The emergence of solar energy production on agricultural land in the Global South (México)

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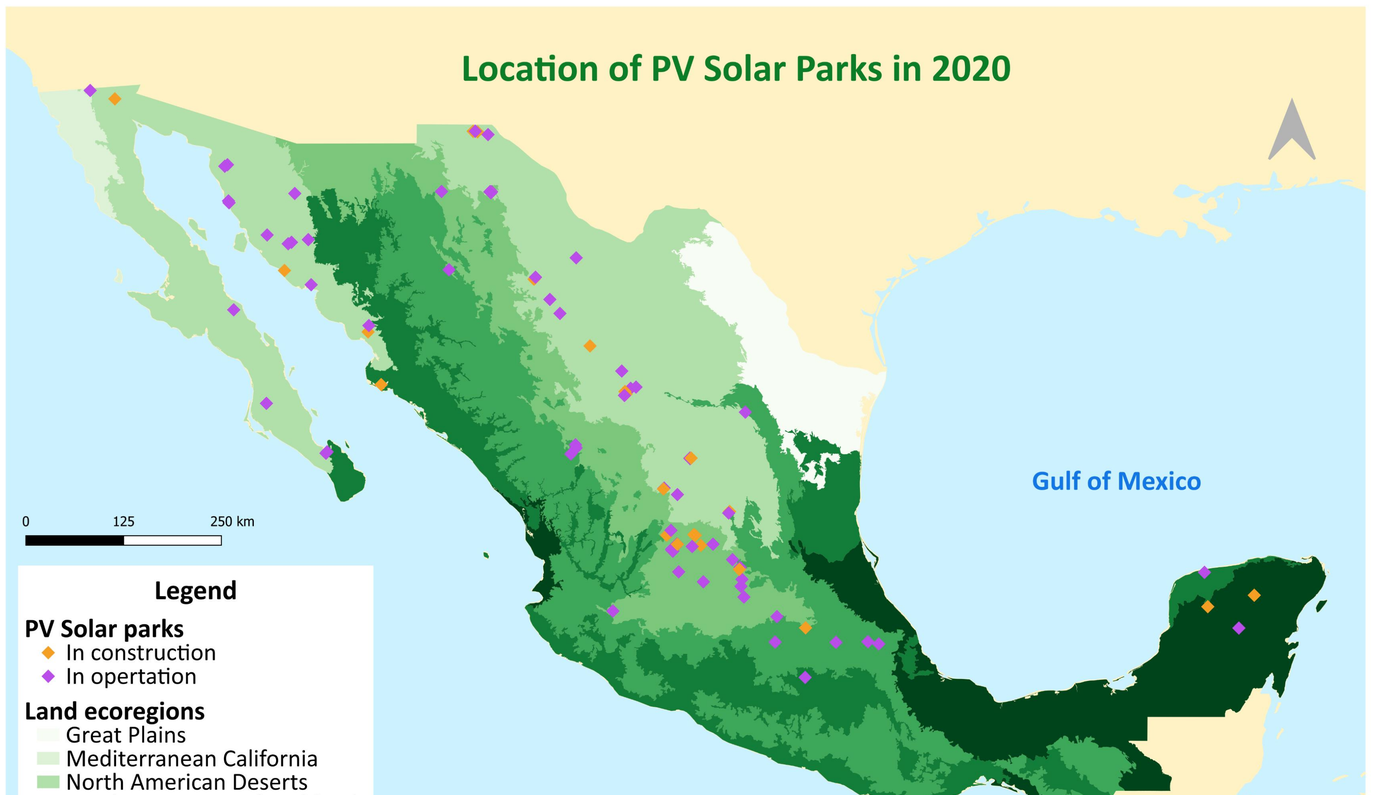
INTRODUCTION

- Current land-use changes from agricultural or semi-natural landscapes to renewable energy production are widespread and have reached the Global South most recently.
- Mexico is among the countries with the highest potential for renewable energy in the world due to its location, territory size, and vast amounts of natural resources.
- Photo-Voltaic (PV) solar parks in Mexico have been installed since 2015, when there was an impulse from the federal government to start the Energy Transition.
- PV solar parks are still being installed, but only from governmental funding. With the last energy reform, private enterprises have not been granted new permissions.

OBJECTIVES

- To analyse which ecosystems are the most present in the transition from agriculture to PV-solar parks installation.
- To characterize the social, cultural and ecological environment of the places where the PV solar parks have been installed.



