

Wind and Solar Energy Generation Potential Features in Extreme-Northern Amazon Using Reanalysis Data

Jean Souza dos Reis ^{1*}, Nicolas de Assis Bose ^{1,2}, Ana Cleide Bezerra Amorim ¹, Vanessa Almeida ¹, Luciano Andre Cruz Bezerra ¹, Leonardo de Lima Oliveira ¹, Samira de Azevedo Emiliavaca ¹, Maria de Fátima Alves de Matos ¹, Nickollas Elias Targino Pereira ¹ and Raniere Rodrigues Melo de Lima ¹

¹ SENAI Institute of Innovation - Renewable Energies; Av. Capitão Mor-Gouveia 2770, Lagoa Nova, Natal 59063-400, Brazil; nicolas@isi-er.com.br (N.A.B); anacleide@isi-er.br (A.C.BA); vanessa@isi-er.br (V.A); luciano@isi-er.br (L.A.C.B); leonardo@isi-er.br (L.L.O); samira@isi-er.br (S.A.E); fatima@isi-er.br (M.F.A.M); nickollas@isi-er.br (N.E.T.P.); raniere@isi-er.br (R.R.M.L)

² Federal University of Rio Grande do Sul, Fundação Universidade do Rio Grande, Carreiros, 96203900, Rio Grande, Brazil

