



Climate Change: Adaptation and Mitigation

FY 2009 President's Budget

ISSUES

Projected climate changes for the Rocky Mountain Research Station (RMRS) region include warmer temperatures, increased rainfall intensity and, in areas, drier conditions. Already the effects of these changes in climate are being seen in lower snowpacks, earlier peak runoff of western rivers, and altered disturbances, such as fire and drought.

IMPORTANCE

Climate has a profound influence in shaping the environment, the economy, and the social aspects of life. These projected changes in climate will alter the ecosystem services and benefits that are produced on the western landscapes.

CURRENT RESEARCH AND EXPECTED OUTCOMES

Because western landscapes are complex in topography, variable in climate and vegetation, limited widely by water, diverse in ownership, and changing rapidly through residential and industrial expansion, these landscapes are likely to be uniquely sensitive to climate change. Thus, adaptation and mitigation solutions in the West must be tailored to these conditions and will differ from those developed for other regions.

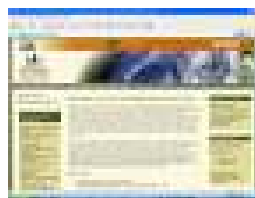
Because the diversity of environmental conditions across the RMRS region suggests that no single approach to adaptation will fit all systems, RMRS scientists are conducting site-specific research on vegetation, wildlife, aquatic systems, disturbances, and landscapes to identify the diverse management practices appropriate to address the potential climate change impacts. In these situations, the scientists are working cooperatively with resource managers.

Because this challenge requires interdisciplinary approaches at multiple spatial scales, RMRS research is exploring management needs through



case studies on individual National Forests, partnerships with western research organizations, and through national leadership roles in climate change assessment. Because people, biodiversity, and ecosystems strongly interact, the team of RMRS economists and ecologists that lead the Resources Planning Act (RPA) assessments are incorporating climate change into the large-scale assessments for wildlife and fish and water issues. RMRS scientists collaborate on related efforts, including the Intergovernmental Panel on Climate Change.

Because mitigation and adaptation are critical to addressing climate change, RMRS scientists quantify carbon-cycle dynamics in ecosystems on specific sites, interacting with restoration on carbon storage goals, and as affected by woody biomass use for bioenergy, and through the combined use of satellite, inventory, utilization and product data.



For more information, please visit our website at

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