Particulate matter dispersion and haze occurrence potential studies at a local palm oil mill.

ABSTRACT

The emissions from palm oil industry through incineration and open burning are the major sources of air pollutions contribution in Malaysia. The consequence of increasing the particulate concentration, the particulate matter dissolves with vapour and grows into droplets when the humidity exceeds approximately 70% and causing opaque situation known as haze. This work focuses on the dispersion particulate matter from palm oil mill. Gaussian Plume Model from a point source, subject to various atmospheric conditions is used to calculate particulate matter concentration then display the distribution of plume dispersion using geographic information system. Atmospheric Stability, mixing height, wind direction, wind speed, natural and artificial features play an important role in dispersion process. Study on the dispersion of particulate matters and the haze potential are presented as a case study in this paper. The data obtained will be served as the purpose of modeling the transport of particulate matter for obtaining permits and prevention of significant deterioration to the environment.