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Enduring global warming

Coniferous forests endangered due to climate change

Forests could be affected according to Mexico's National Institute of Ecology

Lorena Morales

Coniferous forests, including pines, may disappear or become extinct due to global warming, stated Adrián Fernández, director of the National Institute of Ecology (INE).

During his participation in the inauguration of the educational program *Hagamos un Milagro por el Aire* (Let's make a Miracle for the Air) organized jointly with the Molina Center for Energy and the Environment (MCE2), he explained that pine trees have a very narrow tolerance level to changes in temperature.

"They inhabit certain mountainous areas where temperatures vary very little; if we increase the average temperature by one or two degrees these species will surely disappear due to their inability to adapt to sudden changes," he cautioned during the event that took place at the Tec. de Monterrey, Mexico City campus.

Photo caption: Global warming being discussed at the Tec –Mexico City

He added that in addition to pine trees and coniferous forests, the abundance and existence of species with low tolerance levels to climatic changes are also endangered.

"Other repercussions are temperature, fires, draught, which place additional stress on forests; it is this stress that makes them more vulnerable to pest infestations," indicated Fernández.

He explained that this would result in a double effect, because forests would not only have to resist the rising heat but also the lacking hydric conditions, making them more vulnerable to pests and prone to disappear.

During the presentation of "Climatic change: the role of megacities and their inhabitants," Fernández emphasized that the country would experience outbreaks of epidemiological diseases, like malaria and dengue fever, in addition to the impacts on agricultural crops.

"It would not be difficult for a number of these diseases to spread in several areas on the outskirts of Mexico City, in a matter of years or decades," he indicated.

Mexico ranks 15th on a list of 25 countries with high greenhouse gas emissions that exacerbate global warming.

Photo caption : Coniferous species inhabit areas with low-temperature variation making them less tolerant to assimilate changes.

Green Giants

Panorama of the presence of coniferous species in the country, according to the National Forestry Commission (CONAFOR)

- 49 species in existence
- 18 varieties and 2 subspecies
- Mountainous locations at elevations between 300 to 4200 meters
- They grow from 15 to 30 meters high
- These specimens are of great importance for the country's forest industry
- They are used for forest-related activities, such as sawmills, resin tapping, the extraction of cellulose or paper pulp, utility poles, and collection of fruits and seeds
- Most common species of pine include, *pino chino,* white pine, *pino lacio, pino escobetón, ocote trompillo, pino ayacahuite*

Looking for a miracle

The educational program "¡Hagamos un Milagro por el aire" aims to raise environmental awareness among young students about climate change. "The purpose of this event is to give them an opportunity to exchange ideas with their classmates and to discuss and put forward alternatives to improve air quality and mitigate climate change," indicated Luisa Molina, president of the Molina Center for Energy and the Environment. High school students were selected from 70 schools in the Mexico City Metropolitan Area to participate in the Students' Encounter and poster contest, as well as in working sessions adapted to the United Nations Model for High Schools. The program came about as a response to studies conducted during the

2006 MILAGRO Campaign (Megacity Initiative: Local and Global Research Observations), an unprecedented international scientific collaboration to study air pollutant emissions in the Valley of Mexico as well as their regional and global impacts.

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