

ESTIMATE OF EMISSIONS SCENARIOS EFFECTS ON CLIMATE PARAMETERS IN THE BALKAN REGION

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EXTENDED ABSTRACT

The objective of this paper is to present an initial estimation of future climate changes in the Balkan region for the next 100 years. For that purpose, four basic scenarios of global greenhouse gases (GHGs) emissions were applied in the model MAGICC/SCENGEN, which functions as a global and regional climate change scenario generator. In the analysis, all the data used, the uncertainty included in model parameters and the main assumptions adopted are presented, as well as the results in global and regional level.

The four emissions scenarios selected through a wide range of scenarios for future emissions of GHGs and aerosols, are produced from the Working Group 1 of the IPCC in the frame of the Third Assessment Report (Climate Change 2001, *The Scientific Basis*) and cover a wide range of combinations of important future global characteristics, which include population change, socio-economic development, and technology evolution. The main findings regarding the climate change impacts of all the scenarios studied in global level, is that both temperature and sea level will continue to rise throughout the 21st century.

For each of the above-mentioned scenarios, the changes of various climate parameters in Balkan region were estimated. The findings of the analysis clearly reveal that important climate changes should be expected in the wide Balkan region during the next century. Specifically, the main climate changes in the region, up to the year 2100, comprise increase of annual mean temperature (1.5°C – 3.6°C), decrease of precipitation (-24.3% – -1.2%), decrease of cloud cover (-4.3% – -1.4%), slight decrease of wind speed (-2.2% – -0.1%) and increase of vapour pressure (1.0 hPa – 3.3 hPa).

Key words: climate change, Balkans, emissions scenarios SRES, MAGICC/SCENGEN.