

Climate conditions can be estimated and predicted from the variability and relationship of the environmental variables such as temperature, pressure, wind velocity, updraft or downdraft, humidity and topography.

NCEP data in the domain of 0-40° N latitudes and 90-130° E longitudes were analyzed to estimate the weather conditions especially heavy rainfalls in the northern and the north-eastern parts of Thailand during August 10-13, September 2-5 and October 5-8, 2001 by means of GrADS and LASG-REM Eta Model.

Weather conditions of low level convergence with high level divergence and strong updraft with high humidity were found to be the favorable conditions for heavy rainfalls according to other previous works. Predicted climatic variable from the model for 12 and 24 hrs are close to NCEP data in the same period. The predicted maximum rainfall in the region are 137 mm in Tak province during August 10-13, 2001.