
Sucre Solar Ecosystem Design

How does solar energy impact ecosystem services?

In the United States, solar energy is forecasted to generate roughly 45% of the electricity by 2050. Although solar energy mitigates the negative effects of climate change by providing electricity without releasing greenhouse gases, little is known about the implications of solar energy development for ecosystem services.

Should ecosystem services be included in future solar energy development decision-making?

This study provides a holistic assessment of incorporating ecosystem services in future solar energy development decision-making and presents an approach for minimizing trade-offs and maximizing sustainable outcomes.

How do utility-scale solar installations affect ecosystem services?

Utility-scale solar installations can vary widely in their effect on ecosystem services 3: land grading and removal of vegetation beneath PV panels has the strongest and most obvious negative effects.

Can solar suitability modeling be used in ecosystem service evaluation?

By incorporating solar suitability modeling with ecosystem service evaluation, we develop a method that provides a comprehensive understanding of potential techno-ecological trade-offs.

A multifunctional land-use approach is proposed for the development of ground photovoltaic systems to increase ecosystem services. An ecological approach is a design ...

Abstract Solar energy is rapidly growing to decarbonize the electrical grid. Maintaining ecosystem function with solar energy generation can be promoted through ...

We argue that co-prioritizing ecosystem services and energy generation using an ecologically informed, 'ecovoltaics' approach to solar array design and operation will have ...

The habitat created at these sites could support insect pollinators and other wildlife and improve other ecosystem services of the site (Figure 1). But what ecosystem service ...

One such strategy - often termed agrivoltaics (agriculture + ground-mounted solar) - has emerged as a promising strategy that co-locates solar energy production with ...

Ecovoltaics is defined as an approach to renewable energy that incorporates ecological understanding and principles into the design and management of solar arrays. 1 It is ...

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Recognizing the challenge of solar expansion competing with valuable agricultural land, Sandbox Solar and Colorado State University are collaborating to research how ...

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