

What is a Shelf Cloud?

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About Shelf Cloud:

- A “shelf cloud” or “**Arcus cloud**” generally **forms along the leading edge of thunderstorms**.
- It is a **type of low-lying, horizontal cloud formation** characterized by a **clearly defined line of solid clouds**.
- It is **known for its distinctive wedge-shaped formation**. They usually **appear as a broad arc across the sky** that can **sometimes appear to be rotating horizontally**.
- **Formation:**
 - Shelf clouds **form when cold and dense air is forced into a warmer air mass by wind**.
 - This rush of cold air often **occurs in a thunderstorm’s downdraught**, where **cold air rushes towards the ground before spreading out to create a gust front**.
 - Shelf clouds produced by thunderstorms are always **preceded by a rush of dry and cold air ahead of the cloud, with rain arriving after** the shelf cloud has passed overhead.

What is a Thunderstorm?

- A thunderstorm is a **rain shower during which you hear thunder**. Since thunder comes from lightning, **all thunderstorms have lightning**.
 - **Formation:**
 - Thunderstorms **form when warm, moist air rises into cold air**.
 - The **warm air becomes cooler, which causes moisture, called water vapor, to form small water droplets — a process called condensation**.
 - The **cooled air drops lower in the atmosphere, warms, and rises again**.
 - **This circuit of rising and falling air is called a convection cell**.
 - If this happens a small amount, a cloud will form. **If this happens with large amounts of air and moisture, a thunderstorm can form**.
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Q1) What is an Air Mass?

Air mass, in meteorology, is a large body of air having nearly uniform conditions of temperature and humidity at any given level of altitude. Such a mass has distinct boundaries and may extend hundreds or thousands of kilometers horizontally and sometimes as high as the top of the troposphere (about 10–18 km [6–11 miles] above the Earth's surface).

Source: [Terrifying 'Shelf Cloud' Reportedly Forms Over The Skies In Haridwar; WATCH Viral Video](#)

Source: <https://vajiramandravi.com/current-affairs/what-is-a-shelf-cloud/>

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