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Remote Sensing of Forest Health Trends in the Northeastern United States

ABSTRACT

Forest health in the northeastern United States is of increasing concern to land managers due to many stressors, including acid deposition, insect pests and pathogens, and climate change. While plot level forest monitoring provides site specific assessments, landscape scale assessments of forest condition are required to fully understand the current state of forested ecosystems across the region. Remote sensing techniques and a rich historical archive of data products provide a unique opportunity to examine not only current forest condition, but also long term trends in forest health. This study quantifies forest health trends from 1984 to 2009 across three Landsat scenes covering northeastern New York, northern Vermont, northern New Hampshire, and southern Maine. Our initial results indicate that while spatial patterns vary from site to site, the overall health of northeastern forests has remained stable over the past 25 years. While specific species or locations have experienced fluctuations in health, the general trend of forest condition as a whole has not changed.