* Correspondence: jeanreis@isi-er.com.br

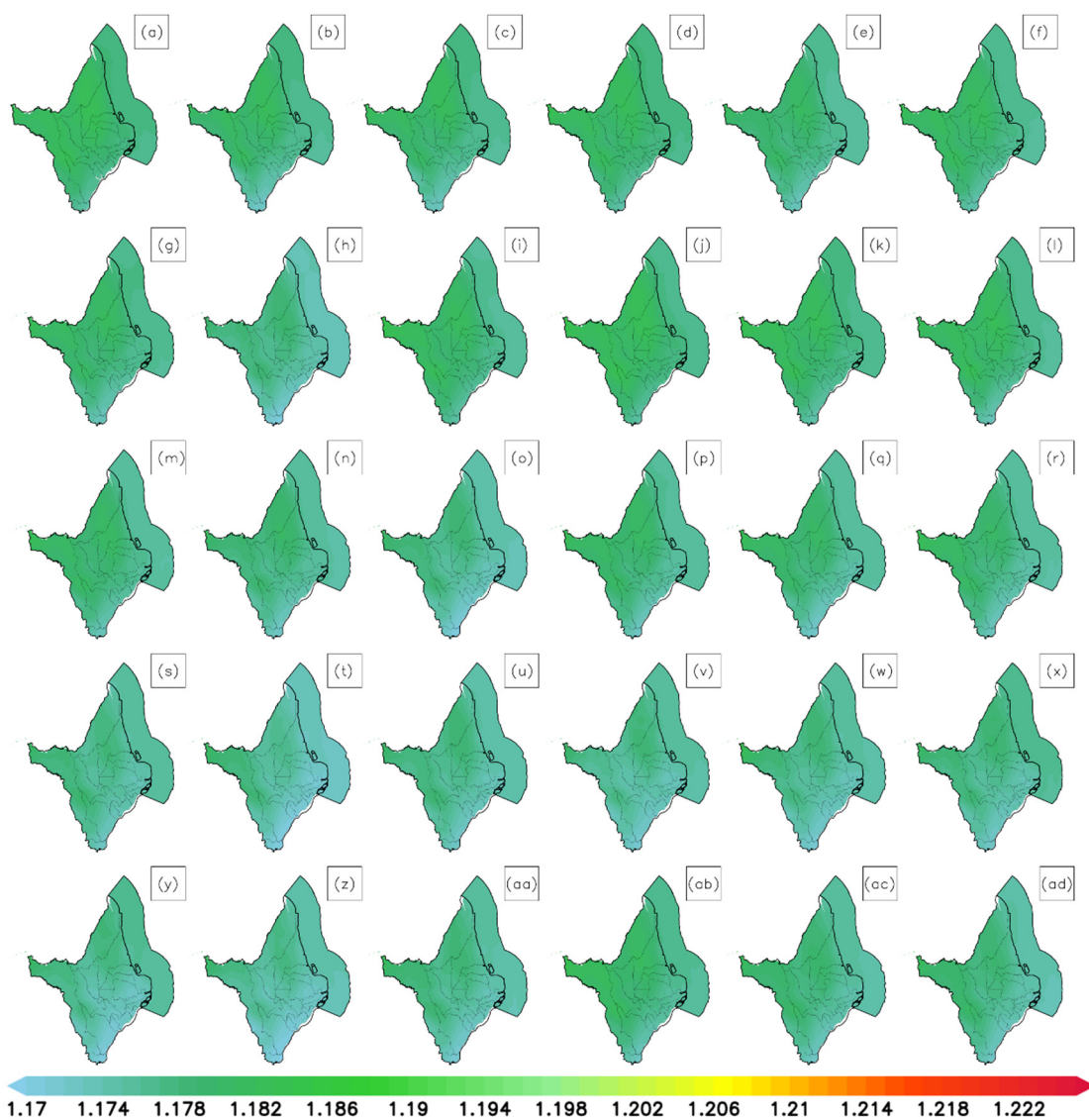


Figure S1. Mean Standard deviation of air density of 30 years.

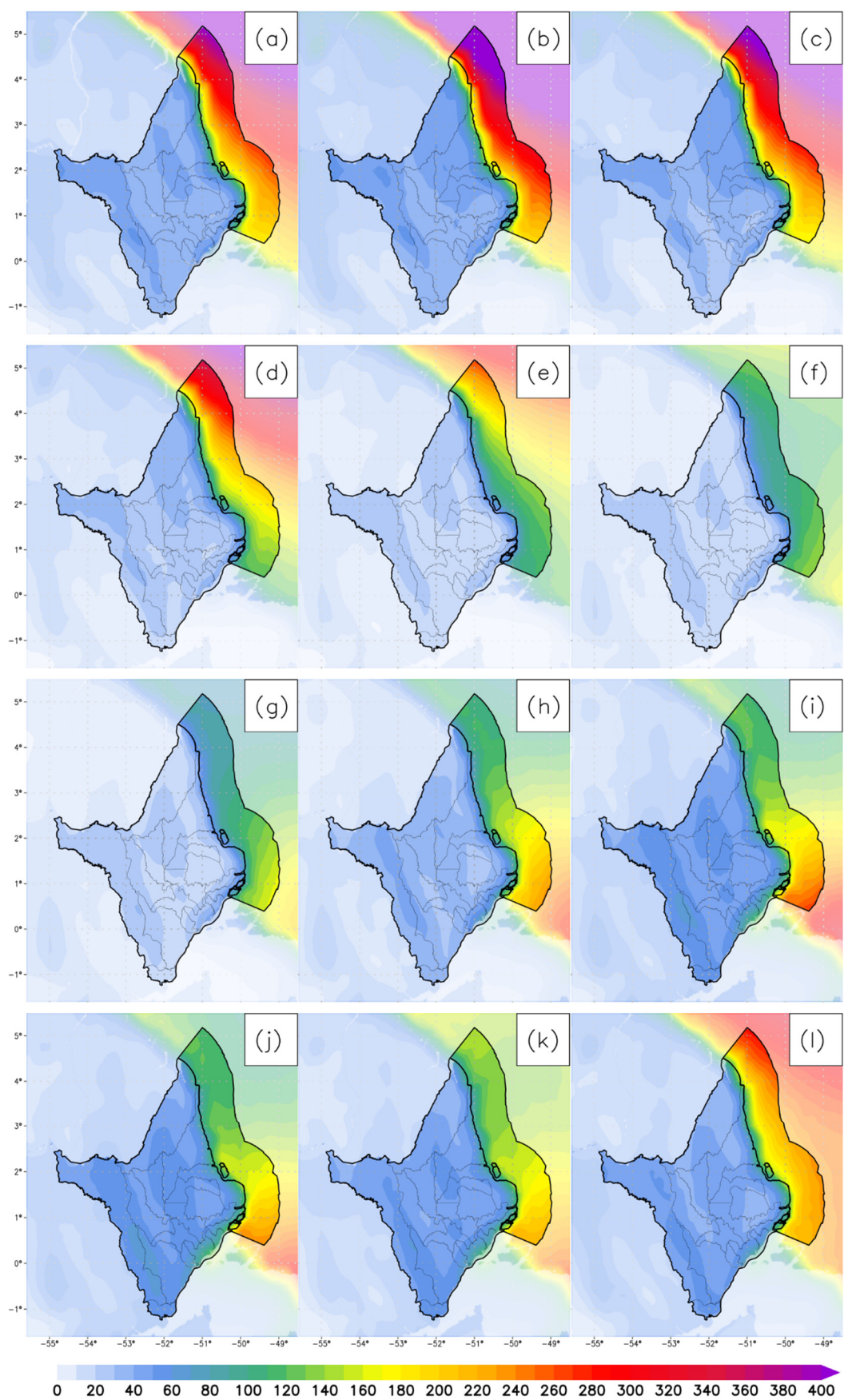


Figure S2. Mean monthly variability of Wind Power Density (W/m²) of 30 years in (a) January, (b) February, (c) March, (d) April, (e) May, (f) June, (g) July, (h) August, (i) September, (j) October, (k) November and (l) December.

