Analysis of the Relationship Between Ambient Levels of O₃, NO and NO₂ as a Function of NOx in Kemaman, Terengganu, Malaysia.

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Abstract
Ozone (O₃) is a secondary pollutant and its variation correlates well with nitrogen oxides [NO(x) = NO + NO₂]. The formation of ground level ozone also depends on the intensity of solar radiation. Controlling the precursors substantially reducing the amount of ozone formation in atmosphere as the increasing ozone concentration gives negative effects to human health and animals. This study aims to investigate the relationship between the ambient concentration of precursors (NO, NO₂ and NOx) with the ozone formation in Kemaman, Terengganu. Correlation between solar radiation intensity with the ozone distribution was also investigated using hourly averaged data of NO, NO₂, NOx, O₃ and solar radiation intensity from January 2000 to December 2010. There exist a strong positive relationship between ozone and solar radiation intensity during the period of study. Result also shows that the diurnal cycle of ground level ozone concentration has mid-day peak while lower concentration occurs at nighttime.

Keyword: ground level ozone, solar radiation intensity, diurnal cycle, Kemaman