



Rocky Mountain Environment and Society

The Rocky Mountain West is the fastest-growing region of the United States. The rapid immigration of people is challenging the ability of this spectacular region to meet the environment's and society's needs for water, land, habitat, and recreation. Traditional ways of life, historical land uses, and ecosystems are facing increasing challenges from overlapping and often conflicting uses. The goals of the Rocky Mountain Environment and Society Institute (RMES) are to understand and quantify the influence of natural and human-induced change on Rocky Mountain ecosystems from the mountains to the plains, to understand and quantify the influence of mountain ecological change on regional society and economics, to reach out to people from mountain regions around the world who are facing similar challenges, and to effectively communicate knowledge to decision-makers, managers, students, and the public.

NREL has a long history of success in understanding and addressing complex Rocky Mountain issues. Our ecosystem approach synthesizes many disciplines to provide a holistic evaluation of the State of the Rockies. Longstanding relationships, in some cases over decades, have gained the trust of federal, state, county, and private land and resource managers. NREL leads in understanding issues such as effects of atmospheric nitrogen deposition, consequences of land use on wildlife disease transmission, large ungulate behavior in national parks, incorporating wildlife habitat into county land use planning, and forecasting effects of climate change on mountain ecosystems. NREL-developed data sets and websites such as the Natural Diversity Information Source, the Colorado Ownership, Management and Protection, the Colorado Vegetation Model, the Climate Data Plotting web page, and the Loch Vale Watershed Long-Term Ecological Research and Monitoring web page, are regularly used and consulted by scientists, managers, citizens, and students.

RMES projects emphasize regional interdisciplinary research and integrated assessments. We quantify the influences of people and society on resources and ecosystems, and in turn evaluate the consequences of environmental change back to society. RMES results will be made available through a series of outlets, including a recurring conference on environmental issues of the Rocky Mountains, outreach workshops and "summer camps" for legislators and managers, a Public Information Office with current relevant ecological science in understandable formats, an encyclopedic "State of the Rockies" desktop book and website, a visionary book of scenarios: "The West in 2050," an online Rocky Mountain Issues journal, and continued access to spatial and interdisciplinary databases. A Mountain Studies major at Colorado State University that capitalizes on our proximity to the Rockies will prepare the next generation of interdisciplinary scientists and practitioners to address the complex issues of this changing and beautiful land.

The Rocky Mountain Environment and Society Institute will provide

- Improved scientific and public understanding of the linkage between Colorado's population and economic activities and its changing natural resource base
- Real-time information on the changing status of the Rockies
- Projected scenarios of future conditions that affect our quality of life
- Tools that let westerners make better decisions

Resources required by RMES:

A mountain research and education center to host education, outreach, and research activities
High speed, high volume computing capabilities for spatial and coupled human-ecosystem models and databases

Graduate and postgraduate fellowships to involve, educate and stimulate the next generation of scientists and policy makers in issues related to the Rocky Mountain environment
Support for continued research to expand our understanding of effects on Rocky Mountain ecosystems

Database and web managers, technical support staff

Support for visiting social scientists to allow RMES to fully integrate the interactions between society and ecosystems and their feedbacks

NREL scientists with Rocky Mountain research interests: Jill Baron, David Theobald, Bill Parton, Jeff Hicke, Rod Chimner, Lindsey Christensen, Heidi Steltzer, Tom Hobbs, Tom Stohlgren, Geneva Chong, David Swift, Francis Singer, Dennis Ojima, Joe von Fischer, Rich Conant, Julia Klein, Michael Coughenour, Mohammed Kalkan, Ed Ayres.

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