor water and land suitability, and intensive land utilization, implementing the RCB policy is an effective measure ...

Owing to the "lock-in" effect of the human land production system, low-carbon utilization decisions and practices on cultivated land must be achieved through cultivated land ...

In conclusion, cultivated land planting control zoning is an effective way to implement food security and cultivated land protection. Integrating dietary consumption upgrading demand into the ...

(3) Project: China's cultivated land protection policy has demonstrated success in two stages of its historical development--from the ...

Cultivated land plays a pivotal role in ensuring national food security. The challenges of non-agriculture, non-grain production and the marginalization of cultivated land ...

(Yicai) Oct. 20 -- China has been tightening its supervision of photovoltaic power stations, particularly to ensure that none of them is built on cultivated ...

Northwest China has abundant solar energy resources and extensive land, making it a pivotal site for solar energy development. However, restrictions on site selection and ...

The rapid social and economic development led to the gradual emergence of the multi-functionality of cultivated land. However, existing studies mainly evaluate the function of ...

The protection and sustainable management of cultivated land are cornerstones of ensuring ecological balance. In implementing cultivated land protecti...

An integrated institution for the full implementation of land consolidation, proper regulations and laws on the follow-up protection of cultivated land productivity potential, ...

This coincides with the strict implementation of basic cultivated land protection policies in developed areas of China in recent years.

Will China's food security be affected? Some scholars have different views on it. We have carefully selected 13 academic papers on cultivated land resources published in the Journal of ...

Evaluating the cultivated land use efficiency (CLUE) and determining its driving factors help reduce



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cultivated land-use carbon emissions and promote green and low-carbon ...

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