

## PEMETAAN KEPEKATAN METANA DI SEMENANJUNG MALAYSIA (A Mapping of Methane Concentration in Peninsular Malaysia)

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### ABSTRAK

Pemanasan global merupakan masalah persekitaran yang amat serius di negara maju dan juga di negara yang sedang membangun. Antara punca utamanya ialah peningkatan gas rumah hijau. Gas metana merupakan satu daripada gas rumah hijau yang berupaya memerangkap haba 21 kali ganda lebih berkesan berbanding dengan karbon dioksida. Objektif kajian ini adalah untuk membuat peta kepekatan gas metana di Semenanjung Malaysia, membandingkan perubahan kepekatan gas metana mengikut bulan dan menentukan lokasi yang mempunyai kepekatan metana yang tertinggi berdasarkan data tahun 2009. Hasil kajian ini menunjukkan lokasi kepekatan metana yang tertinggi adalah di utara negeri Perak; sekitar Klang di Selangor dan Pengerang di Johor. Kajian ini juga mendapati lokasi yang mempunyai kepekatan metana yang tinggi tidak banyak berubah mengikut masa.

*Kata kunci:* analisis data ruang; pemanasan global; metana; kriging; semivariogram

### ABSTRACT

Global warming is a very serious environmental problem in developed and developing countries. It is caused by the increased of greenhouse gases. Methane gas is one of the greenhouse gases that can trap heat 21 times more effective than carbon dioxide. The purpose of this study is to map the methane concentration for Peninsular Malaysia, compare the methane concentration as it changes over the months and determine the locations which have the most methane concentration based on the year 2009 data. The study shows that the highest concentrations of methane occurred in northern part of Perak, around Klang in Selangor and Pengerang in Johor. The study also found that locations of high concentration of methane do not change over time.

*Keywords:* spatial data analysis; global warming; methane; kriging; semivariogram

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