

## Development and Modeling of a Geographic Information System Solar Flux in Adrar, Algeria

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**Abstract :** The development and operation of renewable energy known an important development in the world with significant growth potential. Estimate the solar radiation on terrestrial geographic locality is of extreme importance, firstly to choose the appropriate site where to place solar systems (solar power plants for electricity generation, for example) and also for the design and performance analysis of any system using solar energy. In addition, solar radiation measurements are limited to a few areas only in Algeria. Thus, we use theoretical approaches to assess the solar radiation on a given location. The Adrar region is one of the most favorable sites for solar energy use with a medium flow that exceeds 7 kWh / m<sup>2</sup> / d and saddle of over 3500 hours per year. Our goal in this work focuses on the creation of a data bank for the given data in the energy field of the Adrar region for the period of the year and the month then the integration of these data into a geographic Information System (GIS) to estimate the solar flux on a location on the map.

**Keywords :** Adrar, flow, GIS, deposit potential

**Conference Title :** ICSRD 2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020