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"Gheorghe Asachi" Technical University of Iasi, Romania

DETERMINATION AND MAPPING OF THE NOISE POLLUTION AT SİVAS CUMHURİYET UNIVERSITY CAMPUS: A CASE STUDY

Serdar Ercins[1*], Fuat Özyonar[2], Zekeriya Duran[1]

[1]Sivas Cumhuriyet University, Sivas Vocational School of Technical Sciences, Department of Mining and Mineral Extraction, 58140, Sivas, Türkiye
[2]Sivas Cumhuriyet University, Engineering Faculty, Environmental Engineering Department, 58140, Sivas, Türkiye

Abstract

This study aims to determine the changes in noise pollution levels in the Sivas Cumhuriyet University campus area and to develop solutions to the noise problem by creating noise maps. In the campus area, 22 measurement points were determined where traffic and human density were high. Equivalent Noise Levels (Leq), Noise Climate (NC), Noise Pollution Level (NPL) and Traffic Noise Index (TNI) noise levels were determined. Environmental noise level measurements were carried out during the morning (08:00-09:30), noon (12:00-13:30) and evening (17:00-18:30) periods. Equivalent continuous noise levels were determined with the measurement results and maps were created using the Surfer (Trial Edition) program. As a result of noise level measurements, the quiet area limit value of 55 dB(A) according to World Health Organization (WHO) was exceeded at all points, and the noise level limit value of Leq 65 dB(A) was exceeded at nine points. In addition, in terms of traffic noise, it was observed that the limit value of 70 dB(A) of TNI according to WHO was exceeded at 19 measurement points. It has been determined that traffic is the main factor contributing to noise pollution on campus. The noise measurements conducted revealed that human density, traffic, and times were beneficial in lowering the shift in noise. Consequently, it has been established that environmental noise in university campus areas, which is a sensitive area, is quite significant in some places. For this purpose, settlement and noise management/mitigation plans should be created within the campus by utilizing the noise maps.

Key words: campus of Sivas Cumhuriyet University, equivalent noise levels, noise mapping, noise pollution, traffic noise index

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[*] Author to whom all correspondence should be addressed: e-mail: sercins@cumhuriyet.edu.tr; Phone: +903464875487; Fax: +903462191265