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Regional climate modification by LULC change in Tokyo metropolitan area

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Tokyo Metropolitan area (i.e. southern part of Kanto district) is known for one of the hottest areas in summer in Japan. Especially in Saitama prefecture (north of Tokyo), the daily maximum surface air temperature (SAT) at screen height sometimes reached in 40 C degree. In the last decade, the summer heat environment in Japan is getting worse, and the number of emergency transportations due to heat stroke is rapidly increasing.
In this study, we evaluate regional climate change due to land use change. To evaluate the regional climate change, we performed a series of present climate simulations using the Weather Research and Forecasting (WRF) model with high horizontal resolution, including an urban canopy sub-model.