

BLACK CARBON LEVELS SPIKE AT HIMALAYAN GLACIERS

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

Forest fires and stubble burning are major factors behind the rise.

Black carbon concentrations near the Gangotri glacier rose 400 times in summer due to forest fires and stubble burning from agricultural waste, and triggered glacial melt, says a study by scientists at the Wadia Institute of Himalayan Geology (WIHG).

The team of scientists from WIHG, led by P.S. Negi, measured variations of black carbon concentration at Chirbasa, near the Gangotri glacier in the Indian Himalaya, located at an altitude of 3,600 metres, during the year 2016. "The monthly mean concentration of EBC (equivalent black carbon) was found to be minimum in August and maximum in the month of May. The observed seasonal mean concentrations of EBC indicated a pristine glacial source and an absence of EBC sources in the locality," a press statement noted.

Black carbon results from the incomplete combustion of fossil fuels and biomass. The fine particles absorb light and about a million times more energy than carbon dioxide. It is said to be the second largest contributor to climate change after CO₂. But unlike CO₂, which can stay in the atmosphere for years together, black carbon is short-lived and remains in the atmosphere only for days to weeks, before it descends as rain or snow.

Second largest emitter

The concentration varied from a minimum of 0.01g/cubic metre in winter to 4.62g/cubic metre during summer.

India is the second largest emitter of black carbon in the world, with emissions expected to increase dramatically in the coming decades, says an April 2019 study in the journal *Atmospheric Research*, with the Indo Gangetic plains said to be the largest contributor.

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