

Rainfall Trend Analysis using Box Plot Method Case Study: UMP Campus Gambang and Pekan

Nadiatul Adilah, A. A. G^{a,b,*}, Mohammad Zarif, M. U^c

a Researcher, Earth Resources & Sustainability Centre (ERAS), Universiti Malaysia Pahang,
26300 Kuantan, Pahang, MALAYSIA

b Lecturer, Faculty of Civil Engineering & Earth Resources, Universiti Malaysia Pahang,
26300 Kuantan, Pahang, MALAYSIA

c Student, Faculty of Civil Engineering & Earth Resources, Universiti Malaysia Pahang,
26300 Kuantan, Pahang, MALAYSIA

*Corresponding Author: nadiatul@ump.edu.my

Abstract:

Climate change leads to changes in precipitation. This phenomenon has already begin to transform rainfall pattern in Malaysia. Rainfall data, temperature data, and evaporation data are collected and recorded monthly to display the relationship between rainfall, temperature, and evaporation to determine the pattern of hydrologic cycle. The relationship obtained, would also display the weather pattern at campus Universiti Malaysia Pahang (UMP) in Gambang and Pekan. By monitoring of the weather conditions, it can help in controlling the activity in the UMP. Besides, weather data is very important in our life as the rainfall is an important consideration in design runoff conveyance and erosion control. Changing trend in rainfall distribution also gives an effect on hydrological analysis especially related to historical rainfall record. Box-plot method is employed to determine the rainfall trend of hydrologic cycle. It is shown that the rainfall data that was collected that the rainfall event differs every year, as an example for 2016, a total of 1982.9 mm was collected and year after it decreased sharply to 994.7 mm in 2017 and for 2018 raised slightly to 1020.9 for UMP Pekan. Whereas for UMP Gambang, 1072.8 mm in 2016, and also decreased slightly to 972.5 mm in 2017 and in 2018 increased to 1309.8 mm. It shows that each year trend of rainfall for each UMP campuses had change.

Keywords : Weather Station; Universiti Malaysia Pahang; Hydrological Data; Rain Gauge Data; Box-Plot

Acknowledgment

The authors gratefully acknowledge the University Malaysia Pahang for granting this research project which the vote number is RDU170344.