

All need is measurement.

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1. Introduction

As for the heat island phenomenon, the deterioration of the living environment not only is caused but also the relation to the guerrilla downpour etc. is pointed out, and effective measures against the investigation and that of the cause are requested.

However, many of researches on the heat island phenomenon are the simulations for the situation forecast, and there are a lot of one by the remote sensing also as for the subjacent data. Moreover, the heat island observation that Tokyo set up doesn't obtain the data of frequency enough as it can know a local heat characteristic as for the one to actually measure the ground temperature in a high density and continuously though is only net (METROS). Moreover, investigation of actual conditions in each city should be able to end to distinguish a peculiar factor to a universal factor of the heat island generation and the city.

Then, to establish a high density, continuous climate observing system that was able to develop in various cities in this research, the horizontal, high density, continuous observation for the investigation of actual conditions of the heat island phenomenon in the development of the observation technique and Kyoto was done.

2. Note in Hacaitswa development and observation

It observed it by using the data logger and temperature sensor Radiashonsheld that enabled the data collection in a suitable high density and sampling high for the observation of local weather reported by 'The weather chapter' (Umetani et al).

In the observation on the street, installation features of Hacaitswa are limited. Some props that install Radiashonsheld are needed when the temperature is measured, and it is necessary to permit it from should the installation on the height of 2.5m or more, and the owner when installing it in the utility pole. However, it was possible to set it up as long as it did not become obstructive for traffic as long as the installation permission was obtained in the country or the Management Division bureau etc. of the municipality if it was in the afforestation belt. Then, it was assumed that it installed it in street trees planted in the afforestation belt that faced the road in this research. Moreover, to tune the observation condition of each point as much as possible, the direction where Radiashonsheld projected was arranged for the north.

3. Outline of observation execution

The Kyoto town and a surrounding temperature of 25 points were observed.

Measurement period: 2-7th in November, 2004

The measurement frequency: It is measurement density for one minute (average of sampling for one second): About 2km interval.

4. It brings it together with the observation result.

Generally, it is about 18:00 that the temperatures fluctuate of the city part and suburbs grows most in this observations, and has understood an almost constant difference is kept afterwards though it is said that the heat island phenomenon appears remarkably at night. This cause is discussed by 'The weather chapter comparing' (Ito et al).

As mentioned above, the high density, continuous observation system's that had been developed this time understanding the heat characteristic for local and a short time in detail became possible. I want to observe it continuously to understand the phenomenon that do not depend on the change and the city of the characteristic by the season and are caused universally etc. in the future.

The person at the time of finishing both of the Kyoto University all learning and it is Kyoto municipal Horikawa high-school for the high density of this time observation achievement of the expert subject 'Earth science experiment B'. 'Basic Inquiry I' Those who select the physical geography colloquium, this school natural science part, and additionally, it wants to add that cooperation of everybody considerate was gotten, and to show gratitude.