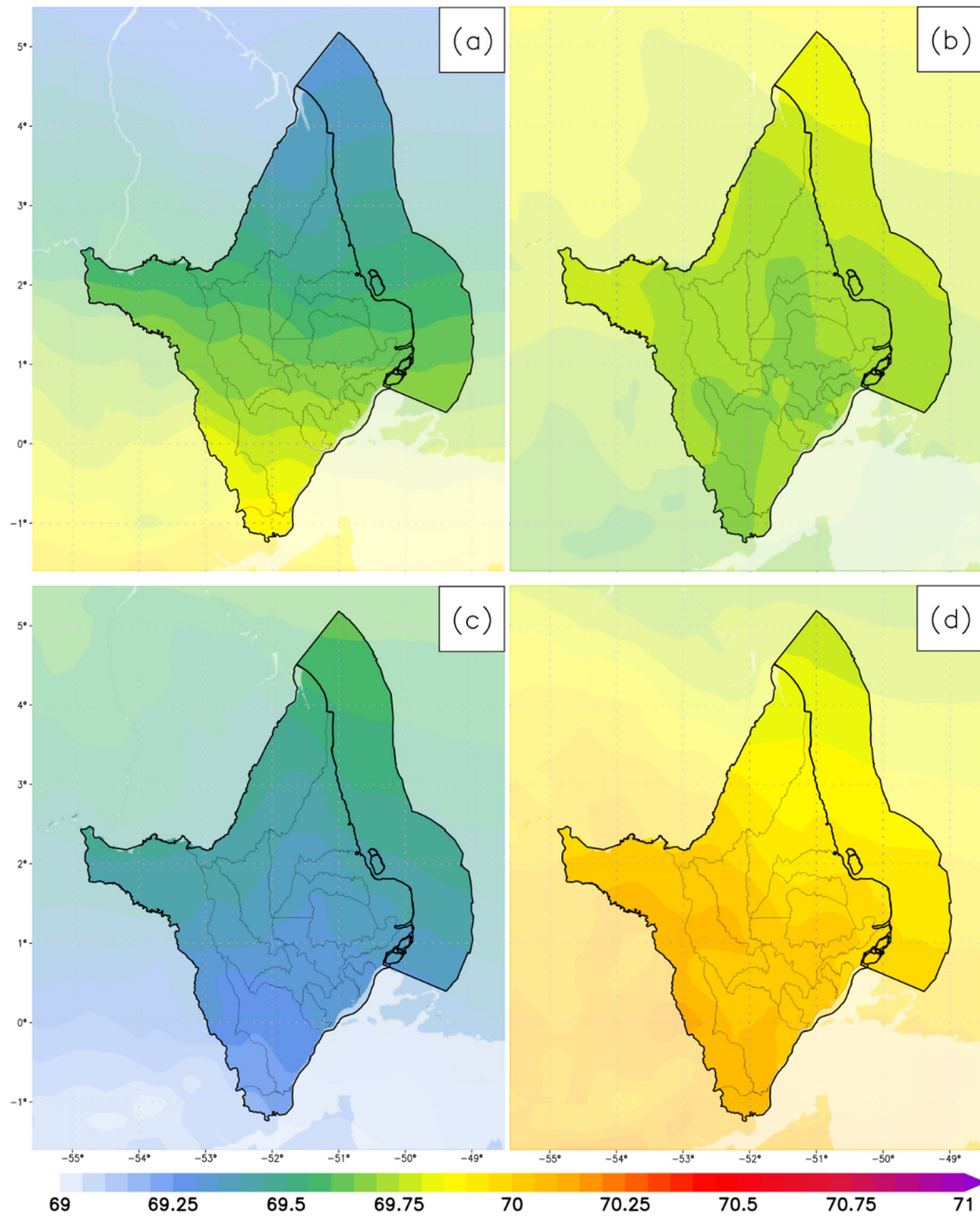


Figure S3. Spatial distribution of seasonal mean of the thermal efficiency of concentrated solar power over 30 years (1991-2020) in (a) summer, (b) autumn, (c) winter and (d) spring.