

Estimation of the temporal and spatial variation of surface temperature distribution in the Korean peninsula using NOAA/AVHRR data

Gi-Chul Yi

Department of Urban Planning and Landscape Architecture, Dong A University
840 Hadan2-dong Saha-gu Busan Korea

gcvi@dauet.donga.ac.kr

Young-Sang Suh · Ji-Young Gu · Na-Kyung Lee

Division of Oceanography, National Fisheries Research & Development Institute

408-1 Sirang-ri, Gijang-eup, Gijang-gun, Busan 619-902

yssuh@nfrdi.re.kr

Abstract: The surface temperature variation of the Korean peninsular was estimated using split-window method and NOAA/AVHRR data in 1991, 1995 and 2000. To analyze the characteristics of the urban surface temperature, the differences in surface temperature between day and night time were computed and analyzed for the comparison.

The differences of surface temperature in seasonal variations and yearly fluctuations in big cities were lower than those in rural regions. The quantified result of Korean peninsula for last ten years (1991-2000) showed the differences of surface temperature clearly due to the urbanization. The ranges of difference were 3-15 °C around the Korean peninsula. The small difference of the surface temperature and the continuously increasing temperature in urban area are expected due to the effect of increased pavement, the loss of greenery resources and the unwise development of urban area.