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Enhancing Global Observations And Information On Tropical Forest Change Using Landsat Global Data

This proposal responds to the second component of the solicitation referred to as Landsat component. Our focus is on producing phase III MDGLS products that measure the rate and geographical extent of forest cover change in the tropics. We cover the period 1990 to 2005 using Landsat data analysis to estimate global rates of deforestation as well as regeneration and degradation. This proposal is framed in the concept of monitoring changes in LCLUC over large continental areas at high spatial resolution. The work we propose is an extension of many years of prior work that has enabled Landsat to become a truly global mission instrument. We propose to develop a multiple methods approach using a combination of techniques for quantification of the full suite of forest cover disturbances in the tropics. These include the development of a Tropical Forest Cover Continuous Fields product at 30 meter resolution using a combination of MODIS-VCF and Tasseled Cap Transformation of Landsat data. This product is enhanced with a Disturbance Index product and a Forest Fractional Cover product. Combined these analyses allow detection and measurement of outright deforestation and various levels of degradation, such as from logging. We will also produce from 2000 to 2005 annual estimates of tropical forest cover change. Information will be distributed through the Tropical Rain Forest Information Center.