

ORIGINAL ARTICLE

# Application of Geographic Information System for Dengue Hemorrhagic Fever Surveillance in Tangsai, Warinchamrab, Ubon Ratchathani Province in 2010

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## Abstract

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The purposes of this research was to make use of the geographic information system (GIS) for Dengue Hemorrhagic Fever (DHF) Surveillance. The survey was divided into 3 periods: the pre seasonal outbreak (January-April 2010), the seasonal outbreak (May-August 2010) and the post seasonal outbreak (September-December 2010). Larval vectors surveys of water containers both inside and outside residences were conducted by means of a Global Positioning System (GPS). DHF indices including the house index (HI), the container index (CI), and the breteau index (BI) were analyzed. The DHF risk areas identified via a GIS program showed the boundary of the breeding areas of *Aedes aegypti* within 30 or 60 meters from the household where larva were found.

The results showed all three periods had a moderate risk level (BI 6-49). GPS is an alternative method for predicting mosquito breeding sites and can be used for decision-making, surveillance, and the epidemiological control of DHF.

**Keywords:** geographic information system, dengue hemorrhagic fever, surveillance