

The effects of improved land use on the meteorological modelling in Klang Valley region Malaysia.

ABSTRACT

It has been widely known that changes of the land surface from vegetation area to urban area can substantially affect the surrounding meteorological condition. Meteorological model was used to assess meteorological condition for air quality modeling and forecasting. Inputs used in this study for the meteorological and air quality model were land use and land cover of the terrain. This study tends to examine the sensitivity of land use and land cover on the predicted meteorological conditions. A meteorological simulation using fifth generation mesoscale model (MM5) by Penn State/NCAR was used to compare the effects of land use from two different years on meteorological condition. The predicted meteorological conditions were then compared with the respective monitoring station onsite. Results showed there is an improved of surface wind speed and temperature simulated using improved land use map. Findings suggest land use map should be taking into consideration in historical meteorological fields to access future air quality if the area of study expects large changes in land use pattern.

Keyword: Meteorological modeling; Land use; MM5; Urban.