**News:** A study by scientists at the Wadia Institute of Himalayan Geology (WIHG) was recently released.

**About the study**

The team of scientists from WIHG measured variations of black carbon concentration at Chirbasa, near the Gangotri glacier in the Indian Himalaya, and located at an altitude of 3,600 metres, during the year 2016.

**Key findings of the study**

- **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.

- 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.

- The concentration varied from a minimum of 0.01?g/cubic metre in winter to 4.62?g/cubic metre during summer. Being a pristine zone far from sources of pollution, the measurements are critical to establishing a baseline for pollution loads and estimating the contribution of various sources to pollution.

**About Black Carbon**

- 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.

- Black carbon absorbs solar energy and warms the atmosphere. When it falls to earth with precipitation, it darkens the surface of snow and ice, reducing their albedo (the reflecting power of a surface), warming the snow, and hastening melting.

- 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.