



Cloudbursts

Why in News

Recently, cloudbursts have been reported from several places in India.

Key Points

▪ About:

- Cloudbursts are **short-duration, intense rainfall events over a small area.**
- It is a weather phenomenon with unexpected **precipitation exceeding 100mm/h over a geographical region of approximately 20-30 square km.**
- In the Indian Subcontinent, it **generally occurs when a monsoon cloud drifts northwards**, from the Bay of Bengal or the Arabian Sea across the plains then on to the Himalaya that sometimes brings 75 millimetres of rain per hour.

▪ Occurrence:

- The **relative humidity and cloud cover is at the maximum level with low temperature and slow winds** because of which a high amount of clouds may get condensed at a very rapid rate and result in a cloudburst.
- **As temperatures increase, the atmosphere can hold more and more moisture and this moisture comes down as a short very intense rainfall for a short duration** probably half an hour or one hour resulting in flash floods in the mountainous areas and urban floods in the cities.

▪ Cloudburst are Different from Rainfall:

- Rain is condensed water falling from a cloud while cloudburst is a sudden heavy rainstorm.
- Rain **over 100mm per hour is categorised as a cloudburst.**
- The cloudburst is a natural phenomenon, but occurs quite unexpectedly, very abruptly, and rather drenching.

▪ Impact of Climate Change:

- Several studies have shown that climate change **will increase the frequency and intensity of cloudbursts** in many cities across the globe.
 - In May 2021, the **World Meteorological Organization** noted that there is about a **40% chance of the annual average global temperature temporarily reaching 1.5°C above the pre-industrial level** in at least one of the next five years.
 - It added that there is a **90% likelihood of at least one year between 2021 and 2025 becoming the warmest on record and dislodge 2016** from the top rank.
- It is seen that **more cloudbursts are happening in Himalayan region because the decadal temperature rise** in the Himalayan region is higher than the global rate of rising temperatures.

▪ Consequences of Cloudbursts:

- [Flash floods.](#)

- **Landslides**
- Mudflows
- Land caving.

▪ **Prediction:**

- There is **no satisfactory technique** for anticipating the occurrence of cloud bursts because they develop over a small period of time.
- **A very fine net work of radars is required** to be able to detect the likelihood of a cloud burst and this would be expensive.
- Only the areas likely to receive heavy rainfall can be identified on a short range scale. Much of the damage can be avoided by way of identifying the areas and the meteorological situations that favour the occurrence of cloud bursts.

Source: IE

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