# what is a Cloudburst and why Does it Happen ?

## By Shouvik Chattopadhyay

A cloudburst is a sudden and very heavy rainfall that happens over a small area in a very short time.

If rainfall is 100 mm or more in just one hour, it is called a cloudburst.

Unlike normal rain, it is very localized and short-lived, but its impact can be very destructive.

Scientific Reasons for Cloudbursts

Warm and moist air quickly rises upward and cools down to form very dense clouds.

These clouds become over-saturated with water and cannot hold it anymore.

Suddenly, due to gravity, all that water falls down at once in the form of extremely heavy rain.

It looks as if the sky has overturned a bucket of water!

## Other important factors

- In hilly or mountainous regions, warm and moist air climbs up the slopes and cools rapidly (convection).
- In the afternoon, when the sun directly heats the ground, the air near the ground warms up quickly.
- In deserts or dry areas, the land heats up very fast and makes the air rise suddenly.
- Warm air can hold more moisture, so if , rivers lakes or other water bodies are nearby, the air becomes heavily moisture-laden.

- When this air rises suddenly and cools, it forms dense water-filled clouds that may burst as a cloudburst.

## Recent Example

On 23rd September 2025, very heavy rainfall was recorded in Kolkata, reaching about 98 mm per hour in some areas.

This was extremely heavy rain, but technically it cannot be called a cloudburst since it did not cross the 100 mm/hour mark—though it was very close.

## Effects of a Cloudburst

- Sudden flash floods may occur
- Landslides in hilly regions
- Damage to roads, houses, and crops
- Serious loss of life and property if people are unprepared

**26th September 2025**