

Basic Clouds Types

- High Clouds
- Middle Clouds
- Low Clouds



High Clouds: Definition

- Above 6 km
- Composed of Ice Crystals



High Clouds Names

- Cirrus (Ci)
 - Cirrus is a genus of clouds made of ice crystals.
- Cirrostratus (Cs)
- Cirrocumulus (Cc)



Fall Steaks - Crystals dissipating, melting, and evaporating as they fall through warmer and drier air.

Cirrostratus (Cs)

High-altitude, thin, hazy cloud that usually covers the sky and often produces a halo effect



Moon Halo - Cirrostratus at night causing halo from the moon.

22 Degree Halo from Ice Crystals

- Light is reflected and refracted by ice crystals, which may split into colors because of dispersion.
- The crystals act as prisms and mirrors; refracting and reflecting light between their faces, sending shafts of light in particular directions.



Halo observed near Kitt Peak National Observatory.

Cirrocumulus (Cc) Clouds

Small rounded puff clouds that usually appear in long rows.

- Cirrocumulus are usually white, but sometimes appear gray.
- Common in winter and indicate fair, but cold weather.



Middle Clouds: Definition

- 2-6 km
- Composed of Liquid, Solid, or Both



Middle Clouds: Names

- Altostratus (As) →
- Altocumulus (Ac)



Low Clouds: Definition

- Below 2 km
- Composed Mostly of Liquid Water



Clouds with Vertical Development

- Often liquid near base and ice near the top.



Clouds with Vertical Development: Names

- Cumulus (Cu) →
- Cumulonimbus (Cb)



Appearance of Water versus Ice

- Edges of ice clouds tend to be smoother due to ->
- Larger particles take longer to evaporate (sublimate)
- Ice requires more energy to go to the vapor state than liquid
- Number concentration differences (fewer ice crystals per volume)



Summary of Cloud Types and Names



Cirrus



Cirrostratus



Cirrocumulus



Altostratus



Alto cumulus



Stratus