



GENERAL STUDIES

PHYSICAL GEOGRAPHY

For

UPSC/KPSC-CIVIL SERVICES
EXAMINATIONS

GRASS ROOT ACADEMY
FOR CIVIL SERVICE EXAMS

BY

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Types of Cloud

Based on the combination of form, height, and appearance clouds can be classified into four groups.

High Clouds: These clouds are formed above the altitude of 6000 metres. High clouds include cirrus, cirrostratus, and cirrocumulus.

- i) **Cirrus Clouds (Cc):** Cirrus cloud forms at **altitude 8000-12,000m**. They are thin, detached and appears like wisps in the sky. Cirrus clouds are always **white** in colour. It **indicates fair weather**. Their shape often indicates the direction the wind is blowing high in the atmosphere.
- ii) **Cirrocumulus (Cc):** It forms between 5000-12000m. Cirrocumulus clouds shows both stratiform and cumuliform characteristics and appears as **white, patchy sheets with ripples or tufts without gray shading**. The appearance of cirrocumulus after the rain indicates the improving weather conditions.
- iii) **Cirrostratus (Cs):** It is a high level, thin, stratiform cloud which is **composed of ice crystals**. It resembles a thin white sheet or veil; the **sky looks milky and sun or moon shines** through it with a characteristic 'halo'. Its presence indicates a large amount of moisture in the upper atmosphere.

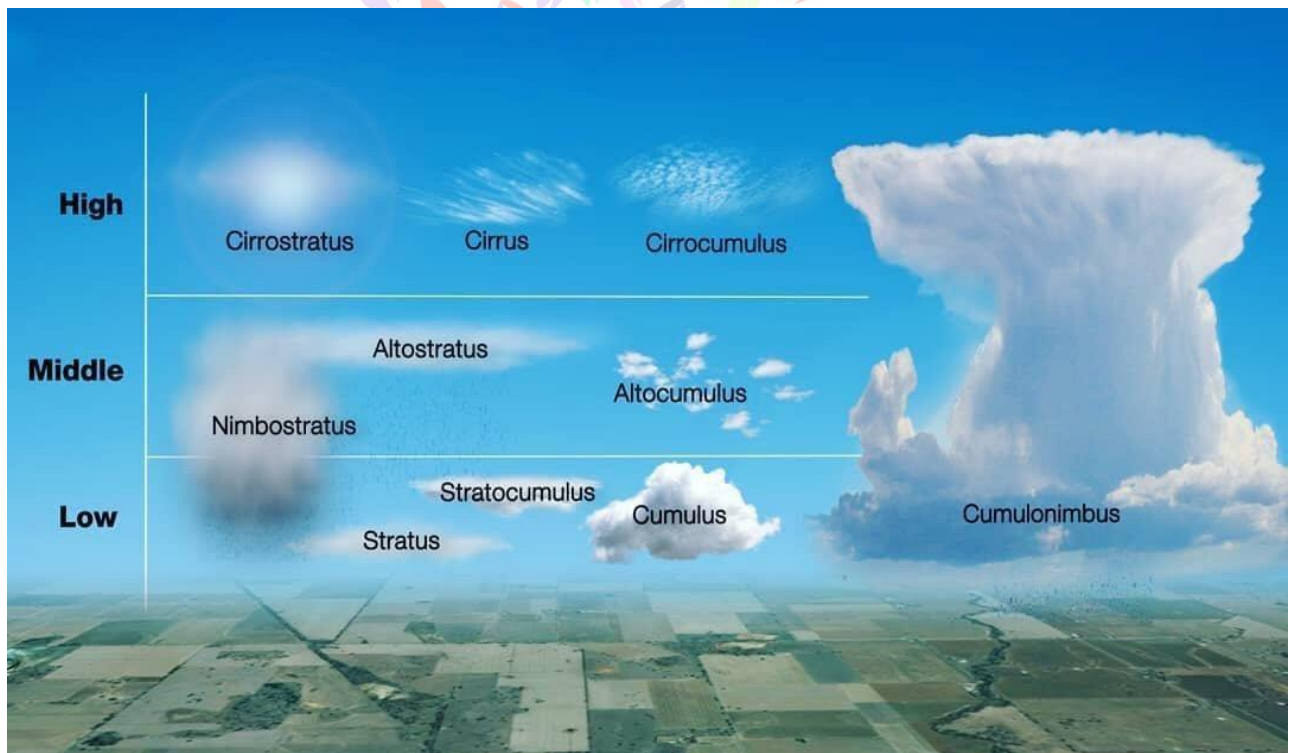


Figure: Types of Clouds.

Medium Clouds: Medium clouds formed between 2000m -6,000m height. It includes Altocumulus and Altostratus clouds. They indicate an approaching storm.

i) Altocumulus (Alt-Cu):

- These are woolly, globular masses, arranged in layers and appears like waves in the sky.
- **It usually indicates a fine weather.**
- Altocumulus is also commonly **found between the warm and cold fronts** in a depression, although this is often hidden by lower clouds.

ii) Altostratus (Alt-St):

- These clouds are dense, grey or blue-green in colour and have a watery look. The sun can be seen through thin altostratus, but thicker layers can be quite opaque.
- Altostratus most often takes the form of a featureless sheet of cloud but can be wavy as a result of wind shear through the cloud.

Low Clouds: The base level of low clouds varies from very near the ground to about 2000m.

i) Stratus cloud:

- Stratus clouds are very low cloud, uniformly grey and thick. It characterized by horizontal layering with a uniform base.
- These are above ground-fog formed either through the lifting of morning fog or by cold air moving at low altitudes over a region.
- Stratus clouds bring **bad weather** with a small amount of rainfall.

ii) Stratocumulus (St-Cu):

- Stratocumulus clouds are characterized by large, dark, rounded masses, usually in groups, lines, or waves. There is a great contrast between bright and shaded part of the cloud.
- Weak convective currents create shallow cloud layers because of drier, stable air above preventing continued vertical development. Usually, stratocumulus clouds are not associated with rain.

iii) Nimbostratus (Ni-St):

- Nimbostratus is a **dark, and clearly layered cloud**. It is also known as '**rain cloud**'. It occurs along a **warm front or occluded front** (discussed later under topic Fronts) where the slowly rising warm air mass creates nimbostratus along with shallower stratus clouds producing continuous rain, snow or sleet.

Clouds with Great Vertical extent:

These are mainly cumulus clouds with no definite height.

i) Cumulus (Cu):

- Cumulus clouds are a vertical cloud with a rounded top and horizontal base. It appears like a **cotton wool**. They exist in patches.
- It found mostly in tropical humid regions, associated with up-rising convectonal condition.



- Cumulus clouds indicate fair weather. ii) **Cumulonimbus (Cu-Ni):**
- It is a **dense, overgrown cumulus cloud having tremendous vertical height from base.**
Cumulonimbus can form alone, in clusters, or along cold front squall lines.

These clouds are capable of producing **lightning and other dangerous severe weather, such as tornadoes.**

