

MAPPING FOREST COVER IN COSTA RICA: A COMPARATIVE CASE STUDY FOR THE LA AMISTAD-CARIBE CONSERVATION AREA

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This study is intended to offer insights on forest cover trends in Costa Rica, aiming to improve monitoring mechanisms and to conduct a spatially detailed forest cover assessment in the future. Using very high spatial resolution aerial orthophotos and an object-based classification method I create a land use/ land cover map that encompasses small scale forest cover (< 3ha) for La Amistad-Caribe Conservation Area (ACLA-C) located in the Northern Atlantic region of Costa Rica, for the year 2005. Next, in order to assess the potential effects of mapping land cover at different spatial scales, I compare the resulting classification with the Costa Rican official national forest cover assessment for the year 2005 created from Landsat 7 ETM+ imagery. Results from my classification indicate a highly heterogeneous landscape in the northern region of ACLA-C characterised by fragmented forest, agroforestry, tree plantations, and pastures. Even though the results reveal a low divergence between my baseline map and the national forest classification in terms of total forest area, they also reveal 3,100 ha of unmapped forest below 3 ha and an underestimation of the deforestation class by 98 percent by the official cover assessment within ACLA-C. This study emphasizes the importance of integrating small scale land use change in forest cover assessments to more accurately estimate rates and areas of deforestation, forest fragmentation and forest cover.