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Highlights

Highlights of GAO-07-863, a report to congressional requesters

CLIMATE CHANGE

Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources

Why GAO Did This Study

Climate change has implications for the vast land and water resources managed by the Bureau of Land Management (BLM), Forest Service (FS), U.S. Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Administration (NOAA), and National Park Service (NPS). These resources generally occur within four ecosystem types: coasts and oceans, forests, fresh waters, and grasslands and shrublands.

GAO obtained experts' views on (1) the effects of climate change on federal resources and (2) the challenges managers face in addressing climate change effects on these resources. GAO held a workshop with the National Academies in which 54 scientists, economists, and federal resource managers participated, and conducted 4 case studies.

What GAO Recommends

GAO recommends that the Secretaries of Agriculture, Commerce, and the Interior develop guidance incorporating agencies' best practices, which advises managers on how to address climate change effects on the resources they manage and gather the information needed to do so. In commenting on a draft of this report, the three departments generally agreed with the recommendation and provided technical comments, which GAO has incorporated into the report as appropriate.

www.gao.gov/cgi-bin/getrpt?GAO-07-863.

To view the full product, including the scope and methodology, click on the link above. For more information, contact John B. Stephenson at (202) 512-3841 or stephensonj@gao.gov.

What GAO Found

According to experts at the GAO workshop, federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others, (1) physical effects, such as droughts, floods, glacial melting, and sea level rise; (2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and (3) economic and social effects, such as adverse impacts on tourism, infrastructure, fishing, and other resource uses.

Experts at the GAO workshop also identified several challenges that resource managers face in addressing the observed and potential effects of climate change in their management and planning efforts. In particular, BLM, FS, FWS, NOAA, and NPS have not made climate change a priority, and the agencies' strategic plans do not specifically address climate change. Resource managers focus first on near-term, required activities, leaving less time for addressing longer-term issues such as climate change.

In addition, resource managers have limited guidance about whether or how to address climate change and, therefore, are uncertain about what actions, if any, they should take. In general, resource managers lack specific guidance for incorporating climate change into their management actions and planning efforts. Without such guidance, their ability to address climate change and effectively manage resources is constrained. While a broad order developed in January 2001 directed BLM, FWS, and NPS to consider and analyze potential climate change effects in their management plans and activities, the agencies have not yet provided specific direction to managers on how they are to implement the order. A BLM official stated at an April 2007 hearing that BLM is establishing policy and technical committees to address necessary actions and develop guidance to address climate change in agency management practices. FWS and NPS officials said that their agencies have not developed specific guidance but believe that they are operating in a manner consistent with the 2001 order. While NOAA and FS have not provided specific guidance to their resource managers, NOAA officials said that the agency is establishing a working group to determine what actions to take to address climate change effects. FS officials said that FS planning processes are designed to identify and respond to emerging issues such as climate change.

Finally, resource managers do not have sufficient site-specific information to plan for and manage the effects of climate change on the federal resources they manage. In particular, the managers lack computational models for local projections of expected changes and detailed inventories and monitoring systems for an adequate baseline understanding of existing local species. Without such information, managers are limited to reacting to already-observed climate change effects on their units, which makes it difficult to plan for future changes.