



## **Planning of tourism development in Mali Lošinj (Croatia)**

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Mali Lošinj is one of the most popular Croatian tourist destinations situated on the island of Lošinj in northern Adriatic. Management of the Mali Lošinj Tourist Board is aware of the tourism industry vulnerability to climate change. For their planning of tourism development they ordered the climatological study of suitability of present and future local climate for different types of tourist activities. The study provided such information on the basis of climate index for tourism (CIT; De Freitas et al. (2008)) determined for 06 UTC and 12 UTC. CIT integrates thermal, aesthetic and physical facets of the atmospheric environment and therefore it is suitable for estimation of the climate satisfaction that ranges from very poor to very good. Suitability of climate was analysed for eight activities: 1) beach tourism (3S - sun, sea and sand tourism), 2) cycling, 3) hiking 4) cultural tourism, 5) golf, 6) football, 7) motor boating and 8) sailing. Present climate is analysed for the period 1981-2010. The changes in climate potential of tourism are estimated by changes of climate index for tourism in the future 30-year period 2021-2050, according to the referent present period 1971-2000. Data for the future period are provided by two different downscaling data sets, over European area with 12.5-km horizontal resolution. The first data sets were those downscaled by regional climate model SMHI-RCA4 which was forced by five CMIP5 global atmosphere-ocean circulation models (HadGEM2-ES, CNRM-CM5, EC-EARTH, IPSL-CM5A-MR and MPI-ESM-LR). The second data sets were those downscaled by regional climate model RegCM4, version 4.2, which was forced by four global atmosphere-ocean circulation models (CNRM-CM5, EC-EARTH, MPI-ESM-MR and HadGEM2-ES). In addition, future climate projections were run under RCP4.5 as well as under RCP8.5 IPCC scenarios. In this way, the uncertainty of simulations of future climate was taken into account. Applied approach helped in detecting the range of CIT values in future and consequently in the assessment of destination's tourism activities that the future climate will support.