ABSTRACT

Thesis Title : An Analysis of the Relationship between Deforestation and Changes in Temperature, Relative Humidity and Rainfall in Northern Thailand

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Major : Geography

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This analysis of the relationship between deforestation and changes in temperature, relative humidity and rainfall in Northern Thailand examines the relationship between all variables and identifies areas where critical changes occur. The study is divided into two periods: 1973 -1979 and 1980 - 1989. Two methods are used in data analysis: statistical analysis by Pearson's correlation coefficient and spatial analysis by indexing overlay method in SPANS program.

In the first period, data revealed that deforestation was associated with changes in temperature, relative humidity and rainfall. With decreased forest areas, temperature increased whereas relative

humidity and rainfall became lower. As for the spatial analysis, it was found that in the first period, areas of highly critical changes in temperature, relative humidity and rainfall were in the lower northern region. In the second period, the analysis of the relationship indicated that deforestation correlated with average temperature. However, no relationship between deforestation and relative humidity and rainfall was found. This was due to the fact that there were more factors involved and the rate of deforestation in the second period was much lower. Consequently, the relationship was not clearly defined. In the 1980's, areas of highly critical changes in the three meteorological elements were in the middle of upper Northern Thailand.