



Selection of regression model for prediction of maximal daily pavement temperatures at Awbari in Libya

Zagorka Lozanov-Crvenković

Department of Mathematics and Informatics, Faculty of Sciences,
Novi Sad University, Novi Sad, Serbia – zlc@dmi.uns.ac.rs

Emilija Nikolić-Đorić*

Department of Agricultural Economics and Rural Sociology, Faculty of
Agriculture, Novi Sad University, Novi Sad, Serbia – emily@polj.uns.ac.rs

Hassan Awadat Salem

Department of Civil Engineering, Faculty of Technical Sciences, Novi Sad University,
Novi Sad, Serbia, has712002@zahoo.co.uk

Bojan Matić

Department of Civil Engineering, Faculty of Technical Sciences, Novi Sad University,
Novi Sad, Serbia, bojan.matich@gmail.com

Abstract

This paper presents a part of the research undertaken to develop models to predict high and low asphalt pavement temperatures in the Libya. A pavement monitoring station was set-up at several locations in Libya, to monitor air and pavement temperatures at different depths, wind speed and solar radiation. Daily minimum and maximum temperatures were recorded. Regression analysis was used to develop models for maximal daily pavement surface temperature, using maximal daily air temperature, day of the year, wind speed and solar radiation as predictors. Several criteria are used for selection of the best model. Results were compared with existing SHRP and LTPP models.

Keywords: Pavement temperature, model selection, Cross-validation, Mallow's Cp, R^2 adjusted.