

Social implementation study of urban-scale downscaling using a multiscale atmospheric model

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Microscale atmospheric conditions are influenced not only by global to mesoscale atmospheric fields but also by the surrounding topography, building shapes, and tree arrangements. The multiscale atmosphere-ocean coupled model, MSSG (Multi-Scale Simulator for Geoenvironment), which is developed in JAMSTEC, is possible to perform downscaling simulations from the global and mesoscales to the urban scale, resolving the topography, building shapes, and tree crowns of several meters to several tens of meters. In this presentation, we will report the practical applications of the downscaling technique to the analyses of the urban thermal environment and the amount of airborne sea-salt in actual urban areas, where local distributions of the wind speed, temperature and humidity are important.

Keywords: downscaling simulation, large-eddy simulation, social implementation