

**Observed Impact of Climate Variability on Rubber (*Hevea brasiliensis*) Productivity
in Songkhla Province, Southern Thailand.**

Kunakorn Makkaew¹, Sayan Sdoodee^{1*} and Atsamon Limsakul²

ABSTRACT

Recent evidence has revealed anomalous fluctuations of climate in the southern Thailand, particularly in the Songkhla province where is one of the major rubber plantation areas. Therefore, the effects of climate variations on rubber productivity were investigated. The study was conducted in the 4 rubber plantation sites all situated in Hat Yai district, Songkhla province where rubber clone RRIM600 was grown. Rainfall and evaporation data measured at the station in Hat Yai district during 1982-2011 were analyzed. The results showed that the annual rainfall totals increased significantly at the rate of 28.70 mm/year. Likewise, the annual number of rainy days has a significant increasing trend of 0.77 days/year. During May 2008-March 2012, annual rainfall total and the annual number of rainy days tended to be higher. Particularly in 2011, there was exceptionally high rainfall amounts occurred during summer period leading to twice leaf-defoliations. This climate fluctuation also caused a delay of tapping. During April 2009-March 2012, the accumulated dry rubber yield per year tended to decrease, whereas annual rainfall totals and the annual number of rainy days increased. This may indicate that increasing rainfall amounts with higher rainy days cause a decrease in tapping days per year resulting in the reduction of rubber productivity.

Keyword: climate variability, dry rubber yield, rainfall, rainy days, tapping days

1 Department of Plant Science, Faculty of Natural Resources, Prince of Songkla University, Songkhla Province 90112, Thailand.

2 Environmental Research and Training Center, Technopolis, Klong 5, Klong Luang, Pathumthani 12120, Thailand

* Corresponding author, e-mail: sayan.s@psu.ac.th