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Evaluation of the Resilience Level of the East Anatolian Cities in Urban Environment Considering Climate Change Scenarios on Turkey

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ABSTRACT: Scale of global climate change models taking into consideration general circulation is too large to make an evaluation for a city even a country. However, some national authorities and scientific foundations can downscale the models and make estimations for smaller areas considering the changes in certain climatic elements like temperature, precipitation etc. Urban areas in Turkey are the main sources of climate change depending on their surface areas, anthropogenic activities performed in them. In Eastern Anatolia, cities are smaller in size and population and less industrialised compared to those in the west of Turkey. Therefore, their contribution to carbon release is less but their main carbon source is domestic heating and traffic. This study is related to the future prospects of the cities for climate change considering the results of downscaled upper scale climate change models (Regional Climate Projection; RCP8.5 and 4.5). In the scope of the study, present land use types of the three largest cities (Erzurum, Van and Malatya) are considered and some suggestions are proposed supposing that the same types of land use will continue to the estimated period.

KEYWORDS: East Anatolia; Climate change; Urban areas; Regional Climate Change Projection