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Byron Kominek  Sep 9, 2019 1 min read

Agrivoltaics provide mutual benefits across the food–energy–water nexus in drylands

Here is a brand new research article published by Nature from the University of Arizona's Greg Barron-Gafford on agrivoltaics.

Abstract:

"The vulnerabilities of our food, energy and water systems to projected climatic change make building resilience in renewable energy and food production a fundamental challenge. We investigate a novel approach to solve this problem by creating a hybrid of colocated agriculture and solar photovoltaic (PV) infrastructure. We take an integrative approach—monitoring microclimatic conditions, PV panel temperature, soil moisture and irrigation water use, plant ecophysiological function and plant biomass production within this 'agrivoltaics' ecosystem and in traditional PV installations and agricultural settings to quantify trade-offs. We find that shading by the PV panels provides multiple additive and synergistic benefits, including reduced plant drought stress, greater food production and reduced PV panel heat stress. The results presented here provide a foundation and motivation for future explorations towards the resilience of food and energy systems under the future projected increased environmental stress involving heat and drought."



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