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Title: Ten Years of Forest Cover Change in the Sierra Nevada Detected using Landsat Satellite Image Analysis

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The Landsat Ecosystem Disturbance Adaptive Processing System (LEDAPS) methodology was applied to detected changes in forest vegetation cover for areas burned by wildfires in the Sierra Nevada Mountains of California between the periods of 1975-79 and 1995-1999. Results for areas burned by wildfire between 1995 and 1999 confirmed the importance of regrowing forest vegetation over 17% of the combined burned areas. A notable fraction (12%) of the entire 5-km (unburned) buffer area outside the 1995-1999 fires perimeters showed decline in forest cover, and not nearly as many regrowing forest areas, covering only 3% of all the 1995-1999 buffer areas combined. Areas burned by wildfire between 1975 and 1979 confirmed the importance of disturbed (or declining evergreen) vegetation covering 13% of the combined 1975-1979 burned areas. Based on comparison of these results to ground-based survey data, the LEDAPS methodology should be capable of fulfilling much of the need for consistent, low-cost monitoring of changes due to climate and biological factors in western forest regrowth following stand-replacing disturbances.