The Relationship between Wind Speed and/or Ground Inversion Strength over Rural Environs and Nighttime Urban Heat Island Intensity in Nagano City

Yasushi Sakakibara*1, Shinobu Tanaka*2 and Yuka Itoh*3

*1 (*Corresponding author*) *Shinshu University, Nagano* 380-0871, *Japan.*
*2 *Nangu Junior High School.*
*3 *Wakaho Junior High School.*

(Received 8 May 1997 ; Accepted 23 October 1997)

Abstract

To investigate the urban heat island intensity of Nagano City, Japan, the population of which is about 0.35 million, 43 measurements of the air temperature distribution in and around the urban area were made by the car traverse method from summer to early winter in 1995 and 1996. Other meteorological elements measured at public observatories were also used to analyze the data. The results are as follows :

(1) The maximum intensity was 4.9°C, which is 1.7°C larger than that expected from its statistical relation to population for cities in Japan but is rather smaller than that in North America and Western Europe (Park, 1987).

(2) The intensity scarcely varied with changes in wind speed.

(3) The intensity correlated closely with the square root of the gradient of the vertical potential temperature over the surrounding rural area.

月例会「第42回山の気象シンポジウム」のお知らせ

日　時：平成10年6月20日（土）の予定．13時から
場　所：専修大学付属高校梅田記念館
東京都杉並区和泉4-4-1
京王線代田橋駅下車北へ約1 km
講演希望の方は演題に200字以内のアブストラクトをつけて4月末までに下記に郵送して下さい．

記

〒182-0036　東京都調布市飛田給2-26-25
小岩清水　気付　山の気象研究会