Geophysical Research Abstracts
Vol. 21, EGU2019-17566-2, 2019
EGU General Assembly 2019

Determination of Exposures of Mediterranean Touristic Resources by Using Regional Climate Modeling

F. Sibel Saygili Araci (1,4), Aytac Pacal (2,4), M.Levent Kurnaz (3,4)

(1) Bogazici University, Institute of Graduate Studies in Science and Engineering, Computational Sciences and Engineering, ISTANBUL, Turkey (saygilisibel@gmail.com), (4) Center for Climate Change and Policy Studies, Bogazici University, Istanbul, Turkey., (2) Department of Computational Science and Engineering, Institute of Graduate Studies in Science and Engineering, Bogazici University, Istanbul, Turkey (aytacpacal@gmail.com), (3) Department of Physics, Faculty of Arts and Sciences, Bogazici University, Istanbul, Turkey (levent.kurnaz@boun.edu.tr)

Summer tourism in the Mediterranean Basin is one of the most important contributors to the countries' GDPs, and is highly dependent on the climatic conditions. In this study, it is aimed to determine the exposure of the most touristic resources due to global temperature increases relative to the preindustrial era. For this purpose, the outputs of the MPI-ESM-MR global climate model of the Max Planck Institute for Meteorology are downscaled to 50km by the use of Regional Climate Model (RegCM4.4) of the Abdus Salam International Centre for Theoretical Physics (ICTP). To make the future projections for the period of 2021-2050 with respect to the reference period of 1971-2000, RCP4.5 and RCP8.5 scenarios are used. Thereafter Tourism Climate Index (TCI) is computed by using the temperature, humidity, precipitation, wind, sunshine and cloudiness outputs of the RegCM4.4. Finally, sensitivity analysis and spatial distribution maps showing the exposures of touristic cities are obtained.

This study is supported by YOK 100/2000 scholarship.