

**GIS-BASED SITE SUITABILITY ANALYSIS FOR SOLAR POWER IN THE  
PHILIPPINES**

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An Undergraduate Thesis Submitted to the Faculty of the Department of Engineering  
Sciences, College of Engineering, Central Luzon State University,  
Science City of Muñoz, Nueva Ecija, Philippines  
in Partial Fulfillment of the Requirements  
for the Degree of

**BACHELOR OF SCIENCE IN METEOROLOGY**

**MAY 2023**

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## ABSTRACT

**MAULION, GILBERT JR., Q.**, Department of Engineering Sciences, College of Engineering, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, **JUNE 2023, GIS-BASED SITE SUITABILITY ANALYSIS FOR SOLAR POWER IN THE PHILIPPINES**

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The world currently faces a crisis in ensuring enough energy reserves to match the demand while advocating green renewable energy. With this, the use of solar energy in the Philippines has risen through the years, considering that the country resides right above the equator, where the concentration and dispersion of solar irradiance are great. By doing this, further studies in solar energy planning are deemed necessary to ensure the viability and economic security of the production of solar power plants. This Study assessed the country's solar power capability through various tests in different factors, including climatological data like Global Horizontal Irradiance (GHI), other factors with the use of an analytical hierarchy process (AHP), and Geographic Information System (GIS). With Photovoltaic (PV) systems as the primary energy system, this study presents a suitability analysis for solar power in the Philippines.

**Keywords:** GIS-Based site suitability analysis, solar power, Global Horizontal Irradiance.

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