

CHAPTER 3

STUDY SITE

3.1 Location and History

Phu Hin Rong Kla National Park covers an area of 307 square kilometers. It is located in Phetchabun mountain range. It is bounded on the north by Chaiburi District, Laos PDR and extended south to Lom Sak District in Phetchabun Province. The park is also a natural border between Nakhon Thai District in Phitsanulok Province and Dan Sai District in Loei Province. It is marked out approximately by the geographical coordinates of 16° 53' to 17° 07' north latitude and 100° 56' to 101° 06' east longitude (Figure 3.1).

In the past, Phu Hin Rong Kla used to be a battlefield between Thai soldiers and the guerrillas, member of the Thai communist party who had different principal. During 1968-1972, Phu Hin Rong Kla was a major base for the communists, who threatened the political stability of the nation. In 1972, government forces began the military operations at Phu Kwang, then at Phu Hin Rong Kla in an attempt to expel the communist insurgents. Primarily, the government forces were unsuccessful, because of the strong natural forte of Phu Hin Rong Kla, which set high up in the mountains amidst dense forests. The army changed its battle plan after initial setbacks and eventually defeated the communists with less bloodshed (การท่องเที่ยวแห่งประเทศไทย, 2543).

The general topography of the park is steep mountains in the south, the east and the west. Whilst mountain is gradually inclined to the north. The mountain range includes the important peaks of Phu Miang, Phu Paeng Ma, Phu Lomlo, Phu Khi Thao, and Phu Hin Rong Kla. It reaches its highest peak at 1,800 metres above mean sea level at Phu Mahn Khao. The park is the water source of many streams, including Huay Nam Sai, Huay Nam Kamuen, Huay Awm Singh and Huay Luang Yai (การท่องเที่ยวแห่งประเทศไทย, 2543).

Phu Hin Rong Kla is noted for its natural beauty, especially its magnificent waterfalls. It is covered by greenery all year round, probably nurtured by hidden waterfalls in the deep forest where the climate is always cool. Two of the famous waterfalls are the Rom Klao-Paradon (Fig. 5.7) and Man Daeng (Fig. 5.4, 5.6). The former is about 600 meters from the relic political school and the Hin Nam Cave. It is surrounded by colorful wild flowers, which reflect the fertility of the forest. Man Daeng waterfall has 32 distinctive tiers surrounded by a variety of wild orchids and

ferns. It is also a natural site of maple tree, which change their leaves color in November and December, adding a dash of red and yellow to the lush greenery. The waterfall is located at altitude ranging from 1,200 to 1,600 m above mean sea level and about 18 km on a road from the park headquarter to Lom Kao District and need to walk 3.5 km further along a forest trail through the hill evergreen forest (Fig. 5.2, 5.3, 5.5).

Due to its outstanding geological features of rock platforms and a place of the very beautiful scenery of the fertile forests, which has made Phu Hin Rong Kla became a tourist attraction. Then the park was established in 1984, becoming Thailand's 48th National Park (Fig. 5.1).

3.2 Geology and Edaphic structure

In general, Rocky mountains in the park belong to rock of the Korat group such as the Phu Phan formation. The rocks are similar to those of Phu Phan range in Sakol Nakhon Province. The soil is originated from residuum and colluvium, parent rocks include sandstone, limestone, shale, quartzite. It is rather varied from site to site due to slopes of each site and types of rock. Mainly, soil is a slope complex, deriving from erosion of parent rocks. It is generally found in the mountains and steep areas. Hang Chat and Satuk soils are two common soil units of the park (กรมป่าไม้, 2541).

3.3 Climate

The climate of the area is a tropical climate, with average high temperatures year round and a distinct dry season. Three seasons were observed, i.e. the summer season during March-April, the rainy season during May-October, and the winter season during November-February (Meteorological Department, 2002). The Lom Sak Climatic Station in Phetchabun Province is the nearest station. It is marked out approximately by the geographical coordinates of 16° 46' north latitude and 101° 15' east longitude.

The climatological data during 1972-2002 (Figure 3.2) shows the average annual relative humidity was about 73%, while the average maximum relative humidity was 89% and the average minimum relative humidity was 51%. The average annual temperature of 26.8 °C. The average maximum temperature was 36.4 °C in April and the average minimum temperature was 16.8 °C in December. The average annual rainfall was 1051.1 mm. The highest average annual rainfall, of approximately 197.2 mm, was observed in August. The lowest annual rainfall, of about 4.5 mm in January, and a few rainy days were observed in December, which is the driest month.

3.4 Vegetation

The vegetation of Phu Hin Rong Kla National Park includes mixed deciduous forest, dry dipterocarp forest, dry evergreen forest, and hill evergreen forest (กรมป่าไม้, 2541).

