

Everest brown haze puzzles scientists

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KATHMANDU, SEP 01 - Italian scientists have confirmed a “worrying” phenomenon in the world’s highest Mountain range in Nepal, especially around Mt. Everest.

A two-year-long research based on information received from a hi-tech lab placed at Mt. Everest has revealed that the level of pollutants in the region has reached an “alarming” high and their concentration has formed the Atmospheric Brown Cloud (ABC) over the mountains. The ABC, according to scientists, can cause solar radiation, greenhouse effect, increase the temperature and lead to faster melting of glaciers and snow.

Nepali scientists, who were shocked to read the findings, say the government should take the claim seriously, find out the truth and make sure that it is not just another hoax created by eco-alarmists.

The Italian research committee, known as EV-K2-CNR, has warned that the increasing haze of pollutants—which were so far found in urban areas only—in the mountain region can be dangerous. “It can influence regional and global climate, air quality, public health, agriculture and food security,” Ev-K2-CNR Project Manger Paolo Bonasoni told the Post from Italy.

According to him, the ABC over the mountains warm the lower atmosphere just as much as greenhouse gases do, leading to a “major redistribution of solar radiation in the troposphere by dimming solar energy at the surface and enhancing the atmospheric heating rate.”

The research was based on data sent by the “pyramid observatory” placed at 5,079 metres near Everest base camp by the Italian National Research Council in coordination with the UN Environment Programme (UNEP), Nepal Academy of Science and Technology (NAST), ICIMOD and others.

The scientists are wondering whether the alarming rise of the brown haze in the region is due to the transport of pollution from China and India, two of the most rapidly developing nations in the world.

EV-K2 members said they have started a new research to better understand the characteristics of atmospheric conditions and pollution in the Himalayas, considering its location between China and India.

However, NAST scientists who are involved in the research from Nepal’s side said they were unaware of the new findings.

“In the past 10 years after the lab was set up, over 1,040 reports have been prepared and Nepal was involved in hardy 100 of them,” said Dr. Dinesh Bhujju, a senior scientist coordinating an EV-K2 cell at NAST. “The new report has drawn our serious attention. We will call a meeting soon to discuss how we can verify the report and have an official version.” He said NAST has access to the data the lab sends every few seconds to different research centres around the globe.

NAST Academician Dr. Madan Lal Shrestha argues that if NAST has access to the data, it has to come up with its own version to find out what is right and what is wrong. “It is true that the brown haze has increased in the past 10-15 years due to growing pollution,” said Shrestha. “The pollution emitted by Nepal and to some extent India can travel up to the mountains and form the haze but it is very unlikely that pollution emitted by China can have such a role. Whatever the truth, the government must have a say.”

The EV-K2 researches say their report is based on a proven premise that the atmospheric conditions of the Himalayas

can be influenced by the transport of polluted air masses coming from South Asia and Indo Gangetic Plain. Both Shrestha and Bonasoni agree that the brown cloud extends from the Indian Ocean to the Himalayan ridge.

“The Ev-K2-CNR investigations in the first two years have confirmed that the brown cloud is transported towards the Himalayas and vented along the mountain valleys, mainly during the pre-monsoon season,” said Bonasoni. “The high concentration of black carbon can influence the melting of snowpacks and glaciers.”

What is Atmospheric Brown Cloud (ABC)?

The brown haze is caused by air pollution emitted from a wide range of anthropogenic and natural sources, said NAST Academician Shrestha. According to EV-K2-CNR studies, the aerosols in ABC reduce the amount of sunlight reaching the Earth’s surface by as much as 10 to 15%, and enhance atmospheric solar heating by as much as 50% and:

1. Slow down of the monsoon circulation and reduction in monsoon rainfall.
2. Increase strength and frequency of winter and spring time temperature inversion.
3. Enhance the greenhouse warming of the atmosphere thus contributing to glacier melting.

Climate-Agro-Economic crop modeling studies initiated by ABC scientists show that ABCs and GHGs together may have reduced rice production in Indian rain-fed states by as much as 15% since 1980s.

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