

USING LiDAR DETERMINING THE HEIGHT OF TREE AND FOREST CANOPY FOR ESTIMATING THE CARBON STOCKS FOR REDD PROGRAM

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Abstract: REDD Programme was built up by United Nations Collaborative initiative on Reducing Emission from Deforestation and Forest Degradation (REDD) in developing countries like Thailand. This particular program would support the partner countries for conserving, measurement, reporting and verification of carbon emissions and stock in forestry area. Actually, the Airborne LiDAR and Airborne Digital Sensor can be applied for estimating the carbon stocks in Natural Park. This technology provides the accurate height of the tree, canopy characteristics and canopy area of each of trees in study area. In this research, the height of tree and canopy area were derived from LiDAR and Aerial Photograph to estimate the carbon stock by using the multiplicative equation and examined the accuracy by comparing the field based information and the predicted results from calculation. Furthermore, the LiDAR and the set of Aerial Photographs can be utilized for calculating carbon stock by using the amount of biomass in existing biomass stocks which calculating from inventory database. Moreover, this mapping technology can determine the land use change and the use of forest directly and more accurate than other technology. As a results, the LiDAR can be used effectively for providing the better information for Carbon Stock calculation and providing more accurate results for carbon stock inventory in Natural Park.

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