3.4.1 Dry dipterocarp forest can be found on mountain slopes at an elevation of 600 m or below. Small trees and stunted trees are commonly found in this forest type. Characteristic trees include *Dipterocarpus tuberculatus*, *Dipterocarpus obtusifolius*, *Pterocarpus macrocarpus*, *Shorea obtusa*, *Shorea siamensis*, *Albizia odoratissima* and *Phyllanthus emblica*, etc (กรมป่าไม้, 2541).

3.4.2 Mixed deciduous forest can be found in strips next to dry evergreen forest. This type of forest has been severely deforested. Some residual trees include *Pterocarpus macrocarpus*, *Xylia xylocarpa*, *Morinda pubescens*, *Milletia brandisiana*, *Bauhinia malabarica*, *Careya spherica*, *Terminalia chebula*, etc (กรมป่าไม้, 2541).

3.4.3 Dry Evergreen Forest used to be found at altitudes ranging from 300 to 800 m. but this forest type was completely cleared at present. The remnants include *Lagerstroemia macrocarpa*, *Irvingia malayana*, *Mangifera coloneura*, *Anisoptera costata*, *Alstonia scholaris*, etc (กรมป่าไม้, 2541).

3.4.4 Hill Evergreen Forest is found above 1,000 m altitude. It is rather fertile as compared with the other forest types. Characteristic tree species include *Calophyllum polyanthum*, *Knema globularis*, *Elaeocarpus sphaericus*, *Cinnamomum iners*, *Cinnamomum tamala*, *Toona ciliata*, *Michelia baillonii*, *Castanopsis acuminatissima*, *Castanopsis echinocarpus*, *Lithocarpus elegans*, *Quercus kingiana*, etc. In some fire prone areas where the forest is rather open, *Pinus merkusii* and *Pinus kesiya* are usually found mixed with some members of the oak family, Fagaceae (กรมป่าไม้, 2541).

