

# **MODELLING OF CHAOTIC HYDROLOGICAL TIME SERIES**



**FEBRUARY, 2009**

Tarikh : 21 Feb 2009

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**LAPORAN AKHIR PENYELIDIKAN “Modelling of chaotic hydrological time series”**

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## PENGHARGAAN

Setinggi-tinggi penghargaan dan ribuan terima kasih diucapkan kepada semua pihak yang terlibat secara langsung dan tidak langsung bagi membolehkan penyelidikan ini disiapkan dengan sempurna.

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## ABSTRACT

Nonlinear time series analysis and chaos theory are discussed as an alternative research on the prediction of hydrological data. In this paper, a non linear time series model is use to analyze the daily mean flow collected from the three gauging stations i.e. Sungai Yap at Sungai Pahang, Sungai Batu at Sentul and Sungai Gombak at Jalan Tun Razak. The procedure such as average mutual information, false nearest neighbor, reconstruction of phase space, recurrence analysis and the nonlinear prediction method were all applied to the data from the gauge. The results suggest that the data representing the behaviour of streamflow may be nonlinear and chaotic in nature. It has shown promising results of short-term forecasts of streamflows.

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