

Determining and mapping of vegetation using GIS and phytosociological approach in Mount Tahan, Malaysia.

ABSTRACT

The study on lowland tropical forest plants is complicated by the extreme species diversity, very complex plant mosaic and time constraints. These impediments however do not occur in mountain forest, where habitat diversity is clearly distinguished by small homogenous plants types. Plant association and composition study were presented in this work from two locations of Mount Tahan, Malaysia the relatively untrampled and the trampled site. In each site, plant species number, vegetation cover, plant height, and species cover and frequency in untrampled and trampled areas were counted or measured. The analysis included a field survey following the relevance method of Braun-Blanquet and mapping using a GIS. The study focused on altitudinal distribution of specific plants communities located between 1900 m and 2140 m altitude. The data from field survey were mapped and analyzed in GIS. The phytosociological classification revealed that untrampled areas in Botak and Puncak sites were high in species more diversified communities compared to the trampled areas. The results showed that *Leptospermum flavescens* was the dominant species most in both sites (Botak and Puncak), with 48%, specifically at the untrampled site. The abundance class and sociability value are also high for this species with score 4.5 out of 5, respectively. A total number of trees in the area probably play an important role in quantifying the species richness and diversity parameters. From the study it can be concluded that GIS technique useful in developing a tree mapping system and creating a geo-database for spatial analysis. Further studies are recommended to integrate more data into the system for better evaluation.

Keyword: Mount Tahan; Plant association; Phytosociological; GIS; Mapping.