

HIMACHAL GETTING LESS SNOW: STUDY - TODAY'S PAPER

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

Air of worry: A snowy day in Shimla. File photo

The hill State of Himachal Pradesh has been gradually witnessing less snow in the past decade and the area under snow is also decreasing.

The trend triggered by climate change has alarmed environmentalists, considering the importance of seasonal snow cover as a major input in controlling the hydrology of the river basins in the ecologically fragile State.

A recent study, conducted jointly by the State Centre on Climate Change and the Space Applications Centre, Ahmedabad, using Advanced Wide Field Sensor (AWiFS) satellite data has revealed that all major river basins, including the Satluj, Ravi, Chenab and Beas, have witnessed an overall decrease of 18.5% in area under snow in 2020-21 winters in comparison to 2019-20.

S.S. Randhawa, a co-author of the study, told *The Hindu*, "Based on the average snowfall data available between 2010-2014, we started to assess the spatial extent of seasonal snow cover in 2015-16. Since then, every year, we have been analysing the snowfall trend, which shows that by and large there has been a negative [reducing] trend in the past decade, but for one odd year. The results also show that there is a gradual shift in the snowfall occurrence pattern as well. The snowfall in peak winter is reducing slightly and, in fact, is shifting towards the late winter months or even the early summer months."

Soumya Dutta, co-convenor of the South Asian People's Action on Climate Crisis, attributed the phenomenon to the rising temperatures.

"The climate pattern at the global level is changing. Rapid deforestation, extensive construction and unregulated activities are the contributing factors. These factors may be seen as small at the local level but are certainly adding up," said Mr. Dutta.

The study points out that there has been an overall decrease in the area under snow in 2020-21 winter (October to May) in key river basins. The decrease in the Chenab basin was 9% and 19% in the Beas basin. The Ravi and Satluj basins saw 23% less snow area in comparison to 2019-20. The overall decrease in the area under snow has been recorded at about 18.5% in 2020-21 winters against 2019-20, it said.

Notably, about one-third of the geographical area remains under thick snow cover during the winter season. Most of the major rivers like Chenab, Beas, Parvati, Baspa, Spiti, Ravi, Satluj and their perennial tributaries originating from the Himalayas depend upon the seasonal snow cover for their discharge dependability.

The snow cover also helps in controlling the accumulation and ablations patterns of the glaciated regions. Considering the importance of seasonal snow cover as a major input in controlling the hydrology of the basins, seasonal snow cover assessment in terms of its spatial distribution is being carried out in different river basins during the winter season.

Director of the India Meteorological Department (IMD), Shimla, Surinder Pal also said, "The average precipitation tendency has been decreasing, especially the monsoon rains. Rains and snowfall on an average have seen a decreasing trend in the past 10 years. The gradual rise in temperature could be a reason behind this. Climate change is a worldwide phenomenon," he told *The Hindu* .

Environmentalists have expressed concern over the reducing precipitation trend.

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