Active fire and hotspot emissions in Peninsular Malaysia during the 2002 burning season

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Abstract

Thermal emissions from vegetation fires in Peninsular Malaysia as monitored by the National Oceanic Atmosphere Administration (NOAA) satellite during the burning season from February to March 2002 had showed that the states of Perak, Selangor and Pahang exhibited higher burning activities compared to other states. The hotspots displayed patterns of clusters that were variable temporally and spatially. Incomplete and uncontrolled vegetation burning can be a potential polluter to the surrounding atmosphere. Estimates of the emissions and dispersion of pollutants such as particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide and non-methane hydrocarbons were investigated. The emission estimates showed that comparatively, carbon monoxide ranked as the highest polluter, followed by particulate matter and non-methane hydrocarbons. Estimates of the greenhouse gases showed that carbon dioxide was much higher than either the emissions of nitrous oxides or methane.

Keywords: greenhouse gases, hotspots, particulates, pollutants, thermal emissions, vegetation fires