



Investigation on the impact of Climate change on Tehran air quality

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Descending Katabatic winds from Alborz Mountains play an important role on air pollutants dispersion in the north of Tehran Megacity, capital of Iran. Observations prove that due to global warming during the last fifteen years amount of snow and glacier over the Alborz Mountains decreased significantly. In the other hand, in recent years concentration of particulate matter (PM) increased considerably in northern Tehran. In this study we used mesoscale Weather Research and Forecasting (WRF) model to investigate on the impact of glaciers decreasing on Katabatic winds formation and consequently on air pollutants dispersion in northern Tehran. Summers of 2008 and 1993 have been simulated. Simulated fields have been compared with observations and represent good agreement for both cases. Results demonstrate that thawing of glaciers caused a decrease of Katabatic wind frequency and intensity. Pollutants dispersion has been discussed and increase of PM concentration explained satisfactory.