CHAPTER 1

INTRODUCTION

1.1 Background of Study

Studies on rainfall behaviour have attracted a lot of attention from scientists throughout the world. Previous studies have been carried out to investigate the changes in rainfall pattern temporally and spatially. Some findings indicate significant positive trends in rainfall. Which is in recent years, several extreme and drought events have been reported in Malaysia. For example, an extreme rainfall event from 9 to 11 December 2004 caused severe floods over the east coast of Peninsular Malaysia (Juneng et al. 2007). In addition, due to the cold surges of the northeast monsoon, abnormally heavy rainfall occurred in the southern part of Peninsular Malaysia for several days in late December 2006 and in the middle of January 2007, causing massive floods in the region (Malaysian Met. Department 2006, 2007).

Referring to Tangang et al. (2008), the influences from the Borneo vortex, the Madden-Julian Oscillation, and the Indian Ocean Dipole also play an important role in contributing to the massive floods during those periods. On the other hand, Malaysia also experienced numerous drought occurrences with the most significance one in the 1997/98 El Niño, which had an extensive impact on the environment and social activities across the whole nation. Some parts of the nation were threatened by extensive wild forest fire due to prolonged dry weather conditions. These events have raised concern in researches on the behaviour of daily rainfall such as the frequency of wet days, the mean intensity of rain during wet days, the mean amount for extreme events, and the mean lengths of wet and dry spells, which have gradually changed over the years, possibly due to global climatic change.
This present study intends to provide a trend analysis of the behaviour of seasonal rainfall in Peninsular Malaysia over the past 30 years. This includes giving details of the spatial description of several rainfall indices such as the total amount of rainfall, frequency of wet days, rainfall intensity, and the extreme indices that have been considered in the study.

1.2 Problem Statement

Minor activity is influenced by weather conditions, monitoring of weather conditions can help in controlling the activity. The weather change is not same at the Tasik Chini area and the nearest place it is important to monitor and study the pattern of weather at surrounding the hydrological data is needed. These differences can be monitored by the Hydrological station at Tasik Chini. Besides that, whether condition will give influence to the flow of river nearby.

1.3 Research Objective

The objectives of this study are as following:

i. To identify the trend of rainfall pattern at Tasik Chini.

ii. To identify the flow rate and amount of rainfall at station Kampung Melai, Tasik Chini.

1.4 Scopes of Study

Some of the scope of the study should be conducted to ensure that the objectives are met. The scopes were:

i. Develop rainfall pattern at selected JPS hydrological station in Tasik Chini.

ii. Analyse the rainfall data from selected JPS hydrological station and data collected using rain gauge at Kampung Melai, Tasik Chini.

iii. Analyse the stream flow pattern at Sungai Jemberau and Sungai Chini in Tasik Chini.
1.5 Significant of Study

From this study, the future researchers can understand relationship between rainfall pattern and flow rate at Tasik Chini. The rainfall pattern, humidity and others data were collected by rain gauge at Kampung Melai can be used as a reference for researcher since there is no weather station in Tasik Chini. Besides, the data obtained from Department of Irrigation and Drainage (DID) and Department of Surveying and Mapping (DSM) from previous year can be used to observe the trend of changing patterns of rainfall and river flow.