

## ABSTRACT

Thesis Title : Floods and Flood Prone Areas in Changwat  
Phra Nakhon Si Ayutthaya  
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Degree Sought : Master of Science  
Major : Geography Academic Year 1997  
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This study of floods and flood prone areas in Changwat Phra Nakhon Si Ayutthaya aimed to investigate the geographic characteristics, location and landform of the flooded areas, factors associated with floods and consequent damages ; to analyze flood prone areas and to make maps showing levels of risk areas in the province for appropriate landuse planning. A study of landform and frequently flooded areas by topographic maps and satellite images found that, in general, areas of the province were lowland with an average of 3-6 meters above sea level and that the areas which were flooded frequently were along the river banks.

A regression analysis of factors related to floods using flood occurrence as dependent variable and high runoff, rainfall in the central and northern regions, storms and population as independent variables revealed that high runoff and population had an effect on floods in Changwat Phra Nakhon Si Ayutthaya.

An analysis of flood prone areas by geographic information system, with overlay technique, including contours, waterways, roads, landuse, rainfall with a return period of 5, 20 and 100 years, showed that 34.75, 38.72, 20.71 and 5.82 percent of the province's area were classified as high, moderate, low and no risk areas respectively. Included in the high risk areas were 406,943 rais of rice field and 101,071 rais of residential areas in Sena Municipal Area, Amphoe Maha Rat, Amphoe Ban Phraek, Tha Rua Municipal Area, Tha Luang Municipal Area, areas surrounding the urban island and areas along major rivers. The results of this study can be used in appropriate landuse planning to reduce flood risk.