UNIVERSITI TEKNOLOGI MARA

MICROCLIMATIC EFFECT ON DENGUE FEVER OUTBREAK

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Thesis submitted in fulfillment
of the requirements for the degree of
Bachelor Science of Geomatics

Faculty of Architecture, Planning and Surveying

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AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Under Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Dengue fever has escalates around the world in recent decades and the number of cases rise up year by year. Vegetation and temperature could be the possible factors of the dengue transmission due to microclimatic effects. Remote Sensing technique with the indices technique is found capable to monitor the dengue due to microclimatic effects. Another factor that may contribute to the growth of dengue fever outbreaks is urbanization. Urbanization provided the ideal ecology for these mosquitoes referring to the increased density of populations as people flock to cities in search of employment. Thus, the aim of this study is to determine microclimatic effect on dengue fever outbreak based on the relationship between vegetation (NDVI), Land Surface Temperature (LST) of Remote Sensing satellite image and dengue at Kedah and Penang from year 2010 to 2014 during North-East Monsoon. The objectives are to identify vegetation changes based on NDVI, to quantify temperature based on LST and to determine relationship between NDVI, LST and dengue fever outbreak. The strong relationship found between number of dengue cases and climatic factors which are NDVI and LST. It can be concluded that climatic conditions have a strong influence on dengue outbreak.

Keywords: microclimate, dengue, vegetation, temperature, relationship

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