LIVE FUEL MOISTURE CONTENT AND REMOTELY SENSED VEGETATION CONDITIONS

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ABSTRACT

Live fuel abundance, phenology, and moisture status affect fire behavior, strongly influencing prescribed burn outcome, and affecting wildfire growth and resistance to control. Frequent live fuel monitoring, together with fire behavior observations, have allowed some managers to develop relationships between live fuel moisture and potential fire behavior for their area. As prescribed burning objectives expand from fuel reduction to returning landscapes to historical fire regime conditions, the significance of live vegetation as fuel will increase.

Two methods of determining live fuel moisture condition can be considered. Representing the variability of species and moisture content, even within a specific site, may require sampling many individuals of several species. Estimating vegetation condition by remote sensing offers broad range mapping that integrates the abundance, moisture status, and physiological activity of all species on site, but at a coarse scale. Several sites have been established over the years to monitor moisture trends in the primary live fuel component. Vegetation condition has been monitored across the conterminous United States since 1989 using the Normalized Difference Vegetation Index (NDVI) calculated from 1 kilometer resolution satellite remotely sensed data. This paper compares sampled live fuel moisture trends to NDVI derived from maps across a variety of vegetation types.

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