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Present and future bioclimatic conditions of importance to tourism over the Mediterranean

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This work presents the results of changes of thermal comfort indices in the Mediterranean region and on time scales from seasonal to multi-decadal. The results are based on 6-hourly time series of the Physiological Equivalent Temperature (PET) and the Universal Thermal Climate Index (UTCI) in the Mediterranean. The two indices were calculated from 6-hourly meteorological parameters, acquired from the ERA-Interim ECMWF reanalysis records. Future climate change conditions were analyzed using the results of four regional climate simulations from the ENSEMBLES project. Two future periods are considered, 2021-2050 and 2071-2100 under the A1B scenario, in comparison to the reference period 1961-1990. Both the PET and UTCI analysis was performed using the radiation and bioclimate model, "RayMan", which is well-suited to calculate radiation fluxes and human biometeorological indices.

In addition to the spatial and temporal analysis of the bioclimatic indices, for both the present and the future, concerning the Mediterranean tourism potential, a new approach in Climate-Tourism assessment was applied, namely the Climate-Tourism-Information-Scheme (CTIS), at representative tourist destinations in the Mediterranean. CTIS integrates and simplifies climate information for tourism in a convenient and easy to understand way which can be used by individual tourists and by local authorities responsible for tourism and health.