

FIRSTPOST.

Are the claims of melting Himalayan glaciers exaggerated? Here's what a new study reveals

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For the last several years, activists and journalists have warned that the Himalayan glaciers have been melting at a rapid rate due to global warming and it may have catastrophic consequences, such as drying up of rivers.

However, that is not the case as a new study says that such claims are “exaggerations and false alarms”.

A paper by senior editor Swaminathan S Anklesaria Aiyar and glaciologist VK Raina for the Cato Institute shows that glacial melt accounts for hardly one per cent of the flow of Ganges, Indus and Brahmaputra.

Almost all of the river flow is due to rain and snowmelt, which will continue even after the glaciers ultimately disappear (several centuries later), the paper has revealed.

It suggests with the help of satellite imagery that the vast “majority of glaciers in the Himalayas are stable, a minority are shrinking, and a few are advancing”.

What does the new study reveal?

In the paper, titled “False Alarm over the Retreat of the Himalayan Glaciers”, the authors have emphasized that the flow of the rivers will not be affected by glacial melt and there will be no drying up of rivers.

The paper notes that the glaciers have been melting since the end of the last ice age 11,700 years ago, but the melting has not worsened recently, even though temperature has risen.

“Satellite studies suggest that the vast majority of glaciers in the Himalayas are stable, a minority are shrinking, and a few are advancing. The retreat of the Gangotri Glacier, the source of the Ganges River, has decelerated in recent decades to 10 meters (33 feet) per year, at which rate it will last 3,000 years,” it says.

The paper cites recent studies and satellite data by the Indian Space Research Organisation (ISRO), which shows that in 2001-2011, the vast majority of glaciers in the Himalayas were stable, but not in retreat, and a few were advancing.

Of the 2,018 glaciers it monitored, 1,752 glaciers were stable, 248 were retreating, and 18 were advancing.

What contributes to the river water - snowmelt or glacial melt?

The reason for “exaggerated” claims could also lie in the fact that earlier studies could not distinguish between the contribution of snowmelt and glacial melt to river flows.

The first study that distinguished between snowmelt and glacial melt showed that even at high altitudes above 2,000 meters, glacial melt contributes less than one per cent of the Ganges’ flow, around one per cent of the Brahmaputra’s flow, and two per cent of the Indus’ flow.

Since the area covered by winter snow is far greater than that covered by glaciers, the contribution of snowmelt is much higher. And, as the rivers move downstream the contribution of rain becomes overwhelming.

It says that it is very unlikely that rivers will dry up and cause famine and water wars.

“Glacial shrinkage and eventual disappearance will have little impact, even in the lean dry season before the summer monsoon; snowmelt dominates in this season, and glacial melt is tiny,” it said.