

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Change detection of Yellowstone' radiative thermal flux using remote sensing imagery.

Discipline: Natural

Type of Project: Research

Funding Agency: National Park Service

Other Partners/Cooperators: Montana State University

Effective Dates: 5/1/2005 - 12/31/2008

Funding Amount: \$120,000.00

Investigators and Agency Representative:

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Project Abstract:

This project has now been funded for three years, to conduct a thermal feature inventory and change assessment for Yellowstone National Park, utilizing satellite remote sensing statistical techniques. Tasks include:

(1) Meetings with YNP personnel to discuss existing maps and resources, obtain existing maps;

(2) Set of training and validation sites, categorized by nature of surface expression;

(3) Selection of graduate student to conduct research;

(4) Assembly of Landsat data; and

(5) Outline of research plan, including formation of initial hypotheses, field work schedule, and plan for data analysis.

Tasks for year two include:

(1) Meetings with YNP personnel to discuss and report progress to date;

(2) Develop validation sites for mapping geothermal radiative flux (GRF);

(3) Prepare and validate map of geothermally active areas (GAA) and change map; and

(4) Prepare initial geothermal radiative flux map and compare to validation sites.

Outcomes with Completion Dates:

List of Products due 7/31/2008 include:

(1) Prepare and deliver final report;

(2) Produce park-wide, digital maps of geothermal radiative flux (GRF) for 2005, 2006, 2007;

(3) Prepare and validate maps of geothermally active areas (GAA) and change maps; and

(4) Produce change maps of active thermal areas for 2005, 2006, 2007 and selected previous years.

Keywords: thermal features, inventory, remote sensing, thermal flux, Yellowstone National Park, Montana State University

For Administrative Use Only:

Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: