Thermal inertia of urban area decides the time evolutes of heat island circulation

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Heat/cool island circulation (HCIC) is one of typical examples of horizontal convection caused by deferential heating of the ground. HCIC have been studied because of being the most basic process in atmospheric dynamics. Many numerical or laboratory experiments were performed to research in HCIC. However, recent theoretical transition model of HCIC was not verified in observation for urban climatology. The purpose of this study is to verify that formation process proposed by previous numerical or theoretical studies is realized in atmosphere. we observe urban heat island and measure thermal inertia of each area to confirm that the anomaly of thermal inertia dominates formation process of heat island. New method is devised for measuring thermal inertia as a response of air temperature against radiant flux change.