Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Cooperative research to develop fire and fuels mapping protocols in support of the USGS/NPS Vegetation Mapping Program, Grand Teton NP

Discipline: Natural

Type of Project: Research

Funding Agency: National Park Service

Other Partners/Cooperators: Colorado State University

Effective Dates: 7/1/2004 - 12/31/2007

Funding Amount: $157,068

Investigators and Agency Representative:

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Project Abstract:

This agreement is to support cooperative research toward the shared goal of improving the USGS/NPS Vegetation Mapping Programs' ability to meet specific information needs identified by the National Park Service. Specifically, research will be used to assess new ways of classifying, describing, mapping vegetation communities and fuels data as well as developing/evaluating additional standards and methodologies for related interests. There are three task agreements completed so far to accomplish the 11 tasks listed. Additional funds will be provided in FY 06 to complete the tasks.

1. Task 1 Variability analysis: compute range and variability of fuels within map classes and landform characteristics. This will involve the park staff identifying three primary variables of interest for analysis for July 2004 processing. This will assist in the correlation of fuels characteristics to map classes.

2. Task 2 – Interpretation and guidance for 2004-5 fuels data collection field efforts (fuels characteristics parameters only) based on the variability analysis.

3. Task 3 – Prepare a summary of the variability of fuels characteristics within each map class as analyzed in Task 1 – this summary can later be used to produce a 'check and balance' summary of point to polygon validity.

4. Task 4 – NREL-CSU will incorporate the landform layer to recompute variance by each map class type (stratified by landform) in the fall of 2004.

5. Task 5 – Based on tasks 1-4, the landform variability will direct FY04-05 (potentially 2006) fuel data collection areas to best sample the natural variability on the landscape.

6. Task 6 – Prepare a Vector to GRID binary regression tree analysis based on the map class and fuels characteristics. This will integrate the final form of the fuels characteristics of Grand Teton NP into geospatial models and maps.

7. Task 7 – Produce a fuels characteristics map covering the entire extent of the Grand Teton NP vegetation mapping project area (GRTE with buffer).

8. Task 8 – Semi-annual coordination meetings between the Grand Teton NP, the BOR, USGS, the Denver and Colorado State University staff members, and other potential cooperators, parks, and agencies, will be funded.

9. Task 9 – Provide the NPS, BOR, USGS with a written annual progress report outlining progress and future needs to be discussed at the winter semi-annual

meeting (this meeting will be conducted in January or early-February of each year).

10. Determine a methodology for updating the above-described fuels map based on some or all of:
        a. new fire occurrences
        b. satellite imagery or other remotely sensed data
        c. other methodology to be determined by the PI.

11. Create a written protocol for use by resource managers and Park or Forest GIS specialists in updating the fuels map.

Outcomes with Completion Dates:

1)Variability analysis
2)Assist with the development sample plot locations for fuel data collection in FY 04-05
3)Development of a fuels characteristics map of Grand Teton National Park Vegetation Mapping project area.
4)Final Report due 12/31/2007

Keywords: vegetation mapping, fire, fuels, Grand Teton National Park, Colorado State University

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