

ClimateWire - THE POLITICS AND BUSINESS OF CLIMATE CHANGE

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Lauren Morello, *ClimateWire* reporter

Protecting the nation's parks, forests, coastlines and oceans from the most severe effects of climate change will require "leadership at the highest level" of government, according to a new report by the federal Climate Change Science Program.

Taking a "business-as-usual" approach to the country's natural resources will lead to "major degradation" in coming years, the document warns, as rainfall patterns alter, the risk of droughts and wildfires increases and sea levels rise.

"Climate change that is already occurring will be here for years to come," reads the report, released Friday, which examined agencies that manage the nation's parks, wildlife refuges, estuaries, forests, rivers and oceans. "Adaptation to climate change will therefore be necessary."

Many of the nation's wildlife refuges are home to endangered species with little remaining habitat -- leaving them with few options in the face of severe climate change. The endangered Devil's Hole pupfish, one species singled out in the report, is now found in just one lake in a cave in Nevada's Ash Meadows National Wildlife Refuge.

Meanwhile, low-lying coastal refuges are grappling with the threat of rising sea levels, including those along San Francisco Bay and Virginia's Chincoteague Island.

Lack of a coherent strategy for refuges

Despite those threats, the national refuge system has not developed any strategies to help its lands adapt to climate change, the new report notes. "Refuge managers are faced with the dilemma of managing for a future challenge without fully understanding where and when the changes will occur and how they might be best addressed," it says.

For national forests, major climate change risks include more frequent wildfires and droughts.

In the western United States, a drought in 2002 and 2003 helped fuel a massive die-off of pinon pines and juniper trees, weakening the trees and making them more susceptible to invasive bark beetles, a situation that is likely to become more common over the next century, the report finds.

Across the country, climate change is expected to bring more intense, but fewer, rainstorms to northeastern forests, leaving trees drier and more susceptible to fires than they have been in the past 100 years.

Linda Joyce, an author of the report and a Forest Service biologist, said the key lesson for federal officials managing public lands is to intensify efforts to deal with current problems like runoff of polluted water into streams and oceans, invasive species and air pollution.

"A forest that has fewer stresses on it would be a healthy forest, able to withstand near-term impacts of climate change," she said. "Start with what you know."

Joyce, who helped write the chapter on the Agriculture Department's National Forest system, said she hoped the new report would inspire officials managing individual forests to begin thinking about adaptation as they develop or revise long-term management plans.

Forest service: more fires to suppress, less money to adapt

"There's a lot of Forest Service managers that are really interested in trying to address" climate change, she said. The new report includes case studies of adaptation planning in individual forests, and authors of those sections are now in high demand, she said.

"They've gotten tons of invitations to give talks," Joyce said. "People are starting to take this seriously and organize their own training sessions."

But Nick Sundt, a former Climate Change Science Program employee who now serves as director of communications for the World Wildlife Fund's climate change program, said he was disappointed with the new report.

The document seems aimed at resource managers at federal agencies, even though it was required under a law -- the Global Change Research Act of 1990 -- designed to provide climate information to Congress and the White House, Sundt said.

Sundt said he would have liked to see more discussion of the budget and staffing increases needed to help agencies fold adaptation strategies into their long-range plans.

"The Forest Service is an excellent example of what we need to be worried about," he said. "Climate change is contributing to more frequent and severe wildfires, and it's producing extraordinary demands on the Forest Service budget. A large portion of expenditures each year are going to fire suppression -- and that leaves less funding available for the kinds of things you would need to do to adapt to climate change."

For the full report go to: <http://climatescience.gov/Library/sap/sap4-4/final-report/default.htm>

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