

Rocky Mountains Cooperative Ecosystem Studies Unit
Project Summary

Task Agreement #:

Project Title: Assistance for Visibility Data Analysis and Image Display Techniques

Discipline: Natural

Type of Project: Technical Assistance/Research

Funding Agency: National Park Service

Other Partners/Cooperators: Colorado State University

Student Participation: Yes

Effective Dates: September 1, 2021 to January 31, 2025

Funding Amount \$776,794.00

Investigators and Agency Representative:

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Project Abstract:

Project goals: The goal is to develop a sound scientific understanding of air pollutant effects on park resources and to identify the best management practices for protecting park resources. The public visits national parks and wilderness areas to enjoy nature in an unimpaired state. Air pollutants can adversely affect visitor experience by degrading the vistas and the natural ecosystems of these areas, and in some extreme cases, adversely affect visitor health. The National Park Service (NPS) and Colorado State University (CSU) scientists work together to further develop the scientific understanding of these issues, which is then incorporated into NPS planning documents and used to consult with state and federal air quality agencies and to interpret this resource information for the public.

Project objectives:

- 1) Using monitoring and modeling data to assess the current levels and trends of haze, reactive nitrogen deposition and ozone in our national parks. This information is used to identify current and emerging issues as well as the success of past management strategies
- 2) Better understanding of the causes of excess haze, reactive nitrogen deposition and ozone levels. These air quality issues are caused by a wide array of air pollutants, arising from diverse sets of natural and anthropogenic sources from within and outside of the United States. Understanding the physical, chemical, and optical processes leading to the air quality issues as well as the contributions from the various sources is fundamental information needed to resolve any issues.
- 3) Dissemination and communication of the results from the air quality studies. The generation of sound defensible information is of value only if it is actually used. Therefore, a critical component of this work is the communication to the needed personnel within the NPS and other federal and state agencies. Also, of importance are the sharing and communication of results with the scientific and stakeholder communities as well as the general public.