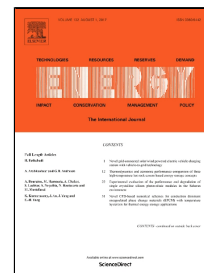


Accepted Manuscript

Hybrid model for estimating monthly global solar radiation for the Southern of Algeria: (case study: Tamanrasset, Algeria)

Lazhar Achour, Malek Bouharkat, Ouarda Assas, Omar Behar



PII: S0360-5442(17)31154-4
DOI: 10.1016/j.energy.2017.06.155
Reference: EGY 11163
To appear in: *Energy*
Received Date: 01 November 2016
Revised Date: 10 June 2017
Accepted Date: 27 June 2017

Please cite this article as: Lazhar Achour, Malek Bouharkat, Ouarda Assas, Omar Behar, Hybrid model for estimating monthly global solar radiation for the Southern of Algeria: (case study: Tamanrasset, Algeria), *Energy* (2017), doi: 10.1016/j.energy.2017.06.155

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Hybrid model for estimating monthly global solar radiation for the Southern of Algeria:
(case study: Tamanrasset, Algeria)

Lazhar Achour^{a*}, Malek Bouharkat^a, Ouarda Assas^b, Omar Behar^c

^aElectrical Engineering Department, University of Batna 2, Batna, Algeria

^bLaboratory Pure and Applied Mathematics (LPAM), University of M'sila, M'sila, Algeria

^cUniversity of M'Hammed Bougara, UMBB, Boumerdes, Algeria

(*) Corresponding author. Tel.: + 213 660942665, E-mail addresses: achour_lazhar@yahoo.fr

Abstract:

Due to the lack of solar radiation measurement stations, prediction of solar radiation had a great interest in the recent years. In the present work, fourteen solar radiation models had been used to assess monthly mean global solar radiation on a horizontal surface. Since we observed that each model was adequate for some months of the year, one model can't be sufficient for the prediction of the whole year, that is why we proposed a smart hybrid system, based on intelligent rules, which could select the most suitable prediction model from the fourteen models listed herein. In order to test and evaluate the proposed models, the southern Algerian city; Tamanrasset was selected for this study. Five years (2000-2004) of meteorological data sets were collected from the Algerian National Office of Meteorology (NOM), and from the two spatial databases. Thus, the reached results indicated that the new hybrid model could be able to predict global solar radiation with an excellent accuracy in this location.

Download English Version:

<https://daneshyari.com/en/article/5476419>

Download Persian Version:

<https://daneshyari.com/article/5476419>

[Daneshyari.com](https://daneshyari.com)