

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

<p>Project Title: Non-Forest Vegetation Mapping And Change Detection Using Landsat TM And ETM+ Imagery In The Northern Range Of Yellowstone National Park— Continuation of MSU-53</p>
<p>Type of Project: Research/natural resources</p>
<p>Funding Agency: National Park Service</p>
<p>Other Partners/Cooperators: NASA, Yellowstone Spatial Analysis Center</p>
<p>Effective Dates: September 1, 2003 - October 1, 2004</p>
<p>Funding Amount: \$5000</p>
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<p>Project Abstract: There is a need for a vegetation map of non-forest in the Northern Range of Yellowstone National Park that is more detailed than the current park-wide information. In addition, this map must be accurate and more flexible than the current map. An affordable and feasible method for mapping vegetation and detecting change over time in that vegetation is discussed. Four objectives of a two-year study are presented: 1) conduct a needs analysis to determine an appropriate rangeland and riparian vegetation classification hierarchy for cross-discipline studies in the Northern Range (with special emphasis on willow, aspen, and cottonwood); 2) create a high-quality base rangeland/riparian vegetation map of the Northern Range based on the classification scheme developed in Objective 1 using moderate resolution satellite imagery (Landsat TM and ETM+); 3) develop a change detection method for easily updating vegetation maps on an annual basis; and 4) apply the change detection method to mid-1980s and mid-1990s Landsat imagery to demonstrate the utility of the method and document recent changes in vegetation. Ultimately, a map of the non-forest/riparian vegetation of the Northern Range will be developed that will be useful across many scientific disciplines and management needs and will be made available to managers and scientists who wish to do research in Yellowstone's Northern Range.</p>
<p>Outcomes with completion dates: Final Products - October 1, 2004 Final Products include: 1) A high-quality base non-forest/riparian vegetation map of the Northern Range; 2) Development of change detection method for updating maps annually; and 3) Demonstration of the utility of the method on mid-1980s and mid-1990s Landsat imagery.</p>
<p>Keywords: vegetation mapping, Landsat TM And ETM+ Imagery, Northern Range, Yellowstone National Park, riparian vegetation</p>
<p><u>For Administrative use only:</u> Date Annual Report Received: Date Final Report Received: Publications, etc. on file:</p>