

FINAL REPORT

**Rocky Mountains Cooperative Ecosystem Studies Unit (RM-CESU)
RM-CESU Cooperative Agreement Number: H2380040000 (WASO)
Task Agreement J2370102085**

November 30, 2010

Title of Project: : Develop, verify, process, maintain, and document information in support of the National Park Service's natural resource-related data and information systems.

Name of Park/NPS Unit: WASO-NRPC

Name of University Partner: Colorado State University

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Background

The Natural Resource Program Center (NRPC) is a national-level office of the National Park Service (NPS) located in Fort Collins, Colorado. NRPC has traditionally provided student employment opportunities through its cooperative relationship with Colorado State University (CSU) in an effort to provide practical work experiences for students interested in Federal land management applications of geospatial data processing, natural resource data processing, and information management. One way to introduce students to these activities is their direct participation in collecting, cataloging, processing and managing natural resource data (including geospatial data) for park units within the National Park System

Duties performed by Student Interns

CSU students are assisting the NPS in acquiring, verifying, formatting, computerizing, maintaining, and disseminating NPS natural resource information. This assistance will help ensure that NPS has access to and applies the information it needs to make sound resource management decisions, and that this information is also available to researchers, cooperators, and the general public.

The Scope of Work (SOW) allowed for three GIS student intern positions and three natural resource data student interns. Following is a summary of duties performed during period of performance.

GIS Student Intern

Students assist with the NPScape Project (<http://science.nature.nps.gov/im/monitor/npscape/>), an NPS wide landscape dynamics project. This project aims to provide processed data, graphical outputs, and documentation of several landscape metrics including roads, landcover, population, housing, and ecological patterns for each and every park and park network that is served by the Inventory and Monitoring Division.

Currently phase 2 of NPScape is being wrapped up and moving towards phase 3. These additional phases are utilizing updated and new datasets and working toward better public access and distribution of NPScape data.

- Creation of NPScape metrics from new and updated datasets using ArcGIS/Python processing.
 - Population metrics using newly released 2010 census data
 - Updated housing metrics using newest version of SERGOM modeled data
 - Consolidation of many existing, spatially explicit datasets into seamless sources

- New metrics using the new and improved Protected Areas Database of the US (PAD US v 1.2)
- Creation of map-graphics for new NPScape Interpretive Guide.
 - Working with NPScape project managers to create and edit relevant maps for use in the main project report
- Assistance with creation of online map viewers for NPScape and NPS Vegetation Mapping Program (<http://science.nature.nps.gov/im/inventory/veg/index.cfm>).
 - Developing a template and data standard, and processing data for each park's unique vegetation mapping program
 - Creating and troubleshooting IRMA framework to support the online map viewer (<http://nrdata.nps.gov/Programs/IMD/NRMapViews/latest/NRPC.NRMapViewsTestPage.html>)
 - Ongoing updating of new datasets and metrics into the viewer
- Continue in efforts to help processing viewsheds for parks, and uploading combined PDF's to a shared server.
- Creating maps for individuals' at their request.
- Pre processing of new/updated datasets including:
 - National Atmospheric and Oceanic Administration (NOAA) Coastal Change Analysis Program Dataset (CCAP)
 - North American Landcover Dataset (NALC)
 - National Landcover Dataset (NLCD)
 - U.S. Protected Areas Database (PAD U.S.)
 - World Database of Protected Areas (WDPA)
 - Marine Protected Areas Dataset (MPA)
- Advanced processing of datasets to calculate landscape metric data using ArcGIS modeling and Python coding.
 - Conservation status and government ownership inventory.
 - Road density and distance from roads.
 - Landcover/land use changes.
 - Population and housing statistics and changes.
 - Forest density and morphology.
- Development and Quality Assurance of Outputs.
 - Development of templates and layer symbology.
 - Participation in project review meetings with senior staff.
 - Creation of Geo-PDFs using Mapbook in ArcGIS 9.3 and data driven pages in ArcGIS 10.
 - KML/KMZ creation.
 - Bundling (zipping) and distribution of final products via NPS Natural Resource Information Portal.

- Creation of reference information for NPS and public use on NPS Natural Resource Information Portal (<http://nrinfo.nps.gov/>).
- Performed other related duties as assigned, including office work such as making photo copies and compiling documents for workbooks.

IRMA Student Interns

Students assist with population of data into a plant and animal species database, and develop metadata and upload documents to the NPS integrated data system. The bulk of the work that is performed consists of transforming data from legacy applications into NRInfo; data/information processing and uploading into NRInfo, and the developing and uploading of metadata.

- NPS Species:
 - Researched and created updated list of websites of official state listings of Endangered, Threatened and Species of Concern, plant and animal species, to be used in the new IRMA Match List Service.
 - Update state specific species of concern list based on state classification data.
 - Certification information entry.
 - (Extensive data conversions primarily utilizing Access).
 - Completed the migration of archived QA certification files to SQL Server.
 - Processed files that did not pass migration tests.
 - Communicated with supervisors on personal progress and future projects.
 - Processed and converted incoming park files (ongoing).
 - Compiled Webinar user data to create a spreadsheet.
 - Data2Web Processing for online migration ~75+ files.
- IRMA Reference:
 - Compiled current listing of emails of all interested NPS employees, partners and contractors.
 - Provided user testing of portal under integration and assisted in creating SOP and user instructions.
 - Creating complete draft (currently inactivated) references within actual Reference website.
 - Reference creation for multiple park files/scanning/uploading.
- Performed other related duties as assigned, including office work such as making photo copies and compiling documents for workbooks.