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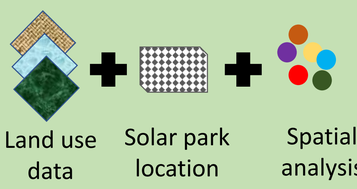
METHODS

- Generation of spatial metrics around solar parks

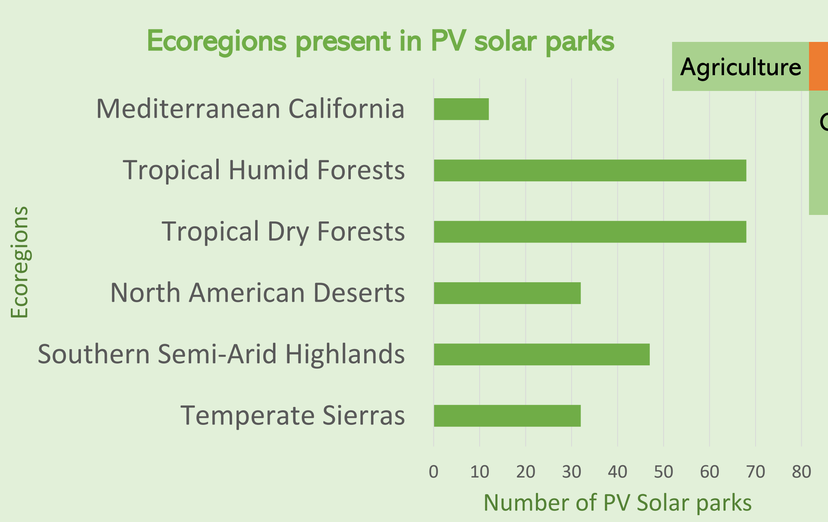


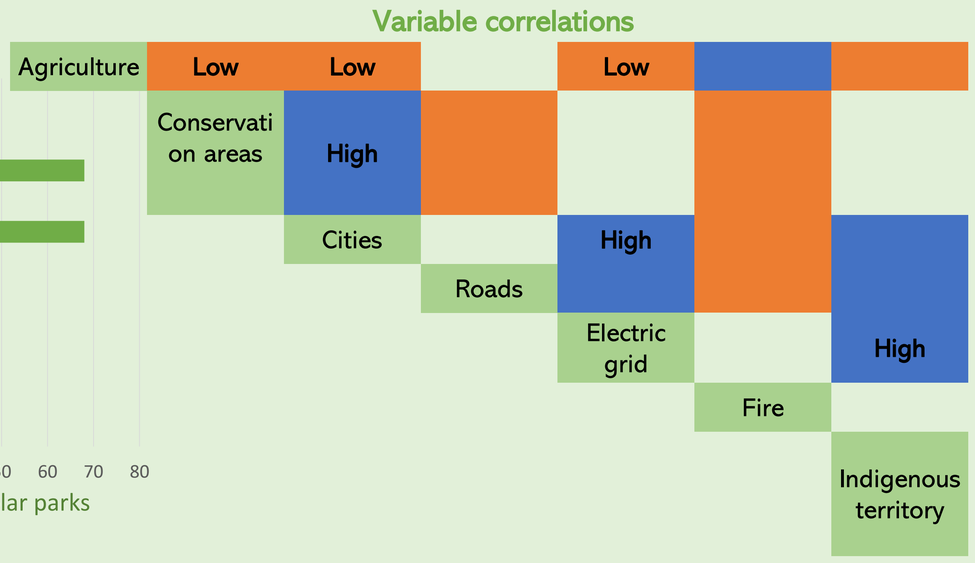
- Characterization of PV solar parks using spatial metrics and a GLM model

PVSolar = *agro_presence+dist_natparks+dist_cities + dist_roads+dist_electric+area_fire+ dist_indigenousterr*

RESULTS

- PV-Solar Parks in Mexico are located mainly on dry/semidry climates, with open canopy vegetation.
- There are a few instances of industrial PV solar parks being installed on roofs of buildings in urban areas.
- In 2015, the land use of most of the current PV solar parks was agriculture, producing mainly maize, wheat, beans and rice.
- We found a general lack of overlap between Indigenous territories and PV solar parks.
- However, in the case of communal land (Ejidos), we did find a greater overlap with the installation of PV solar parks.





DISCUSSION

- The location of PV solar parks on a specific ecosystem type (e.g., dry ecosystems) poses environmental pressures and risks of degradation in the future which need monitoring, especially in areas with high industrial development pressure.
- Likewise, the widespread location of PV solar parks on ejidal territories opens new opportunities for a just transition if the participation of local communities is ensured.
- Yet, there are some published news about local communities being affected by the PV solar parks' activities and how they were not consulted on the process. Further research about this is needed.
- PV solar parks are being installed in the Central Mexican Plateau; an area rich in traditional maize varieties. Their replacement due to the energy transition in Mexico is worrisome and needs further research efforts.

REFERENCES & CONTACT:

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1 & 2: Made by Mónica Bárcenas Pazos

References

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