

What is a Cloud chamber?

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About Cloud chamber:

- A cloud chamber is a **scientific apparatus** that **mimics** the conditions required **for cloud formation**.
- It resembles a **closed cylindrical or tubular drum**, inside which water vapour, aerosols, etc. are injected.
- Under the desired humidity and temperature inside this chamber, **a cloud can develop**.
- India is building a **cloud chamber with convection properties**, as required to study Indian monsoon clouds. Globally, there are only a handful of convective cloud chambers.
- **Objective:** The objective of establishing a convective cloud chamber is to **gain a better understanding of cloud physics** under conditions commonly affecting Indian weather systems. Thereafter, this knowledge can be used for strategic planning of weather modification.
- The Pune facility will allow scientists to study the seed particles that form cloud droplets or ice particles in a sustained manner.
 - Cloud physics basically involves the study of cloud behaviour during normal and extreme conditions; **intra-particle interactions** inside a cloud; the formation of rain droplets and ice particles; the

influence of moisture added into the atmosphere due to cyclones or low pressure systems; and interactions between different cloud layers, among others.

- **Significance:** Scientists will have the flexibility to tailor physical and atmospheric parameters to suit environmental requirements that influence the Indian weather and climate.
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Q1: What is Convection?

Convection is a way for heat to move, also referred to as a heat transfer mechanism. This transfer of heat happens when a fluid such as air or water is in motion. Convection is driven by temperature differences across that fluid.

News: [Why India is building a cloud chamber as part of Mission Mausam](#)

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