Relationship about land cover and surface temperature, surface layer temperature in provincial city

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Abstract

The purpose of the paper is observational study and simulation about relationship with land cover and surface temperature, surface layer temperature in central commercial area in continentality provincial city, Nagano city. Major cities in Japan are situated at coast side. At such area, in daytime, land and sea breeze reduce air temperature frequently. In continentality provincial city, at night, there is cold current of air from surrounding mountains. At day time, to reduce air temperature, increasing vegetation, reducing artificial waste heat is important. We measured surface temperature by infrared camera on helicopter and surface survey and surface layer air temperature at summer daytime. And then we surveyed surface land cover, buildings constitution and quality and quantity of vegetation. We analyzed the effect of changing land cover to radiation balance, surface temperature and surface layer air temperature, and calculated them with computer simulation.