Conference to analyze impact of climate change on forests

by Bend_Weekly_News_Sources

A conference on Feb. 13-14 at Oregon State University will outline the findings of leading researchers on the dramatic changes, difficult challenges and possible opportunities facing Pacific Northwest forests as a result of global climate change.

Scientists will explore a future that will likely produce warmer temperatures, reduced snow pack, lower summer stream flows, changing tree species, and increased vulnerability to insect epidemics or catastrophic fire â€“ but also one in which humans can manage forests to address some of these concerns, and use forests and forest products to help store atmospheric carbon and mitigate the effects of global warming.

The meeting, which is open to the public, will unveil a new book on these topics, titled â€œForests, Carbon and Climate Change.â€• The report was produced as a collaborative project of the OSU College of Forestry, Oregon Department of Forestry, and the Oregon Forest Resources Institute.

Attendance is free, but pre-registration is required. Details on the conference, agenda, speakers and registration can be found at the OFRI web site, at http://www.oregonforests.org/conferences/carbon

â€œThe impact of climate change on our forests is going to be dramatic,â€• said Hal Salwasser, dean of the OSU College of Forestry, and author of the introduction in the new book.

â€œForests are going to be significantly affected by climate change, and this will almost certainly call for a change in the way we manage them,â€• Salwasser said. â€œAt the same time, forests have a powerful role to play in helping to offset the severity of global warming, and there is much we can do to prepare for the future if we start now. It is time to pay more attention to this issue and begin to act.â€•

In his introduction, Salwasser points out that forests have repeatedly undergone vast changes in response to the ebb and flow of Ice Ages, other prehistoric shifts in Earthâ€™s climate and even the arrival of the first people in North America thousands of years ago. The process is not new, he said, and the past can provide a guide to the future. This time, scientific research will provide a better understanding of what changes to expect and how to minimize their impacts, though we will have to adapt to faster climate change than did our predecessors, Salwasser said.

â€œThe changes are already under way,â€• Salwasser said. â€œIn coming years we will likely see tree species shifting north in latitude and up in elevation. Weâ€™ll need to reduce drought stress through increased thinning, and prepare for increases in fire intensity and more insect outbreaks.â€•

Salwasser said he would recommend â€“ right now â€“ that forest land owners plant a diversity of tree species and do some experimentation with seedlings from warmer growing zones.

In the long run, the management of Pacific Northwest forests will need to be done in consideration of global warming, including its causes and possible ways to mitigate the effects.

â€œWe have to be realistic and approach the concerns globally,â€• Salwasser said. â€œFor instance, deforestation in the tropics is still putting about one-fourth the carbon dioxide into our atmosphere as all fossil fuel emissions combined, so this is a huge problem â€“ and not one we can realistically offset with more forest growth in temperate zones.â€•

Internationally, some way must be found to help the developing world make economic progress without the destruction of their native forests, Salwasser said, and in the U.S., ways must be identified to stop the conversion of forests to urban areas â€“ the nation is losing about one million acres of forest a year this way.

Depending on the predictive model used, the Pacific Northwest faces increased temperatures of 7 to 8.5 degrees (Fahrenheit) by late in this century, the report said, dwarfing the amount of change during the past century. The impacts on fish may be severe â€“ more precipitation falling as rain instead of snow, lower summer stream flows, warmer stream temperatures. And fire is a huge variable â€“ without aggressive programs to thin forests or use controlled fire, catastrophic fires could move through the Pacific Northwest landscape, releasing massive amounts of carbon dioxide into the atmosphere and further compounding global warming.

Programs that grow vigorous new trees, harvest the timber and turn it into durable wood products are one way of storing carbon and addressing the problems, Salwasser said. Conservation of high carbon-storing old forests will be part of the solution. Also, creating energy from biomass instead of allowing uncontrolled wildfire can be a valuable tool.

Other presenters at the conference will discuss such topics as the carbon cycle, climate change at multiple scales, the effect of climate change on vegetation growth, management approaches to a changing climate, a â€œskepticâ€™s viewâ€• of this issue, opportunities for carbon storage, potential revenue from the trading of carbon â€œcredits,â€• the West Coast Governorsâ€™ Global Warming Initiative, and other topics.

â€œThere are still things we need to learn, but we already know enough to get started,â€• Salwasser said. â€œThe scientific consensus is that global warming is happening and we must learn how to adapt to it. Nowhere are the challenges, or the opportunities, any greater than in our forests.â€•

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