MONITORING THE MESOAMERICAN BIOLOGICAL CORRIDOR USING MULTI-SCALE AND MULTI-TEMORAL REMOTE SENSING

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ABSTRACT

The Mesoamerican region stretches from southern Yucatan, Mexico through Panama. In 1999, the University of Maine, NASA-Global Hydrology and Climate Center and NASA- Jet Propulsion Lab teamed with the Central American Commission on Environment and Development (CCAD), representing natural resources ministries from seven Central American countries, to initiate land cover/land use change research in the region. The NASA/CCAD Memorandum of Understanding enveloping the research program is focused on improving regional monitoring and analysis of environmental condition of the Mesoamerica Biological Corridor. The paper addresses the development of a regional monitoring system using multi-scale and multi-temporal MODIS and Landsat-TM data. A composite, mosaic MODIS data set was compiled from 250 m imagery collected in the 2001-2002 dry season (January – April). The MODIS data was classified into forest and other level 1 cover types using validated forest cover maps developed from Landsat-TM classifications covering 25% of the region. Results of the MODIS forest mapping are discussed. Comparisons of forest cover, forest change, and forest fragmentation between MODIS and TM data sets, focused on the protected areas of the Mesoamerican Biological Corridor, sheds some light on the feasibility of MODIS for regional forest monitoring.