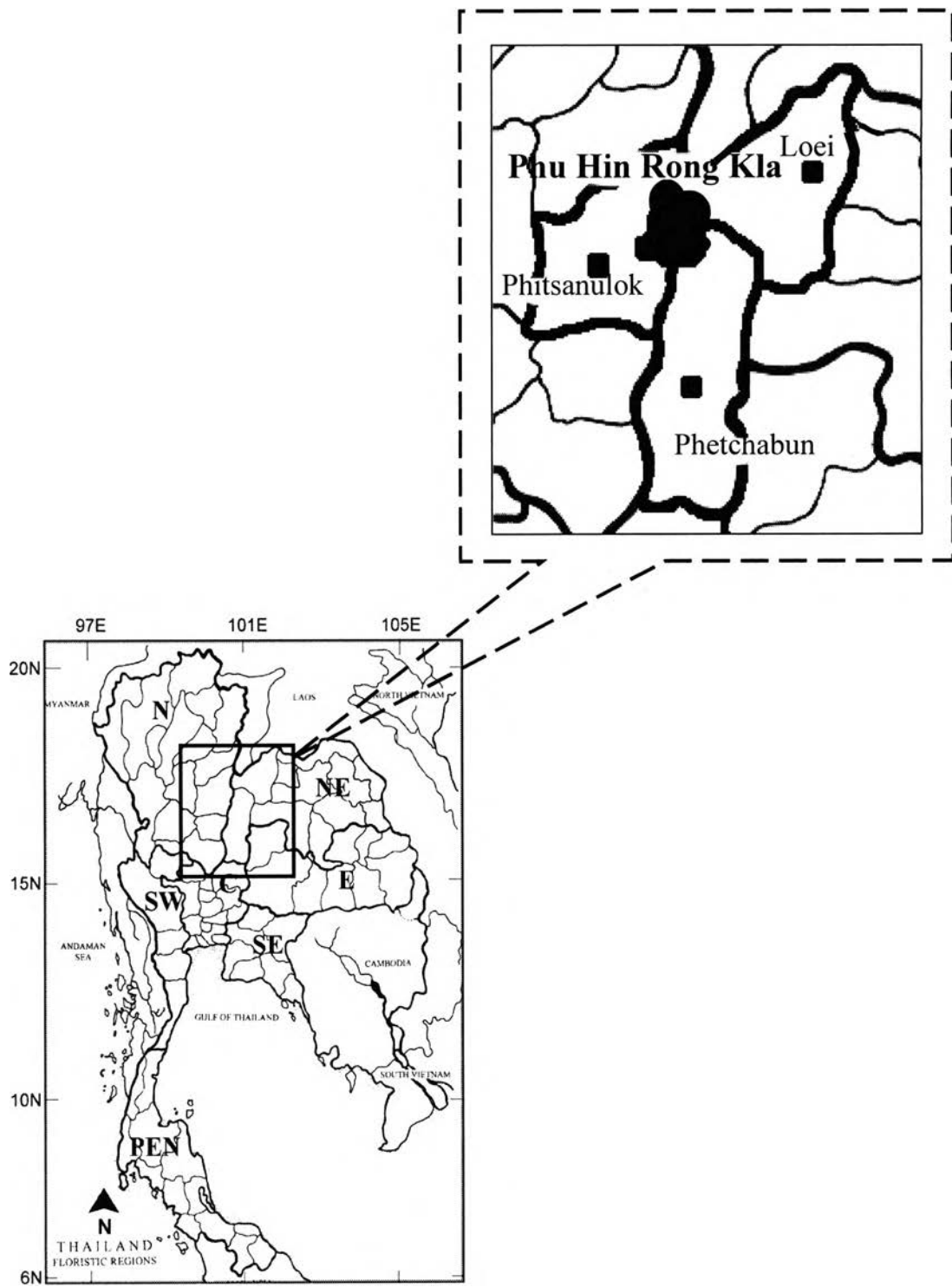


Figure 3.1 Location of Phu Hin Rong Kla National Park.

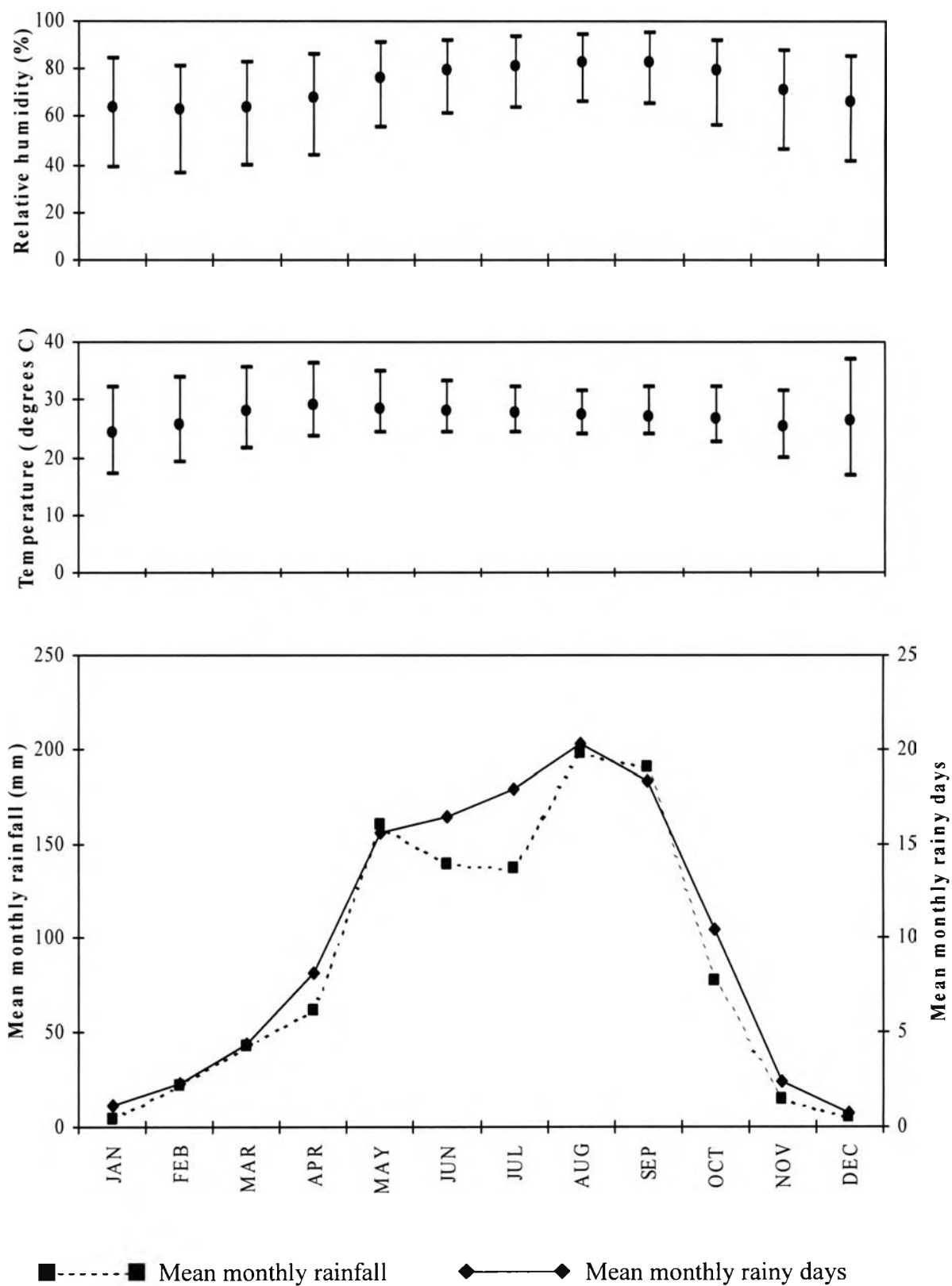


Figure 3.2 Climatological data during the period, 1972-2002, from Lom Sak Station (Data from the Department of Meteorology, Bangkok, Thailand).