C015483 : MAJOR CIVIL ENGINEERING
KEY WORD : TROPICAL CYCLONES/RAINFALL PATTERNS/FLOOD DAMAGE

WIKIT CHAIVIJARN : RAINFALL PATTERNS OF TROPICAL CYCLONES CAUSING FLOOD DAMAGE IN NORTHEAST THAILAND. THESIS ADVISOR : DR. SUTAT WEESAKUL, ASST.PROF. SUCHARIT KOONTANAKULVONG, Ph.D., 206 PP.
ISBN 974-581-773-2

This study aims at the study and analysis of the past data on tropical cyclones and rainfall which were related to flood occurence during the year 1976-1990. The data collected are tropical cyclones and daily rainfall. The study covers the flood characteristics and the relationship of tropical cyclones, rainfall distribution and flood occurence in order to understand the past flood phenomena.

The results showed that out of 138 tropical cyclones passing through Indo-china and Malaya peninsula (between latitude 0-25°N and longtitude 90-115°E), only 23 cyclones passed through Northeast area. The total number of cyclones causing flood during the study period were 20, i.e., 1-2 cyclones in average in each year. The cyclones causing flood were originated from South China Sea and Pacific Ocean in the percentage of 60 and 40 respectively. Most of cyclones originated in August and next were in September and October. There was no cyclone originated in July.

In the study, cyclones routes can be classified into 4 groups which induced different rainfall patterns i.e. Route 1, 2, 3, 4 covered the central to upper part, upper part, central part and lower part of the study area and usually occurred in June, August, September and October respectively. The cyclones induced rain to fall in most of the area for 3-5 days and usually caused rain to fall before the cyclone reaching the region for 1-2 days. It can be concluded that the total rainfall distribution is corresponded with cyclone route and the rain intensively fall in the south region of cyclone center. The average total rainfall caused by each route are 35-140 mm. while the area of total rainfall above than 90 mm. are 35-90% of the total study area respectively. The cyclone route 3 induced comparatively more rain because its route passed through the center part of the study area. The stronger cyclones reaching Vietnam coastline will give more the amount and wider area the rain fall in the study area.