

TEMPORAL ANALYSIS OF LANDSAT SATELLITE IMAGERY FOR LAND COVER CHANGE TRACKING IN SOUTHEASTERN GEORGIA

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ABSTRACT

We discuss in this presentation detection of land cover changes and disturbance tracking based on analysis of multi-temporal satellite imagery. We extend to multi-temporal satellite datasets studies that relate time-matched field inventory data and Landsat satellite imagery with the amount of forest cover present in the visible and infrared portions of the spectrum. In this study we evaluate the effects of spectral resolution, Landsat MSS (60 meters) to Landsat Thematic Mapper (30 meters) to Landsat ETM+ (30 meters), and temporal resolution as it relates to forested areas in southern Georgia. Results reveal a nonlinear temporal progression from a fully-stocked "spectral forest" to a "spectral clearcut". Finally, we explain how the derived relationships are implemented in a large-scale high-resolution forest inventory assessment and natural resource sustainability analysis.

[Abstract Only]

In Prisley, S., P. Bettinger, I-K. Hung, and J. Kushla, eds. 2006. Proceedings of the 5th Southern Forestry and Natural Resources GIS Conference, June 12-14, 2006, Asheville, NC. Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA.